

TEST REPORT

EN ISO 12100

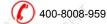
Safety of machinery - General principles for design - Risk assessment and risk reduction EN 809

pumps and pump units for liquids-common safety requirements. EN 60204-1

Safety of machinery - Electrical equipment of machines
Part 1: General requirements

	Tart 1. General requirements
Report Number	OViS202405009M-R1
Date of Issue	May 17, 2024
Update date	Jun. 11, 2024(More details refer to page 4)
Number of pages	104
Testing Laboratory	OViS Testing Technology (Zhejiang) Co., Ltd.
Address	Building 31, Feiyue Park, Xiachen Street, Jiaojiang District, Taizhou City, Zhejiang Province, China
Testing location/procedure	The same as above
Applicant's Name	Worimex Iklimlendirme Sistemleri Sanayi ve Ticaret A.s.
Address	Zafer Mahallesi 146.sokak No: 13A Esenyurt/istanbul
Manufacturer	Worimex Iklimlendirme Sistemleri Sanayi ve Ticaret A.s.
Address	Zafer Mahallesi 146.sokak No: 13A Esenyurt/istanbul
Factory	Worimex Iklimlendirme Sistemleri Sanayi ve Ticaret A.s.
Address	Zafer Mahallesi 146.sokak No: 13A Esenyurt/istanbul
Test specification:	SCHROLLER SCHROLLER SCHROLLER
Standard	EN ISO 12100:2010, EN 809:1998+A1:2009+AC:2010, EN 60204-1:2018, BS EN ISO 12100:2010, BS EN 809:1998+A1:2009+AC:2010, BS EN 60204-1:2018
Test procedure	CE approval
Non-standard test method	N/A
Test item description	Circulation Pump
Trade Mark	
Model/Type reference	DSP 15-7.5,KP 15-7.5,DP 15-7.5,XR-ECO 15-60-130, XR-PRO 15-50-130,XR-ECO 15-70-130,XR-PRO 25-60-130, XR-ECO 25-40-130,XR-PRO 25-70-130,XR-ECO 25-60-130, XR-PRO 25-80-180,XR-ECO 25-60-180,XR-PRO 32-80-180, XR-ECO 25-70-130,XR-ECO 25-70-180,XR-ECO 25-80-180, XR-ECO 32-60-180,XR-ECO 32-80-180,XR BOOS 15-90-160
Ratings	See copy of marking plate

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unualified acceptance of the completeness of this report to retain the correctness of the report contents.





	Testing Laboratory:	OViS Testing Technology	(Zhejiang) Co., Ltd.
Tes	ting Location/address	Building 31, Feiyue Park Taizhou City, Zhejiang Pr	, Xiachen Street, Jiaojiang Distric ovince, China
	Associated Laboratory:	N/A die die	Onis Onis Onis
Tes	ting Location/address	ith castin castin	TECHNOLO
	Tested by(name+signature):	Juliet Hong	Juliet Hong V
	Approved by(+signature):	Tyler Luo	July Mar ST
Š	Testing procedure:TMP	N/A	
	Tested by(name+signature):	N/A	olising olising olising
É	Approved by(+signature):	N/A	SERT SERT SERT
Tes	ting Location/address	N/A	Only Only
8	Testing procedure:WMT	N/A	CHI ISCHE ISCHE
	Tested by(name+signature):	N/A	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
	Witnessed by(+signature):	N/A	ich Misigh Misigh
Ó	Approved by(+signature):	N/A	stri stri stri
Tes	ting Location/address	N/A	Olis Olis
É	Testing procedure:SMT	N/A	ictifi citifi citifi citi
	Tested by(name+signature):	N/A	
	Approved by(+signature):	N/A	
X	Supervised by(+signature).:	N/A	
Tes	ting Location/address	N/A	ovision ovision ovision
Ŕ	Testing procedure:RMT	N/A	SERIE SERIE
	Tested by(name+signature):	N/A	onis onis onis
8	Approved by(+signature):	N/A	CERT SECTION SECTION
	Supervised by(+signature).:	N/A	on. on. on.

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence, Provided however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





List of Attachments (including a total number of pages in each attachment):

The Europe union

2006/42/EC Annex I- Essential Health and safety requirements relating to the design and construction of machinery—attachment 28 pages.

Appendix I – Photo documentation – attachment 5 pages.

Summary of testing:

Tests performed (name of test and test clause):

Full tests on model

XR-PRO 32-80-180

Testing location:

OViS Testing Technology (Zhejiang) Co., Ltd. Building 31, Feiyue Park, Xiachen Street, Jiaojiang District, Taizhou City, Zhejiang Province, China

Summary of compliance with National Differences:

List of countries addressed: The Europe union

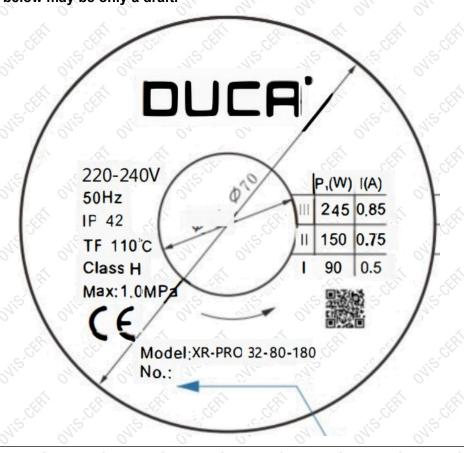
The product fulfils the requirements of

EN ISO 12100:2010,EN 809:1998+A1:2009+AC:2010,EN 60204-1:2018, BS EN ISO 12100:2010,BS EN 809:1998+A1:2009+AC:2010,BS EN 60204-1:2018

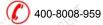
(insert standard number and edition and delete the text in parenthesis, leave it blank or delete the whole sentence, if not applicable)

Copy of marking plate:

The artwork below may be only a draft.



This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report to lides all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





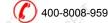
Possible test case verdicts:	13 OALS OALS OF	12, 01/2,	Olis	OTHE
- test case does not apply to the test object .	: N/A			
- test object does meet the requirement	P(ass)			
- test object does not meet the requirement .	F(ail)			
	JEH JEH JEH	JERT JERT	- CLEY	
Testing:				
Date of receipt of test item:	Apr. 25, 2024			
Date(s) of performance of test	Apr. 26, 2024 to May 16, 202	24		
Sample appearance and function are in normal condition, yes or no:	Yes this thin			
Ambient temperature:	20-25℃			
Ambient humidity:	50-65%			
This report shall not be reproduced, except in the laboratory. "(See Enclosure #)" refers to additional information. "(See appended table)" refers to a table appended table appended table appended table appended table appended table appended to the samples under test are in good condition. The test items comply with the requirements of	ation appended to the report. ded to the report. It is used as the decimal sepa	is-ceri ovis-ceri	testing	
				0
General product information:				
The test results presented in this report relate	only to the object tested.			
For detail,see relrbant information on General BS standards are identical with EN standards	product information			
These models listed in this report, them shared critical components, the used motors for them manufacturing process and shared the same was a state of	were from the same manufac	C.V. C.V.		
Modification on the appliances:	CHR CHR	CER CER	CERT	(
The original Test Report No. OViS202405009N	l issued on May 17, 2024 wa	s modified on Jur	า. 11, 2024	J. 5
to include the following changes :				

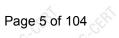
- 1. The manufacturer and factory information was modified.
- 2. The trademark was added.

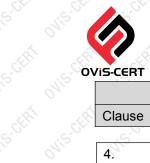
After construction review and verification of electrical spacing, no additional tests were considered necessary.

The added contents Report No. is OViS202405009M-R1.

ss of the report contents.







	EN ISO 12100	1 12 12	
Clause	Requirement + Test	Result-Remark	Verdict
.5.0.	.5' .5' .5' .5' .5' .5'	5 .50 .50	.50
4.	Strategy for risk assessment and risk reduction	011 011	O _J P
, S-CERT	To implement risk assessment and risk reduction the designer shall take the following actions, in the order given (see Figure 1):	seri is seri	P
ON, CERT	a) determine the limits of the machinery, which include the intended use and any reasonably foreseeable misuse thereof;	CHE CHE CHE	OW P
01/2	b) identify the hazards and associated hazardous situations;	Mig Mig	oli P
Wis CERT	c) estimate the risk for each identified hazard and hazardous situation; d) evaluate the risk and take decisions about the need for risk raduation;	EEE OVIS-CEET OVIS-CEET	P
WiS-CERT	need for risk reduction; e) Eliminate the hazard or reduce the risk associated with the hazard by means of protective measures.	CERT WIS CERT WIS CERT	Polific
	Actions a) to d) are related to risk assessment and e) to risk reduction.		P
Mis.Cr	Risk assessment is a series of logical steps to enable, in a systematic way, the analysis and evaluation of the risks associated with machinery.	onisian onisian	ONIGE ST.
Ni ⁵ -EERI	Risk assessment is followed, whenever necessary, by risk reduction. Iteration of this process can be necessary to eliminate hazards as far as practicable and to adequately reduce risks by the implementation of protective measures.	CHI CHI CHI	Petr
	It is assumed that, when present on machinery, a hazard will sooner or later lead to harm if no protective measure or measures have been implemented. Examples of hazards are given in Annex B.	SERI CREAL CREAL	oli P
Juis CERT	Protective measures are the combination of the measures implemented by the designer and the user in accordance with Figure 2. Measures which can be incorporated at the design stage are preferable to those implemented by the user and usually prove more effective.	SERÍ OVIS-SERÍ OVIS-SERÍ	ON P
Wis-CERT	The objective to be met is the greatest practicable risk reduction, taking into account the four below factors. The strategy defined in this clause is represented by the flowchart in Figure 1. The process itself is iterative and several successive		Peli
	applications can be necessary to reduce the risk, making the best use of available technology. In carrying out this process, it is necessary to take into account these four factors, in the following order of preference:	SERI SERI SERI	ON'S CERT
OJÍŽ	 - the safety of the machine during all the phases of its life cycle; - the ability of the machine to perform its function; 		OT P
.5 CV			R
01/10	the usability of the machine;the manufacturing, operational and dismantling	9/12 9/12	P
- C. SERÍ	costs of the machine. NOTE 1 The ideal application of these principles		P
	requires knowledge of the use of the machine, the accident history and health records,	Wis die	Ollich

s-ceft outs-ceft. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





/iS-CERT EN ISO 12100				
Clause		Decult Demark	Vardiet	
Clause	Requirement + Test	Result-Remark	Verdict	
N.S.	available risk reduction techniques, and the legal	15 15	116	
	framework in which the machine is to be used.	A A A	, ×	
CERT	NOTE 2 A machine design which is acceptable at a		P	
	particular time could be no longer justifiable		11:5	
	when technological development allows the design of an equivalent machine with lower risk.	0, 0,	0,	
5	Risk assessment	25 AU AU	P	
		'O, 'O' 'O' 'O' 'O' 'O' 'O' 'O' 'O' 'O'	6,0	
5.1	General	011, 011,	NIP -	
- A	Risk assessment comprises (see Figure 1)		P	
	risk analysis, comprising1. determination of the limits of the machinery	Cr. C.Cr. C.Cr.	Pir	
	(see 5.3),	Mis Ohis	Olis	
	2. hazard identification (5.4 and Annex B), and	á á á	5	
- CEL	3. risk estimation (see 5.5), and	Ch. Ch. Ch.	CEL	
Nis	- risk evaluation (see 5.6).	Mis Mis	N'P	
~	Risk analysis provides information required for	A A	Р	
	the risk evaluation, which in turn allows judgments to be made about whether or not risk reduction is	ELL ELL EL	, CER	
	required.	1:5	1:5	
0,	These judgments shall be supported by a	0, 0,	Р	
	qualitative or, where appropriate, quantitative	LER LER LER		
	estimate of the risk associated with the hazards	,5,0	1.5	
011.	present on the machinery. NOTE A quantitative approach can be	0,, 0,,	-0,,	
	appropriate when useful data is available.	A A A		
	However, a quantitative approach is restricted by	Ser Ser Ser	S.C.V.	
	the useful data that are available and/or the	ONLY ONLY	0/1/2	
	limited resources of those conducting the risk	à à à	\$.6	
	assessment. Therefore, in many applications only qualitative risk estimation will be possible.	ich, "Ch, "Ch,	Chi	
Olis	The risk assessment shall be documented	, Ohis Ohis	ON P	
	according to Clause 7.	A A A	4	
5.2	Information for risk assessment	Chr. Chr. Ch.	P	
	The information for risk assessment should include	Wis Wis	Ji P	
V	the following.		V .	
	a) Related to machinery description: 1) user specifications;	EER, CEER, CEE	Petro	
	2) anticipated machinery specifications,Including	11:50	11:65	
	i) a description of the various phases of the	0, 0,	0.	
	whole life cycle of the machinery,	LER LER LER	A CERT	
	ii) design drawings or other means of	.50, .50	5	
	establishing the nature of the machinery, and iii) required energy sources and how they	0, 0,	011.	
	are supplied;	in in in	195	
	3) documentation on previous designs of similar	SV SSV SSV	. S. Ct.	
	machinery, if relevant;	ONLY ONLY	0/1/2	
	4) information for use of the ma chinery, as available.	6 6 6	5	
COL	b) Related to regulations, standards and other	Con Con Con	P	
	applicable documents:	Wis Wis	Nie	
	1) applicable regulations;	A A A	× ×	
	2) relevant standards;3) relevant technical specifications;	eth, eth, eth	CER.	
	4) relevant safety data sheets.	11:5	11:5	
0,	c) Related to experience of use:	0, 0,	P	
	1) any accident, incident or malfunction history of	\$ \$\delta\$ \$\delta\$		

3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





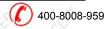
is-cert EN ISO 12100				
Clause	Requirement + Test	Result-Remark	Verdict	
Clause	Requirement + Test	Result-Remark	Verdict	
1,6	the actual or similar machinery;	1,5 1,5	71.5	
	2) the history of damage to health resulting, for		()	
	example, from emissions (noise, vibration, dust,	chi chi		
	fumes, etc.), chemicals used or materials	.5.0	5	
	processed by the machinery;	011, 011,	01/1	
	3) the experience of users of similar machines	\$ \$ 6	5 6	
	and, whenever practicable, an exchange of	CELL CELL	CEL	
	information with the potential users. NOTE An incident that has occurred and resulted in	Mis Mis	11,13	
	harm can be referred to as an "accident", whereas		()	
	an incident that has occurred and that did not result	eth eth eth	e (Pi	
	in harm can be referred to as a "near miss" or	.50	.50	
01,	"dangerous occurrence".	0, 0,	011.	
	d) Relevant ergonomic principles.	á á ó	P	
	The information shall be updated as the design	CE CE	CELL	
	develops or when modifications to the machine are required.	Wis Wis	Nis	
	Comparisons between similar hazardous			
	situations associated with different types of	chi chi ci	i) Liki	
	machinery are often possible, provided that	.50	5	
	sufficient information about hazards and accident	011, 011,	01/1	
	circumstances in those situations is available.	6. 20. 20.	5 .6	
	NOTE The absence of an accident history, a	CEL CEL CEL	CEL	
	small number of accidents or low severity of accidents ought not to be taken as a presumption of	Mis Mis	1.12	
	a low risk.	4	< ×	
- CER	For quantitative analysis, data from databases,		D.C.	
	handbooks, laboratories or manufacturers'	,5,0	,.5	
	specifications may be used, provided that there is	0, 0,	011.	
	confidence in the suitability of the data.		(8)	
	Uncertainty associated with these data shall be indicated in the documentation (see Clause 7).	Cr. Sign Sign	C.C.	
2/1/2		ONIS ONIS	P	
5.3	Determination of limits of machinery		4	
5.3.1	General		P	
	Risk assessment begins with the determination of the limits of the machinery, taking into account all	Mis Mis	JiiP	
	the phases of the machinery life. This means that	A A	× ×	
	the characteristics and performances of the	Petr, Cep, Cep	C.E.S.	
	machine or a series of machines in an integrated	11:5	1.5	
	process, and the related people, environment and	0, 0,	0,	
	products, should be identified in terms of the limits	cai cai ca	195	
- C	of machinery as given in 5.3.2 to 5.3.5.	S	.c.	
5.3.2	Use limits	ONLY ONLY	J'iP	
	Use limits include the intended use and the	6 6 6	P	
	reasonably foreseeable misuse. Aspects to be taken into account include the following:	Per Cer Cer	CEL	
1,15	a) the different machine operating modes and	1/2 1/2	N/P	
	different intervention procedures for the users,	0 0	0	
	including interventions required by malfunctions	CRI CRI CRI	C.P.	
S	of the machine;	, CV	SCV	
	b) the use of the machinery (for example, industrial,	01/10 01/10	ON P	
	non-industrial and domestic) by persons identified	á á á	5 6	
	by sex, age, dominant hand usage, or limiting physical abilities (visual or hearing impairment,	Con Con	CEL	
	size, strength, etc.);	Wis Wis	115	
	c) the anticipated levels of training, experience or	0	P	





EN ISO 12100			
Clause	Requirement + Test	Result-Remark	Verdict
. 62			- Carbon
01/13	ability of users including	0/10 0/10	0/1/2
	1) operators,	\$ \$ 6	6
	2) maintenance personnel or technicians,3) trainees and apprentices, and	Cer. Cer. Cer.	CEL
	4) the general public;	Mis Mis	Niz
	d) exposure of other persons to the hazards	4 4 4	РА
	associated with the machinery where it can be	City, City, City	CER.
	reasonably foreseen: 1) persons likely to have a good awareness of	Nis Visi	Jis.
	the specific hazards, such as operators of	0. 0.	0,
	adjacent machinery;	the the the	-ERI
	2) persons with little awareness of the specific	,5,0	1.5
	hazards but likely to have a good awareness of	0, 0,	0,,
	site safety procedures, authorized routes, etc., such as administration staff;	CRI CRI CRI	28
	3) persons likely to have very little awareness	S .S .S .S	SCU
	of the machine hazards or the site safety	ONLY ONLY	01/10
	procedures, such as visitors or members of the	\$ \$ 5	5
	general public, including children.	St. St. St.	
	If specific information is not available in relation to b), above, the manufacturer should take into	Mis Mis	Ni P
	account general information on the intended user		
	population (for example, appropriate	CELL, CELL, CELL	C.E.P.
115	anthropometric data).	5 4.5	11:5
5.3.3	Space limits	0, 0,	0 P
C. P.	Aspects of space limits to be taken into account	AR ART ART	P
	include a) the range of movement,	· · · · · · · · · · · · · · · · · · ·	.5
	b) space requirements for persons interacting	011. 011.	011,
	with the machine, such as during operation and	A 195 195	(8)
	maintenance,	Ch. C.Cr.	· S. Ct.
	c) human interaction such as the operator— machine interface, and	01/12 01/12	01/12
	d) the machine–power supply interface.	á á á	
5.3.4	Time limits	Con Con Con	P
Olis	Aspects of time limits to be taken into account	Mis Mis	ON P
	include	A A A	× ×
	a)the life limit of the machinery and/or of some of	CEL CEL CEL	CEL
	its components (tooling, parts that can wear, electromechanical components, etc.), taking into	Wis Wis	Nie.
	account its intended use and reasonably	A A A	V 2
	foreseeable misuse, and	AR AR AR	CER
.5	b) recommended service intervals.	, 5	
5.3.5	Other limits	0, 0,	0 P
at Pai	Examples of other limits include	LER LER LER	P
	a) properties of the material(s) to be processed,	10° 15' 15'	.5
	b) housekeeping — the level of cleanliness required, and	011. 011.	01,
	c) environmental — the recommended	A A A	, á
	minimum and maximum temperatures, whether	Ch. Ch. Ch.	C.CE.
	the machine can be operated indoors or	Mis Mis	Office
	outdoors, in dry or wet weather, in direct sunlight, tolerance to dust and wet, etc.		
5.4	Hazard identification	Ch. Ch. Ch.	P
0.45		215	
	After determination of the limits of the machinery, the essential step in any risk assessment of the	0. 0.	0 P

JOERÍ ONISCHERÍ This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or orisison caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





Clause Requirement + Test machinery is the systematic identification of reasonably foreseeable hazards (permanent hazards and those which can appear unexpectedly), hazardous situations and/or hazardous events during all phases of the machine	Result-Remark	Verdict
machinery is the systematic identification of reasonably foreseeable hazards (permanent hazards and those which can appear unexpectedly), hazardous situations and/or hazardous events during all phases of the machine	Result-Remark	verdict
reasonably foreseeable hazards (permanent hazards and those which can appear unexpectedly), hazardous situations and/or hazardous events during all phases of the machine	01/2 01/2	
reasonably foreseeable hazards (permanent hazards and those which can appear unexpectedly), hazardous situations and/or hazardous events during all phases of the machine		115
hazards and those which can appear unexpectedly), hazardous situations and/or hazardous events during all phases of the machine	4 4 4	\ \ \ \ \ \
hazardous events during all phases of the machine	AN SHE SHE	CER
	6,5,5	.5
	01, 01,	011.
life cycle, i.e.: - transport, assembly and installation;	As As As	D. S
- commissioning;	St. St. St.	HOL
- use;	Mis Mis	Olis
- dismantling, disabling and scrapping.	A A A	
Only when hazards have been identified can	CELL CELL CELL	P
steps be taken to eliminate them or to reduce	0 4:5	11.5
risks. To accomplish this hazard identification, it is necessary to identify the operations to be	0, 0,	0,
performed by the machinery and the tasks to be	CHI CHI CH	LRI
performed by persons who interact with it, taking		.5.0
into account the different parts, mechanisms or	01/10 01/10	0/1/2
functions of the machine, the materials to be	A A A	
processed, if any, and the environment in which the	CELL CELL CELL	CEL
machine can be used.	5 4.5	1:5
The designer shall identify hazards taking into account the following.	0, 0,	0, b
a) Human interaction during the whole life cycle	the chief	DO
of the machine	.5	5
Task identification should consider all tasks	01, 01,	01/
associated with every phase of the machine life	6 6 6	20.
cycle as given above. Task identification should	CELL CELL	CEL
also take into account, but not be limited to, the	o Wig Mig	11,5
following task categories: - setting;	A A A	\(\sigma\)
- testing;	The The	C. C. C.
- teaching/programming;	5 ,5	1.5
- process/tool changeover;	0, 0,	0,
- start-up;	a la la	, pi
- all modes of operation; - feeding the machine;	ich Sign Sign	C,CK
- removal of product from machine;	Office Office	ONIS
- stopping the machine;	A A A	
 stopping the machine in case of emergency; 	CELL CELL CELL	CELY.
- recovery of operation from jam or blockage;	o' 1:5'	11.5
- restart after unscheduled stop;	0, 0,	0,
- fault-finding/trouble-shooting (operator	CHI CHI CHI	CRI
intervention); - cleaning and housekeeping;	Sor Sich Sich	S.C.
- preventive maintenance;	Office Office	ONL
- corrective maintenance.	8 8 8	1
All reasonably foreseeable hazards, hazardous	CEL CEL CEL	P
situations or hazardous events associated with	o wis wis	Nie.
the various tasks shall then be identified.	0. 0.	0
Annex B gives examples of hazards, hazardous situations and hazardous events to assist in this	CA CAI CA	-CRI
process.Several methods are available for the	.5.0	.5
systematic identification of hazards. See also	01/10 01/10	01/10
ISO/TR 14121-2.	\$ \$ 5	<u>a</u>
In addition, reasonably foreseeable hazards,	SEL CEL CEL	P
hazardous situations or hazardous events not	o wis wis	N'E
directly related to tasks shall be identified. EXAMPLE Seismic events, lightning, excessive	0. 0.	0

3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





snow loads, noise, break-up of machinery, hydraulic hose burst. b) Possible states of the machine prosesses and characteristics of the machine performs the intended function (the machine performs the intended function (the machine performs the intended function (the machine operates normally); 2) the machine does not perform the intended function (i.e. it mafunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably forseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of maffunction, incident or failure during the use of the machine, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation	Vis-cert EN ISO 12100			
snow loads, noise, break-up of machinery, hydraulic hose burst. b) Possible states of the machine These are as follows: 1) the machine performs the intended function (the machine perfares normally); 2) the machine does not perform the intended function (i.e. it malfunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, wibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably forseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine in carriers, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative	Clause		Result-Remark	Verdict
hydraulic hose burst. b) Possible states of the machine These are as follows: 1) the machine performs the intended function (the machine performs the intended function (the machine performs the intended function (the machine performs the intended function (i.e. it mafunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, sontware errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces), - o' Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possi	Oladoo	Troduient Freet	Trobail Tromani	CO CO CO
hydraulic hose burst. b) Possible states of the machine These are as follows: 1) the machine performs the intended function (the machine performs the intended function (the machine performs the intended function (the machine performs the intended function (i.e. it mafunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, sontware errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces), - o' Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possi	7/2	snow loads, noise, break-up of machinery.	3 7/2	1/2 1/2
These are as follows: 1) the machine performs the intended function ((the machine operates normally); 2) the machine does not perform the intended function ((i.e. it mafunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces), - c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons), NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining the elements of risk given in 5.5.2. When determining the elements of risk given in 5.5.2. When determining the elements of risk given in 5.5.2. When determining the dements of risk given in 5.5.2. When determining the dements of risk given in 5.5.2. When determining the dements of risk given in 5.5.2. When determining the selements of risk given in 5.5.2. When determining the selement	~			, , , ,
1) the machine performs the intended function (the machine operates normally); 2) the machine does not perform the intended function (i.e. it malfunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons) NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to	C. E. E.	b) Possible states of the machine	The Strip	eth Peth
(the machine operates normally); 2) the machine does not perform the intended function (i.e. it malfunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces), - c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P General After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			5	.50
2) the machine does not perform the intended function (i.e. it malfunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5. Risk estimation P General After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			07, 0	7, 07,
function (i.e. it malfunctions) due to a variety of reasons, including - variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces), - c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator (especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons), NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5. Risk estimation P. General After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			5 5	6 6
reasons, including			Cerri Cerri	CELL CELL
- variation of a property or of a dimension of the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5.1 General After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			9 11.65	1,15
the processed material or of the workpiece, - failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged filoor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			0, 0	0,
- failure of one or more of its component parts or services, - external disturbances (for example, shocks, vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons), NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			CRI CRI	45 45
or services,			SV CV	C.CV
- external disturbances (for example, shocks, vibration, electromagnetic interference),			Wis a	Mrs Mis
vibration, electromagnetic interference), - design error or deficiency (for example, software errors), - disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to				4
software errors), disturbance of its power supply, and surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include loss of control of the machine by the operator(especially for hand-held or mobile machines), reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, behaviour resulting from lack of concentration or carelessness, behaviour resulting from taking the "line of least resistance" in carrying out a task, behaviour resulting from pressures to keep the machine running in all circumstances, and behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining these elements, it is necessary to take into account the aspects given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			Ele. CER.	CER CER
- disturbance of its power supply, and - surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to		- design error or deficiency (for example,	5	,5
- surrounding conditions (for example, damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P General After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining the elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			0, 0	0,
damaged floor surfaces). c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator (especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			5 5	6 6
c) Unintended behaviour of the operator or reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5. Risk estimation P. After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			Carrier Carrier	CELL CELL
reasonably foreseeable misuse of the machine Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malifunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or profotypes, to determine emission values and comparative emission data. This makes it possible for the designer to	1:5		5	1.5
Examples include - loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			0, 0	0 P
- loss of control of the machine by the operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			(R)	(4)
operator(especially for hand-held or mobile machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5. Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			St. C.C.	C.CV
machines), - reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			Jis of	113 1113
- reflex behaviour of a person in case of malfunction, incident or failure during the use of the machine, - behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			4 4	, , , ,
of the machine,			E. E. E.	Ch. Ch.
- behaviour resulting from lack of concentration or carelessness, - behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			5	,5
carelessness,			0, 0	0,
- behaviour resulting from taking the "line of least resistance" in carrying out a task, - behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to				. A . A
least resistance" in carrying out a task,			Ch. Ch.	Cer. Cer.
- behaviour resulting from pressures to keep the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			0 1112	1,12
the machine running in all circumstances, and - behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			, 0	
- behaviour of certain persons (for example, children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			CRI CRI	CR) CR
children, disabled persons). NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. Risk estimation Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			.5.0	.5.0
NOTE Examination of the available design documentation can be a useful means of identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			01/2	11. 011
identifying hazards related to the machinery, particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to		NOTE Examination of the available design	á á	6
particularly those associated with moving elements such as motors or hydraulic cylinders. 5 Risk estimation P After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			Str. Str.	CEL CELL
elements such as motors or hydraulic cylinders. 5 Risk estimation F 6 General After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			5 115	1.15
5 Risk estimation 5.1 General After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			0, 0	0.
After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to	F F - CR		(A) (A)	-26
After hazard identification, risk estimation shall be carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to	5.5	-,6' ,6' ,6' ,6' ,6' ,6'		. 6/
carried out for each hazardous situation by determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to	5.5.1		041 0	N. OILL
determining the elements of risk given in 5.5.2. When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			.dd.	A PA
When determining these elements, it is necessary to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			CE CE	CEL, CEL
to take into account the aspects given in 5.5.3. If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			0 11,15	1.12
If standardized (or other suitable) measurement methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			0. 0	0.
methods exist for an emission, they should be used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to	- 28		95 95	AS DE
used, in conjunction with existing machinery or prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			CV CV	S.CV LOV
prototypes, to determine emission values and comparative emission data. This makes it possible for the designer to			Mis of	Mis Mis
comparative emission data. This makes it possible for the designer to				4
possible for the designer to			ER, CER,	CER CER
	.50		65	.5
- evaluate the effectiveness of the protective	27,	- estimate the risk associated with the emissions,	0, 0	O _A b

_{š-CEF}Ý ovis-CEFÝ, This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





is-cert	EN 100 40400	.s' .s'	S´
<u> </u>	EN ISO 12100		.,
Clause	Requirement + Test Resu	ılt-Remark	Verdict
01/2/	measures implemented at the design stage,	115' 015'	0115
	- provide potential buyers with quantitative information on emissions in the technical		CERT
	documentation, and - provide users with quantitative information on		Olis
	emissions in the information for use.		
	Hazards other than emissions that are described by measurable parameters can be dealt with in a similar manner.		Olica
5.5.2	Elements of risk	CERT CERT	P
5.5.2.1	General	,5,0	·P
011	The risk associated with a particular hazardous situation depends on the following elements:	24, 04,	0"P
Chr	a) the severity of harm;	2,557	P
ONIS	b) the probability of occurrence of that harm, which is a function of	1/12 0/13	ON P
	1) the exposure of person(s) to the hazard,		CERT
	2) the occurrence of a hazardous event, and 3) the technical and human possibilities to		Ohis
- C.R.	avoid or limit the harm.	SER SER	· · · · · · · · · · · · · · · · · · ·
OVISION	The elements of risk are shown in Figure 3. Additional details are given in 5.5.2.2, 5.5.2.3 and 5.5.3.	Nision Wision	Olica
- 28	5.5.3.	95 95	DO
	PROBABILITY OF of that	9 01	ON'S CE
	RISK SEVERITY OF HARM Exposure of	person(s)	CERT
	related to is a that can the function result from the the accurate to the house the accurate the	24/2	ONIS
	considered the considered the considered		CERT
	hazard the possibili or limit th		Ollis
		. S. CER	. C. CERI
ONIS	Figure 3 — Elements of risk	Mis Ovis	ONIS
5.5.2.2	Severity of harm	CERT CERT	Park
Ohio	The severity can be estimated by taking into account the following:	Mr. Ohio	OVIP
	a) the severity of injuries or damage to health, for example,		Pur
	- slight, - serious,		ONLY
CERT	- death. b) the extent of harm, for example, to	CERT CERT	P
ONIS	- one person, - several persons.	Nis Ovisi	ONIE
CEERI	When carrying out a risk assessment, the risk from the most likely severity of the harm that is	CERT CERT	Per
	likely to occur from each identified hazard shall be considered, but the highest foreseeable		01/12

3-CERT OVIS-CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN ISO 12100		
Clause	Requirement + Test	Result-Remark	Verdi
N'S'	the probability of such an occurrence is not high.	15:0	N.S.
5.5.2.3	Probability of occurrence of harm		P
5.5.2.3.1	Exposure of persons to the hazard	(5) (5) (5)	· P
5.5.2.5.1	The exposure of a person to the hazard influences the probability of the occurrence of harm. Factors to be taken into account when estimating the exposure are, among others, a) the need for access to the hazard zone (for	CERT ON'S CERT ON'S CERT	P
S.CERI	normal operation, correction of malfunction, maintenance or repair, etc.),		5
0,1	b) the nature of access (for example, manual feeding of materials),	2 2 2	ON P
CER	c) the time spent in the hazard zone,		P
Ohip	d) the number of persons requiring access, and	Mis Mis	ON P
E ALPE	e) the frequency of access.		Р
5.5.2.3.2	Occurrence of a hazardous event	J'S' J'S'	P
PE ON'S CHE	The occurrence of a hazardous event influences the probability of occurrence of harm. Factors to be taken into account when estimating the occurrence of a hazardous event are, among others	CERT OF CERT	P
	a) reliability and other statistical data,		Р
, S. Cit.	b) accident history,		, P
0,1	c) history of damage to health, and	9, 9,	O P
Nis CERT	d) comparison of risks (see 5.6.3). NOTE The occurrence of a hazardous event can be of a technical or human origin.	SER NESCHRINGS SER	P
5.5.2.3.3	Possibility of avoiding or limiting harm	à à à	Р
ovis-ctr	The possibility of avoiding or limiting harm influences the probability of occurrence of harm. Factors to be taken into account when estimating the possibility of avoiding or limiting harm are, among others, the following:	offil coffi	ONICE OF
et offis	a) different persons who can be exposed to the hazard(s), for example,- skilled,		ONP
Nis-Cr	 unskilled; b) how quickly the hazardous situation could lead to harm, for example, suddenly, quickly, 	CERT CLERT CLERT	oli P
Olis chi	- slowly; c) any awareness of risk, for example, - by general information, in particular, information for use, - by direct observation, - through warning signs and indicating devices,in	CERT ONES CERT ONES CERT	P
ri ciri	particular, on the machinery; d) the human ability to avoid or limit harm (for		В

3.CERT OVIS.CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence. Provided however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN ISO 12100	.~ .~	
Clause	Requirement + Test	Result-Remark	Verdict
.5,0	.50 .50 .50 .50 .50		.5
	of the machinery,of similar machinery,no experience.		ON.
5.5.3	Aspects to be considered during risk estimation	11.5.0	11ºP
5.5.3.1	Persons exposed	0 0 0 V	Р
OVIS-CEPAL	Risk estimation shall take into account all persons (operators and others) for whom exposure to the hazard is reasonably foreseeable.		Pill
5.5.3.2	Type, frequency and duration of exposure	chi chi	P
JViS-CERT	The estimation of the exposure to the hazard under consideration (including long-term damage to health) requires analysis of, and shall account for, all modes of operation of the machinery and methods of working. In particular, the analysis shall account for the needs for access during loading/unloading, setting, teaching, process changeover or correction, cleaning, fault-finding and maintenance.	CERÍ OUIS-CÉRÍ OUIS-CÉRÍ	ONI P
JY'S'	The risk estimation shall also take into account tasks, for which it is necessary to suspend protective measures.	J. J. J. J. J. S. J.	Oli P
5.5.3.3	Relationship between exposure and effects	CELL CELL	R
OVIS-CERT	The relationship between an exposure to a hazard and its effects shall be taken into account for each hazardous situation considered. The effects of accumulated exposure and combinations of hazards shall also be considered. When considering these effects, risk estimation shall, as far as practicable, be based on appropriate recognized data. NOTE 1 Accident data can assist in establishing the probability and severity of injury associated with the use of a particular type of machinery with a particular type of protective measure. NOTE 2 Zero accident data is, however, no guarantee of the low probability and severity of an injury.	CERT ONES-CERT ONES-CERT	ON'P
5.5.3.4	Human factors	1:50	P
· S. CERÍ	Human factors can affect risk and shall be taken into account in the risk estimation, including, for example,		P
0112	a) the interaction of person(s) with the machinery, including correction of malfunction,	041, 041,	N/A
CERT	b) interaction between persons,	CERT CERT	Per
01,15	c) stress-related aspects,	Wis Wis	N'P
.4	d) ergonomic aspects,	& & &	Р
ON'S CELL	e) the capacity of persons to be aware of risks in a given situation depending on their training, experience and ability,	Olisial Olisial	ON'S POST
CERT	f) fatigue aspects, and	CERT CERT	Pel
N.P.	g) aspects of limited abilities (due to disability, age, etc.).	Mig. Mig.	N'P

ovis clér This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





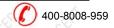
		EN ISO 12100		
CER	Clause	Requirement + Test	Result-Remark	Verdic
	1.5	Training, experience and ability can affect risk;	150 150	1.5
	0,	nevertheless, none of these factors shall be used	0, 0,	0" P
	(ER)	as a substitute for hazard elimination, risk	(A) (A) (A)	
	.5	reduction by inherently safe design measure or	10,000	
	011.	safeguarding, wherever these protective	01, 01,	
	5.5.3.5	measures can be practicably implemented. Suitability of protective measures		P
	0.0.0.0	Risk estimation shall take into account the	Mis Mis	JI'P
		suitability of protective measures and shall a) identify the circumstances which can result in		P
	S.CE	harm,		- S.C.Y
	0/1/2	b) whenever appropriate, be carried out using	0/10 0/10	ON P
	No.	quantitative methods to compare alternative protective measures (see ISO/TR 14121-2), and		
	- 3	c) provide information that can assist with the		.cP
	Miss	selection of appropriate protective measures.	Ohis Ohis	Olis
		When estimating risk, those components and	A A A	Р
	CELE.	systems identified as immediately increasing the	CELL CELL CELL	
	118	risk in case of failure need special attention. When protective measures include work	16	N'S
	0	organization, correct behavior, attention, application	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	01 P
	CERI	of personal protective equipment (PPE), skill or	ER SER	
	1.5	training, the relatively low reliability of such	1.50	
	011.	measures compared with proven technical	0, 0,	
	· A	protective measures shall be taken into account in the risk estimation.	A A A	
	5.5.3.6	Possibility of defeating or circumventing	SV	P
	5.5.5.0	protective measures	One One	0711
	4	For the continued safe operation of a machine, it is	\$ \$ \$	Р
	CELL	important that the protective measures allow its	CELL CELL	
	1,12	easy use and do not hinder its intended use. Otherwise, there is a possibility that protective	Mis Mis	
	\ \ \ \ \ \ \	measures might be bypassed in order for maximum	A A A	
	CERT	utility of the machine to be achieved.	ALE ALE ALE	e e
	11.5	Risk estimation shall take account of the	1,5	N/A
	0,	possibility of defeating or circumventing protective	0, 0,	
	C.R.	measures. It shall also take account of the incentive to defeat or circumvent protective measures when,	CHI SCHI SCHI	
		for example,	.55.	
	041	a) the protective measure slows down production or	011 011	N/A
	, al	interferes with another activity or preference of the		
	.5	user,	.5' .5'	N/A
	01/	b) the protective measure is difficult to use,	011, 011,	N/A
	CER	c) persons other than the operator are involved, or d) the protective measure is not recognized by		4
	11:5	the user or not accepted as being suitable for its	1:5	N/A
	0,	function.	0, 0,	
	CRI	Whether or not a protective measure can be	(A) (A) (A)	N/A
	.5.0	defeated depends on both the type of protective	.5.0	
	01/12	measure, such as an adjustable guard or	01/12 01/12	
	, á	programmable trip device, and its design details. Protective measures that use programmable	à à à	NI/A
	CELL	electronic systems introduce additional possibilities	Cer. Cer. Cer.	N/A
	Nis	of defeat or circumvention if access to safety-	Mis Mis	
	\ \ \ \ \ \ \	related software is not appropriately restricted by	X X X	
	This Tay I Dollar	design and monitoring methods. sued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for you		ana of 11-1-111

3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN ISO 12100						
Clause	Requirement + Test	Result-Remark	Verd				
W.S.	Risk estimation shall identify where safety-related	Wisin Wisin	115				
N S CER	functions are not separated from other machine functions and shall determine the extent to which access is possible. This is particularly important when remote access for diagnostic or process	SERÍ NISZERÍ NISZERÍ	11:63				
0.	correction purposes is required.	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	0,				
5.5.3.7	Ability to maintain protective measures		P				
OVISCERÍ	Risk estimation shall consider whether the protective measures can be maintained in the condition necessary to provide the required level of protection. NOTE If the protective measure cannot easily be	SERI ONE ONE ONE	ON P				
Nis CER	maintained in correct working order, this can encourage the defeat or circumvention of the protective measure in order to allow continued use of the machinery.	SERÍ NIS-SERÍ NIS-SERÍ	Nie.				
5.5.3.8	Information for use		Р				
JiS CEN	Risk estimation shall take into account the information for use, as available. See also 6.4.	CE 11.25.CE	P				
5.6	Risk evaluation	0, 0,	O P				
5.6.1	General	SEP SEP	Р				
Mig	After risk estimation has been completed, risk	Mis Mis	W.P.				
OVIS-CERT	evaluation shall be carried out to determine if risk reduction is required. If risk reduction is required, then appropriate protective measures shall be selected and applied (see Clause 6). As shown in Figure 1, the adequacy of the risk reduction shall be determined after applying each of the three steps of risk reduction described in Clause 6. As part of this iterative process, the designer shall also check whether additional hazards are	SERT OUTS SERT OUTS SERT	Wisi.				
OVIE CERT	introduced or other risks increased when new protective measures are applied. If additional hazards do occur, they shall be added to the list of identified hazards and appropriate protective measures will be required to address them.		Nie's				
Olisis CER	Achieving the objectives of risk reduction and a favorable outcome of risk comparison applied when practicable gives confidence that risk has been adequately reduced.	ovier ovier	OVI ^P				
5.6.2	Adequate risk reduction	Wis Wis	J. 9				
S CEPT	Application of the three-step method described in 6.1 is essential in achieving adequate risk reduction.	geri geri	P				
Ollin	Following the application of the three-step method, adequate risk reduction is achieved when	office office	ONP				
r cth	- all operating conditions and all intervention procedures have been considered,	Str. 116-Cth. 116-Ctl	P				
0,,	- the hazards have been eliminated or risks reduced to the lowest practicable level,	0, 0,	0 NP				
SCER	- any new hazards introduced by the protective measures have been properly addressed,	SERIE SCHRIE	P				
01/12	- users are sufficiently informed and warned about the residual risks (see 6.1, step 3),	ON. ON.	O ^{JI} F				





S-CERT	EN ISO 12100	.51 .51	. %
Clause	Requirement + Test	Result-Remark	Verdict
Ciause	Requirement + Test	Result-Remain	Verdict
Onis	- protective measures are compatible with one another,	, 01,5 01,5	Oli P
OVIS-CERT	- sufficient consideration has been given to the consequences that can arise from the use in a nonprofessional / non-industrial context of a machine designed for professional/industrial use, and	EFF OFF OFF	Peliti
OVISION	- the protective measures do not adversely affect the operator's working conditions or the usability of the machine.	Wisia Wisia	Oli P
5.6.3.	Comparison of risks		P
OVIS CERT	As part of the process of risk evaluation, the risks associated with the machinery or parts of machinery can be compared with those of similar machinery or parts of machinery, provided the following criteria apply:	CERT ONES CERT ONES CERT	OVI P
- CELEN	 the similar machinery is in accordance with relevant type-C standard(s); 		N/A
ONISIO	the intended use, reasonably foreseeable misuse and the way both machines are designed and constructed are comparable;	Mision Mision	Ni ₃ P ^N
,SOFR	 the hazards and the elements of risk are comparable; 		Pell
	- the technical specifications are comparable;	011, 011,	0), b
-CPA	- the conditions for use are comparable.		Puri
ovis ovis cliki ovis cliki	The use of this comparison method does not eliminate the need to follow the risk assessment process as described in this International Standard for the specific conditions of use. For example, when a band saw used for cutting meat is compared with a band saw used for cutting wood, the risks associated with the different material shall be assessed.		OH'S CHAI
6	Risk reduction	Wig Mig	W.P
6.1	General	à à à	P
OVIS CERT	The objective of risk reduction can be achieved by the elimination of hazards, or by separately or simultaneously reducing each of the two elements that determine the associated risk:	CHI CHI CHI	ovie Posti
04:5:01	- severity of harm from the hazard under consideration;	onis on onis or	ONIGE CO.
ON'S CERT	- probability of occurrence of that harm. All protective measures intended for reaching this objective shall be applied in the following sequence, referred to as the three-step method (see also Figures 1 and 2).	CERT OFFICERY OFFICER	Pill
ovis cert	Step 1: Inherently safe design measures Inherently safe design measures eliminate hazards or reduce the associated risks by a suitable choice of design features of the machine itself and/or interaction between the exposed persons and the machine. See 6.2. NOTE 1 This stage is the only one at which hazards can be eliminated, thus avoiding the	SEE OVIS-CEE OVIS-CEE	PSTE

3.CERT OVIS-CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





		EN ISO 12100		
	Clause	Requirement + Test	Result-Remark	Verdic
	N'S'	need for additional protective measures such as	15	115
	, al	safeguarding or complementary protective measures.		
	- 300	Step 2: Safeguarding and/or complementary	\$\tau\tau\tau\tau\tau\tau\tau\tau\tau\tau	- CP
	Ohis	protective measures	, Mis Mis	Olis
	, á	Taking into account the intended use and the	6 6 6	
	CEL	reasonably foreseeable misuse, appropriately	the things of	, ck
	11,15	selected safeguarding and complementary protective measures can be used to reduce risk	Nig Nig	1,15
	0	when it is not practicable to eliminate a hazard, or	4 4 4	
	CER	reduce its associated risk sufficiently, using		c.
	5	inherently safe design measures. See 6.3.	.5,0	,5
	01.	Step 3: Information for use	0, 0,	0), b
	183	Where risks remain despite inherently safe design		
	C.C.C.	measures, safeguarding and the adoption of complementary protective measures, the residual	or, for, for,	2,0
	Olis,	risks shall be identified in the information for use.	Mis Mis	01,13
		The information for use shall include, but not be	A A A	
	CES.	limited to, the following:	EL EL EL	×
	11:5	- operating procedures for the use of the machinery	1.5	1:5
	0,	consistent with the expected ability of personnel	0, 0,	0,
	LP	who use the machinery or other persons who can be exposed to the hazards associated with the	(4) (4)	
	.5.0	machinery;	50	.50
	0/1/2	- the recommended safe working practices for the	0/12 0/12	01/10
	, á	use of the machinery and the related training	6 6 6	
	CEL	requirements adequately described;	office of the	, cs
	N.i.S.	- sufficient information, including warning of residual risks for the different phases of the life of	Nig Nig	1.15
	0	the machinery;	4 4 4	0
	CER.	- the description of any recommended personal	The The The	·
	1.5	protective equipment, including detail as to its	,51	1.5
	0,	need as well as to training needed for its use.	0, 0,	0,
	183	Information for use shall not be a substitute for		
	C.C.C.	the correct application of inherently safe design measures, safeguarding or complementary	ign Fig. Fig.	S.C.
	01,13	protective measures.	Mis Mis	01,13
	, A	NOTE 2 Adequate protective measures	A A A	N/A
	CEL	associated with each of the operating modes and	Str. Str. Str.	S
	1,15	intervention procedures reduce the possibility of	115 Nis	1.15
	0	operators being induced to use hazardous intervention techniques in case of technical	0, 0,	0
	(LE)	difficulties.		· K
	6.2	Inherently safe design measures	Jis Jis Jis	P
	6.2.1	General		Р
	2,00	Inherently safe design measures are the first and	100 TOD	P
	Olis	most important step in the risk reduction process.	Mis Mis	01/13
		This is because protective measures inherent to the characteristics of the machine are likely to remain	A A A	
	CEL	effective, whereas experience has shown that even	CEL CELL CELL	C.
	N'S	well-designed safeguarding can fail or be violated	Wis Wis	11,5
	0	and information for use may not be followed.	0. 0.	0
	CERI	Inherently safe design measures are achieved by		P
	1.5	avoiding hazards or reducing risks by a suitable	,50, ,50	1.5
	011.	choice of design features for the machine itself and/or interaction between the exposed persons	0, 0,	01.
	, d	and the machine.		· .
	This Test Report is is	ssued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for y unsdictional policies defined therein. This test report includes all of the tests requested by you and the results then	our exclusive use. Attention is drawn to the limitar	ions of liability,

a celeti ovis celeti, This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





Clause	Requirement + Test	Result-Remark	Verdi
NE	NOTE See 6.3 for safeguarding and	115	ON P
	complementary measures that can be used to	A A A	
	achieve the risk reduction objectives in the case	th, th, th,	c c
	where inherently safe design measures are not	,5	1.5
0,,	sufficient (see 6.1 for the three-step method). Consideration of geometrical factors and physical	9, 9,	0,1
6.2.2	aspects		Р
6.2.2.1	Geometrical factors	1,6,0	J.P
- A	Such factors include the following.		Р
CER	a) The form of machinery is designed to maximize		.P
	direct visibility of the working areas and hazard	1,12 1,13	1.12
	zones from the control position - reducing blind	4 4 4	
	spots, for example - and choosing and locating	(H) (H) (H)	
	means of indirect vision where necessary (mirrors, etc.) so as to take into account the characteristics of	.5	
	human vision, particularly when safe operation	01, 01,	011
	requires permanent direct control by the operator,	A A A	
	for example:	the the the	
	- the travelling and working area of mobile	1:6	1.15
	machines;	0. 0.	0,
	- the zone of movement of lifted loads or of the	(A) (A) (A)	
	carrier of machinery for lifting persons;	CY CY CY	
	- the area of contact of the tool of a hand-held or	ONIS ONIS	0/11/2
	hand-guided machine with the material being worked.	A A A	
	The design of the machine shall be such that,	th, th, th	
	from the main control position, the operator is	,5' ,5'	.5
0,,	able to ensure that there are no exposed persons in	0, 0,	0,
	the danger zones.		¥7
2,00	b) The form and the relative location of the	30 300	æ
	mechanical components parts: for instance,	Mis Mis	11,5
	crushing and shearing hazards are avoided by	0 0	0
	increasing the minimum gap between the moving	(A) (B) (A)	
	parts, such that the part of the body under consideration can enter the gap safely, or by	.5.0	5
	reducing the gap so that no part of the body can	01/2 01/2	011
	enter it (see ISO 13854 and ISO 13857).	à à à	
Con	c) Avoiding sharp edges and corners, protruding	30, 300, 300,	P
	parts: in so far as their purpose allows, accessible	Mis Mis	11,2
	parts of the machinery shall have no sharp edges,	X X X	0
	no sharp angles, no rough surfaces, no protruding	Chi chi chi	
	parts likely to cause injury, and no openings which	.5.0	5
	can "trap" parts of the body or clothing. In particular, sheet metal edges shall be deburred, flanged or	01, 01,	011
	trimmed, and open ends of tubes which can cause	à à à	
	a "trap" shall be capped.	St. Cer. Cer.	- T
Nie	d) The form of the machine is designed so as to	Mis Mis	NI P
	achieve a suitable working position and provide	0 0	0
48	accessible manual controls (actuators).	(A) (B) (B)	
6.2.2.2	Physical aspects	1.5	, ef
02.	Such aspects include the following:	0, 0,	<i>O</i> P
- CR	a) limiting the actuating force to a sufficiently low	CE CER CER	F
ONISIO	value so that the actuated part does not generate a mechanical hazard;	WiSilv WiSilv	0115
4	b) limiting the mass and/or velocity of the movable	A A A	N/
is Test Report is iss	ued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for yo	I ur exclusive use. Attention is drawn to the limitat	l ions of liabilit
demnification and ju te of issuance of the	isdictional policies defined therein.This test report includes all of the tests requested by you and the results there s test report to notify us of any error or omission caused by our negligence,Provided,however,that such notice si	of based upon the information that you provided hall be in writing and shall specifically address the	.You have 30 ie issue you
se.A failure to raise	such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this re-	eport, the tests conducted and the correctness of	the report co
,非亚美特测针中心	f江)有限公司(OViS) 地址:浙江省台州市椒江区下陈街道飞跃科创园 31 幢 😐 www.	ovie lab com 🖂 info@ovia lab	





0.		EN ISO 12100				
CELET	Clause	Requirement + Test	Re	sult-Remar	k	Verdic
OVISIO	046	elements, and hence their kinetic energy;		04.6	01/5	01/5
, SCERI	J'S-CERT	c) limiting the emissions by acting on the characteristics of the source using measures for reducing	SERI	JiS-CERT	J'S CER	N/A
0,,		0, 0, 0, 0,			0,,	
, Wister		1) noise emission at source (see ISO/TR 11688-1), 2) the emission of vibration at source, such as	CER.		N.S. CER.	
C CELET		redistribution or addition of mass and changes of process parameters [for example, frequency and/or amplitude of movements (for hand-held	CERÍ		o otiki	
ONISIO		and hand-guided machinery, see CR 1030-1)], 3) the emission of hazardous substances,			OVISIO	
CER		including the use of less hazardous substances or dust-reducing processes (granules instead of	CERT		CER	
Onis		powders, milling instead of grinding), and 4) radiation emissions, including, for example, avoiding the use of hazardous radiation	6		OVID	
OVISICETY		sources, limiting the power of radiation to the lowest level sufficient for the proper functioning of the machine, designing the source so that the	Str.		ON'S CELL	
· ··S-CERN		beam is concentrated on the target,increasing the distance between the source and the operator or	SERI		.S.CER	
ON, CERT		providing for remote operation of the machinery [measures for reducing emission of non-ionizing radiation are given in 6.3.4.5 (see also EN 12198-1 and EN12198-3)].	SERI		ON SERV	
01/15	6.2.3	Taking into account general technical knowledge of machine design		Oniza	01/2	ON P
· · · · · · · · · · · · · · · · · · ·	1:S-CERT	This general technical knowledge can be derived from technical specifications for design	CERT	1:5-CERT	, S.CER	P
0,	0,	(standards, design codes, calculation rules, etc.), which should be used to cover		0,	0,,	0,,
. Wister		a) mechanical stresses such as - stress limitation by implementation of correct calculation, construction and fastening methods	CER		Wis CER	PS
SELEK		as regards, for example, bolted assemblies and welded assemblies, - stress limitation by overload prevention	SERI		CERÍ	
OVIS		(bursting disk, pressure-limiting valves, breakage points, torque-limiting devices, etc.),			OVIS	
OVis-CET		 avoiding fatigue in elements under variable stresses (notably cyclic stresses), and static and dynamic balancing of rotating elements, 	Sith		ON'S CELL	
Wi5-CERI	Wi5-CERT	b) materials and their properties such as - resistance to corrosion, ageing, abrasion and wear.	SER	Nis CERT	WiS-CER	P
. CERT		hardness, ductility, brittleness,homogeneity,toxicity, and	SERI		, SER	

S.CERT OVIS.CERT, This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





is-cert	EN ISO 12100	<u> </u>	.5
Clause		Result-Remark	Verdict
Clause	Requirement + Test	Result-Remark	verdict
01/2	When the reliability of particular components or	01/5 01/5	O P
	assemblies is critical for safety (for example, ropes, chains, lifting accessories for lifting loads	A A A	195
	or persons), stress limits shall be multiplied by		SCC
0/1/2	appropriate working coefficients.	0/10 0/10	0/1/2
6.2.4	Choice of appropriate technology		P
.5.0	One or more hazards can be eliminated or risks	.5.0	
	reduced by the choice of the technology to be	0/10 0/10	0/1/2
	used in certain applications such as the following: a) on machines intended for use in explosive		N/A
	atmospheres, using		IN/A
	- appropriately selected pneumatic or hydraulic	, Ohis Ohis	Olis
	control system and machine actuators,	A A A	× 5
	- intrinsically safe electrical equipment (see IEC 60079-11);	Ser Ser Ser	CEL
Nip	b) for particular products to be processed (for	, Mis Mis	WP.
	example, by a solvent), by using equipment that		
	ensures the temperature will remain far below the	Carlo Carlo	, Chr.
118	flash point; c) the use of alternative equipment to avoid high	1.6	N/A
	noise levels, such as	0. 0.	O IN/A
	- electrical instead of pneumatic equipment,	Chi Chi	
	- in certain conditions, water-cutting instead of	1.5	1.5
0.0.5	mechanical equipment.	0, 0,	0)
6.2.5	Applying principle of positive mechanical action		P
	Positive mechanical action is achieved when a	· · · · · · · · · · · · · · · · · · ·	P
	moving mechanical component inevitably moves another component along with it, either by direct	0, 0,	011,
	contact or via rigid elements. An example of this is	A 195 195	193
	positive opening operation of switching devices in	CV SCV	· S. CY
	an electrical circuit	0/10 0/10	0/1/2
	(see IEC 60947-5-1 and ISO 14119). NOTE Where a mechanical component moves	à à à	·
	and thus allows a second component to move	Cer. Cer. Cer.	CELL
	freely (for example, by gravity or spring force),	, Miz Miz	Olis
	there is no positive mechanical action of the first component on the second.	5 5 6	× 5
6.2.6	Provisions for stability		P
J. <u>Z.</u> J		, 41,2	7,12
	Machines shall be designed so that they have sufficient stability to allow them to be used safely in	A A A	P
	their specified conditions of use. Factors to be	Petr. Cety. Cety	CER.
J'.15'	taken into account include	4.6	11:65
	- the geometry of the base,	9. 0.	P
	- the weight distribution, including loading,	THE STREET	C. E. E.
	- the dynamic forces due to movements of parts of the machine, of the machine itself or of elements	1.5	11:5
	held by the machine which can result in an	0, 0,	0,
	overturning moment,	(A) (A) (A)	CK!
	- vibration,	.5.0	.50
	- oscillations of the centre of gravity,	011, 011,	01/1
	- characteristics of the supporting surface in case of		i di
	travelling or installation on different sites (ground conditions, slope, etc.), and		CEL
	- external forces, such as wind pressure and	Mis Mis	0/1/2
	manual forces.	4 4 4	





is-cert	EN ISO 12100	í .Sí .Sí	. 5
Clause	Requirement + Test	Result-Remark	Verdict
.5	.57 .57 .57 .57 .57	.50	.5
OW CERT	Stability shall be considered in all phases of the life cycle of the machine, including handling, travelling, installation, use, dismantling, disabling and scrapping.	SEE SISEE SISEE	ON P
	Other protective measures for stability relevant to safeguarding are given in 6.3.2.6.	01, 01,	ON P
6.2.7	Provisions for maintainability	Chi Chi	P.
OVISO	When designing a machine, the following maintainability factors shall be taken into account to enable maintenance of the machine:		OVÍ P
	 accessibility, taking into account the environment and the human body measurements, including the dimensions of the working clothes and tools used; ease of handling, taking into account human 	The officer of the officer	ONIS POLY
	capabilities; - limitation of the number of special tools and equipment.	Or Olision Olision	OVISION
6.2.8	Observing ergonomic principles		P
ONISTORY	Ergonomic principles shall be taken into account in designing machinery so as to reduce the mental or physical stress of, and strain on, the operator.	St. Oligiae. Oligiae.	ONIPOLI
	These principles shall be considered when allocating functions to operator and machine (degree of automation) in the basic design. NOTE Also improved are the performance and reliability of operation and hence the reduction in	SEFT OVES-SEFT OVES-SEFT	OVIS-CERI
OVISIO	the probability of errors at all stages of machine use. Account shall be taken of body sizes likely to be found in the intended user population, strengths		PERI
OVISION	and postures, movement amplitudes, frequency of cyclic actions (see ISO 10075 and ISO10075-2). All elements of the operator- machine interface,	St Wistor Wistor	OVIS.CV
	such as controls, signalling or data display elements, shall be designed to be easily understood so that clear and unambiguous interaction between the operator and the machine	CERT ON'S CERT ON'S CERT	Ovi5-CER
	is possible. See EN 614-1, EN 13861 and IEC 61310-1.		1.5 Ott.
94.	The designer's attention is particularly drawn to following ergonomic aspects of machine design.	9, 9,	O P
	a) Avoid the necessity for stressful postures and movements during the use of the machine (for example, providing facilities to adjust the machine to suit the various operators).	Str. Ohis of the other	N/A
OVIS-CERT	b) Design machines, especially hand-held and mobile machines, so as to enable them to be operated easily, taking into account human effort, actuation of controls and hand, arm and leg		Pili
01/2/01	anatomy. c) Limit as far as possible noise, vibration and	Oligina Oligina	OI P
CERT	thermal effects such as extreme temperatures. d) Avoid linking the operator's working rhythm to an automatic succession of cycles.	SERT SERT SER	N/A
01/2	e) Provide local lighting on or in the machine for the illumination of the working area and of	9/13 9/13	N/A





	EN ISO 12100	,,		03
Clause	Requirement + Test	Result-Remark	Verdict	
.5,0	.5' .5' .5' .5' .5'		.5	
	adjusting, setting-up and frequent maintenance	011, 011,	011	0
	zones when the design features of the machine	6 6 6	5 5	5
	and/or its guards render the ambient lighting	Copy Copy	CEL	
	inadequate. Flicker, dazzling, shadows and stroboscopic effects shall be avoided if they can	5 1.5	1,5	
	cause a risk. If the position or the lighting source	0, 0,	0,	C
	has to be adjusted, its location shall be such that it	chi chi ch	L CRI	
	does not cause any risk to persons making the	CV CV	S.CV	
	adjustment.	Wing Min	Olis	C
_	f) Select, locate and identify manual controls	A A A	PA	
	(actuators) so that	CELL CELL CELL	CER	
	- they are clearly visible and identifiable, and	1,5	11.5	
	appropriately marked where necessary (see	0, 0,	0,0	C
	6.4.4), - they can be safely operated without hesitation	A 193 193	18	
	or loss of time and without ambiguity (for	in city city	C.CV.	
	example, a standard layout of controls reduces	Ohio Ohio	Office	C
	the possibility of error when an operator changes	A A A	× ×	
	from a machine to another one of similar type	ER, ER, ER	C.E.P.	
	having the same pattern of operation),	, 5, 5	1.5	
	- their location (for push-buttons) and their	0, 0,	011.	C
	movement (for levers and hand wheels) are	de la la	S S	
	consistent with their effect (see IEC 61310-3), and	Con Con Con	Ch	
	- their operation cannot cause additional risk.	Mis Mis	Mis.	C
	See also ISO 9355-3.	4 4		
	Where a control is designed and constructed to	ER ER ER	CER	
	perform several different actions — namely,	6,50	.5	
	where there is no one-to-one correspondence (for	0,, 0,,	01.	C
	example, keyboards) — the action to be	6. 12. 12.	(A)	
	performed shall be clearly displayed and subject	Ch. "Cp. "Cp.	CELL	
	to confirmation where necessary.	Mis Mis	Mis	c
	Controls shall be so arranged that their layout,		,	
	travel and resistance to operation are compatible with the action to be performed, taking account of	the the the	(A)	
	ergonomic principles. Constraints due to the	62.	.5	
	necessary or foreseeable use of personal protective	04, 04,	011,	C
	equipment (such as footwear, gloves) shall be	á á á	20.	
CET.	taken into account.	Ct. Ct. Ct.	CEL	
	g) Select, design and locate indicators, dials and	Mis Mis	N/A	0
	visual display units so that	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	, x	
	 they fit within the parameters and characteristics of human perception, 	AR AR AR	" CERI	
	- information displayed can be detected,	(8)	5	
	identified and interpreted conveniently, i.e.	0, 0,	011,	C
	long-lasting, distinct, unambiguous and	á á á	(a)	
	understandable with respect to the operator's	Str. Str. Str.	CEL	
	requirements and the intended use, and	Mis Mis	Niz	(
	- the operator is able to perceive them from the	0	, 0	
00000	control position.	A A A		+
6.2.9	Electrical hazards	, SO , SO	N/A	
	For the design of the electrical equipment of	011, 011,	N/A	C
	machines, IEC 60204-1 gives general provisions	à à à	\$.6	
	about disconnection and switching of electrical circuits and for protection against electric shock.	Cer. Cer.	CER	
	For requirements related to specific machines, see	Wis Wis	Nie	-
	corresponding IEC standards (for example,	0. 0.	0	0

s-clff ouis-clff. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





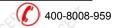
	/is-cert EN ISO 12100							
Clause	Requirement + Test	Result-Remark	Verdic					
WS.	IEC 61029, IEC 60745 or IEC 60335).	NISTO NISTO	W.S.					
6.2.10	Pneumatic and hydraulic hazards		N/A					
0.2.10	Pneumatic and hydraulic equipment of machinery shall be designed so that		N/A					
.S.CERT	- the maximum rated pressure cannot be exceeded in the circuits (using, for example, pressure-limiting devices),	SERT SCHRETT	N/A					
0110	- no hazard results from pressure fluctuations or increases, or from loss of pressure or vacuum,	0412 0412	N/A					
ON'S CERT	- no hazardous fluid jet or sudden hazardous movement of the hose (whiplash) results from leakage or component failures,	SERI ONIS-SERI	N/A					
OVISCERI	- air receivers, air reservoirs or similar vessels (such as in gas-loaded accumulators) comply with the applicable design standard codes or regulations for these elements,	SERÍ OVIS-CERÍ	N/A					
.S.CERT	- all elements of the equipment, especially pipes and hoses, are protected against harmful external effects.	CHÍ IS-CHÍ	N/A					
OVISCERT	- as far as possible, reservoirs and similar vessels (for example, gas-loaded accumulators) are automatically depressurized when isolating the machine from its power supply (see 6.3.5.4) and, if not possible, means are provided for their isolation,	SERÍ OVIS-SERÍ OVIS-SERÍ	N/A					
CERT	local depressurizing and pressure indication (see also ISO 14118:2000, Clause 5), and	chi chi						
OVIS-CERT	- all elements which remain under pressure after isolation of the machine from its power supply are provided with clearly identified exhaust devices, and there is a warning label drawing attention to the necessity of depressurizing those elements before any setting or maintenance activity on the machine.	SERÍ OVIS-CERÍ OVIS-CERÍ	N/A					
- LER	NOTE See also ISO 4413 and ISO 4414.	ari ari	N/A					
6.2.11	Applying inherently safe design measures to control systems	Wisite Wisite	ON'SP					
6.2.11.1	General		Р					
Nis.ob	The design measures of the control system shall be chosen so that their safety-related performance provides a sufficient amount of risk reduction (see ISO 13849-1 or IEC 62061).		Oligo.					
Olis Cr	The correct design of machine control systems can avoid unforeseen and potentially hazardous machine behaviour.	or discrete	Oligo Po					
ON'S CERY	Typical causes of hazardous machine behaviour are - an unsuitable design or modification (accidental or deliberate) of the control system logic,	SER. OHS CEER. OHS CEER.	N/A					
A OHIS CHA	 a temporary or permanent defect or failure of one or several components of the control system, a variation or a failure in the power supply of the control system, and inappropriate selection, design and location of 		01:5:05					
ONISTON	the control devices. Typical examples of hazardous machine behaviour are - unexpected start-up (see ISO 14118),	of officer officer	ON P					

3-CERT OVIS-CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





CERT	EN ISO 12100	<u>~</u> .~
		N/a a all a f
ause Requirement + Test	Result-Remark	Verdict
uncentralled aread shares	5 15 15	5
uncontrolled speed change,failure to stop moving parts,	0, 0, 0, 0,	. 0 .
- dropping or ejection of part o	f the machine or of a	195 195
workpiece clamped by the ma		2,00
- machine action resulting from		la Mia
or failure) of protective device	, ,	Α Α
In order to prevent hazardous		N/A
and to achieve safety functions		5
control systems shall comply v		0,
methods presented in this sub		à à.
6.2.12. These principles and n		Ch. Ch.
applied singly or in combination		12
to the circumstances (see ISO	13849-1,	. 0.
IEC 60204-1 and IEC 62061).		(A)(A)
Control systems shall be design		N/A
operator to interact with the management		In Min
easily. This requires one or se following solutions:	veral of the	× ×
- systematic analysis of start a	and stop conditions:	CER CER
- provision for specific operatir		5 .5
example, start-up after normal		01/1
cycle interruption or after eme		5 5
removal of the workpieces cor		CELL CELL
machine, operation of a part or		5
of a failure of a machine eleme	ent);	0,
- clear display of the faults;		(A) (A)
- measures to prevent acciden		, C(c) , C(c)
unexpected start commands (f		12 11.12
start device) likely to cause da		
behaviour (see ISO 14118:200		LEN LEN
- maintained stop commands (interlock) to prevent restarting		5
dangerous machine behaviour		01/1
14118:2000, Figure 1).	(See 100	4 4
An assembly of machines may	be divided into	D.
several zones for emergency		5
stopping as a result of protecti		0,
for isolation and energy dissipa	ation. The different	
zones shall be clearly defined		CA. CA.
obvious which parts of the ma		12 11/2
zone. Likewise, it shall be obv		4
devices (for example, emerger		CER CER
supply disconnecting devices)		5.0
devices belong to which zone.		Office
between zones shall be design function in one zone creates h		4
zone which has been stopped		CELL CELL
Control systems shall be designed		S NI/A
movements of parts of the ma		N/A
itself, or workpieces and/or loa		á á
machinery, to the safe design		CEL CEL
example, range, speed, accele		1,5
load capacity). Allowance shall		0,
dynamic effects (swinging of lo		(A) (A)
For example:		N/A
- the travelling speed of mobile		12 112
controlled machinery other that controlled shall be compatible	in remote-	





EN ISO 12100						
Clause	Requirement + Test	Result-Remark	Verdi			
1.6	- the range, speed, acceleration and deceleration of	115	115			
OVIS-CERT	movements of the person-carrier and carrying vehicle for lifting persons shall be limited to non-hazardous values, taking into account the total reaction time of the operator and the machine; - the range of movements of parts of machinery	SERÍ OVIS-SERÍ OVIS-SERÍ	ovis-ct			
C.CER.	for lifting loads shall be kept within specified limits.	CERT CERT	2.05			
Olive	When the machinery contains various elements	Odio Odio	N/A			
Nis-Clark	that can be operated independently, the control system shall be designed to prevent risks arising out of a lack of coordination (for example, collision prevention system).	CERT ON'S CERT ON'S CERT	Wis C			
6.2.11.2	Starting of an internal power source/switching on an		Р			
S	external power supply The starting of an internal power source or	.5	.SP			
ON	switching-on of an external power supply shall not result in a hazardous situation.	9/1 9/1	011.			
Wis City	For example: - starting the internal combustion engine shall not lead to movement of a mobile machine;	cti discti discti	N'S			
SERT	- connection to mains electricity supply shall not result in the starting of working parts of a machine.		,			
Olis	See IEC 60204-1:2005, 7.5 (see also Annexes A and B).	Ohis Ohis	N/A			
6.2.11.3	Starting/stopping of a mechanism		N/A			
OVISCOERI	The primary action for starting or accelerating the movement of a mechanism should be performed by the application or an increase of voltage or fluid pressure, or - if binary logic elements are considered - by passage from state 0 to state 1	CERT JESCHET JESCHET	N/A			
0,	(where state 1 represents the highest energy state). The primary action for stopping or slowing down	0, 0,	N/A			
Wis-CERI	should be performed by removal or reduction of voltage or fluid pressure, or — if binary logic elements are considered — by passage from	CERT ONES CERT ONES CERT	Wis-C			
i di	state 1 to state 0 (where state 1 represents the	A A A				
CE CE	highest energy state). In certain applications, such as high-voltage		- KT/ A			
OM. CERT	switchgear, this principle cannot be followed, in which case other measures should be applied to achieve the same level of confidence for the	CERT CERT ON	N/A			
Offis	stopping or slowing down. When, in order for the operator to maintain	0/12 0/12	N/A			
Wis-CERI	permanent control of deceleration, this principle is not observed (for example, a hydraulic braking device of a self-propelled mobile machine), the	CERT ON'S CERT ON'S CERT	~WiS-C			
C. CERT	machine shall be equipped with a means of slowing and stopping in case of failure of the main braking system.		0.			
6.2.11.4	Restart after power interruption	712 N.2	N/A			
OVIS-CERT	If a hazard could be generated, the spontaneous restart of a machine when it is re-energized after power interruption shall be prevented (for example, by use of a self-maintained relay, contactor or valve).	SERÍ OVIS-SERÍ	N/A			

3.CERT ONIS.CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	~	EN ISO 12100	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	~
Cla	use	Requirement + Test	Result-Remark	Verd
	44.5		N.S. N.S.	ON P
6.2	.11.5	Interruption of power supply		0 -
CEIN OU		Machinery shall be designed to prevent hazardous situations resulting from interruption or excessive fluctuation of the power supply. At least the following requirements shall be met:	SER. ONE SER. ONE SER	ON'S
CER		the stopping function of the machinery shall remain;all devices whose permanent operation is required	seri wis ceri	11:15:
ithi		for safety shall operate in an effective way to maintain safety (for example, locking, clamping devices, cooling or heating devices,		8
011		power-assisted steering of self-propelled mobile machinery);	of of of oligination	OVIS
CER .		- parts of machinery or workpieces and/or loads held by machinery which are liable to move as a	Str. Str. Str.	2
9		result of potential energy shall be retained for the time necessary to allow them to be safely lowered.	Ones Ones	Ohis
6.2	.11.6	Use of automatic monitoring		N/
Ji.	6	Automatic monitoring is intended to ensure that a	Wigin Migi	N/
CERT		safety function or functions implemented by a protective measure do not fail to be performed if the ability of a component or an element to perform	stří stří stř	\$
ovi o		its function is diminished, or if the process conditions are changed such that hazards are generated.	one one	Olis
CEL	C.C.C.C.	Automatic monitoring either detects a fault		N/
ON.		immediately or carries out periodic checks so that a fault is detected before the next demand upon the safety function. In either case, the protective	of of of	Ollis
CELL		measure can be initiated immediately or delayed until a specific event occurs (for example, the	Str wiscer wiscer	1.5
effet o.	c ERI	beginning of the machine cycle). The protective measure may be, for example, - the stopping of the hazardous process,		N/
01:		- preventing the restart of this process after the first stop following the failure, or	Wisto Wiston	Olis
CERT OF	10 =	- the triggering of an alarm.		3
6.2	.11.7	Safety functions implemented by programmable electronic control systems	Nig Nig	N/
6.2	.11.7.1	General		N/A
On.	8,0	A control system that includes programmable electronic equipment (for example, programmable controllers) can, where appropriate, be used to	on one on one	N/
CER		implement safety functions at machinery. Where a programmable electronic control system is used, it is necessary to consider its performance	EFRI WESCHA WESCH	115
CÉLE		requirements in relation to the requirements for the safety functions. The design of the programmable		0.
ST ON		electronic control system shall be such that the probability of random hardware failures and the likelihood of systematic failures that can adversely	dist dist	Olisi
CER W		affect the performance of the safety-related control function(s) is sufficiently low. Where a programmable electronic control system performs a	ER MESCERI MESCER	Nie.
Α		monitoring function, the system behaviour on detection of a fault shall be considered (see also	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0.

3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





7.		EN ISO 12100		
CERT	Clause	Requirement + Test	Result-Remark	Verdi
5	01/5	the IEC 61508 series for further guidance).	015	0115
CERÍ	CERT	NOTE Both ISO 13849-1 and IEC 62061, specific to machinery safety, provide guidance applicable to		N/A
5		programmable electronic control systems.	1:50	
2	0, (The programmable electronic control system	0 0	N/A
c (Pl		should be installed and validated to ensure that		
S		the specified performance [for example, safety integrity level (SIL) in IEC 61508] for each safety	5.50	
7		function has been achieved. Validation comprises	0, 0,	
(2)		testing and analysis (for example, static, dynamic or	(A) (A) (A)	
C.Ct.		failure analysis) to show that all parts interact	Ch. C.Ch. C.Ch.	
112		correctly to perform the safety function and that	0/11/2 0/11/2	
.6		unintended functions do not occur.	à à à	N1//
CEL	6.2.11.7.2	Hardware aspects	Ser Ser Ser	N/A
		The hardware (including, for example, sensors,	Wiz Wiz	N/A
		actuators and logic solvers) shall be selected, and/or designed and installed, to meet both the	A A A	
CES.		functional and performance requirements of the		
5		safety function(s) to be performed, in particular,	1:5° 1:5°	
,		by means of	0. 0.	
CER)		- architectural constraints (the configuration of the system, its ability to tolerate faults, its		
9		behaviour on detection of a fault, etc.),	5,50	
		- selection, and/or design, of equipment and	0, 0,	
(2)		devices with an appropriate probability of	(A) (A) (A)	
CAC		dangerous random hardware failure, and	City City	
, ,		- the incorporation of measures and techniques within the hardware so as to avoid systematic	Office Office	
.6		failures and control systematic faults.	. d . d	
CELL	6.2.11.7.3	Software aspects		N/A
H	0/1/2	The software, including internal operating	0413 0413	N/A
4		software (or system software) and application	A A A	- 14/7
CEL		software, shall be designed so as to satisfy the		
		performance specification for the safety functions (see also IEC 61508-3).	Mis Mis	
_<		Application software should not be reprogrammable	A A A	N/A
CER.		by the user. This may be achieved by use of	Carrier Carrier	111/
5		embedded software in a non-reprogrammable	Wisi Wisi	
_	0 (memory [for example, micro-controller, application-specific integrated circuit (ASIC)].	0, 0,	0.
CERT	C.E.	When the application requires reprogramming by		N/A
,0		the user, the access to the software dealing with	115	11/5
		safety functions should be restricted (for example,	0, 0,	
CEPÍ.	- CP	by locks or passwords for the authorized persons).		
,0"	6.2.11.8	Principles relating to manual control	15 15	P
	0, 0	These are as follows.	0, 0,	O _J ,b
CER!	CERT	a) Manual control devices shall be designed and	chi chi chi	P
5		located according to the relevant ergonomic	(S) (S)	
+	0, 6	principles given in 6.2.8, item f). b) A stop control device shall be placed near	011. 011.	011
(8)		each start control device. Where the start/stop	放 放 放	Р
Cr.		function is performed by means of a hold-to-run	ar cight	
.~		control, a separate stop control device shall be	Office Office	
		provided when a risk can result from the hold-to- run control device failing to deliver a stop	4 4 4	

3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





S-CERT		.55.	.5
01	EN ISO 12100	Descrit Description	N/a a di a t
Clause	Requirement + Test	Result-Remark	Verdict
1.6	command when released.	11.5	1,5
0			× ×
	c) Manual controls shall be located out of reach of		Pur
	the danger zones (see IEC 61310-3), except for certain controls where, of necessity, they are	1.5,0	1.5
	located within a danger zone, such as emergency	0, 0,	011.
	stop or teach pendant.		(8)
.5.0	d) Whenever possible, control devices and	50 .5.00	N/A
	control positions shall be located so that the	ONIS ONIS	0/1/2
	operator is able to observe the working area or hazard zone.	A A A	4
	1) The driver of a ride-on mobile machine shall be	CELL CELL CEL	. CELL
	able to actuate all control devices required to	1.6	11:5
	operate the machine from the driving position,	0. 0.	0.
	except for functions which can be controlled more	CAN SCAN SCA	
	safely from other positions.	50	.5.0
	2) On machinery intended for lifting persons,	01/10 01/10	01/10
	controls for lifting and lowering and, if appropriate, for moving the carrier shall	6 6 6	5 6
	generally be located in the carrier. If safe		. City
	operation requires controls to be situated	1.6	1.5
	outside the carrier, the operator in the carrier	0. 0.	0
	shall be provided with the means of preventing	CE CEST CEST	
	hazardous movements.	50, 50, 50	
	e) If it is possible to start the same hazardous	011, 011,	N/A
	element by means of several controls, the control circuit shall be so arranged that only one control is	. do . do . do	6. 6
	effective at a given time. This applies especially to	CEL CEL CEL	CEL
	machines which can be manually controlled by	Mis Mis	11,13
	means of, among others, a portable control unit	4 4	< ×
	(such as a teach pendant), with which the operator		r) city
115	can enter danger zones.	16	116
	f) Control actuators shall be designed or guarded so that their effect, where a risk is involved, cannot	0, 0,	N/A
	occur without intentional operation (see	(A) (A) (A)	
Sign	ISO 9355-1, ISO 9355-3 and ISO 447).	SV SSV SSV	S.CV
21/2	g) For machine functions whose safe operation	01/10 01/10	N/A
	depends on permanent, direct control by the	á á a	5 5
	operator, measures shall be implemented to ensure the presence of the operator at the control	Str. Str. Str.	CEL
	position (for example, by the design and location of	Wis Wis	N'is
	control devices).	X X	K 4
CLE	h) For cableless control, an automatic stop shall	(F) (F) (F)	N/A
	be performed when correct control signals are not	15,0	1.5
	received, including loss of communication (see	0, 0,	0,,
6.2.11.9	IEC 60204-1).	A A	× ×
J.Z. 1 1.9	Control mode for setting, teaching, process changeover, fault-finding, cleaning or maintenance	ich eigh	N/A
ON'IS	Where, for setting, teaching, process changeover,	Air Air	N/A
	fault-finding, cleaning or maintenance of machinery,	4 4	√ IN//A
	a guard has to be displaced or removed and/or a	EL ELL EL	S CER
	protective device has to be disabled, and where it is	1,5	1:5
	necessary for the purpose of these operations for	0, 0,	0,,
	the machinery or part of the machinery to be put into operation, the safety of the operator shall be	A 195 195	(8)
	achieved using a specific control mode which	ich c'ich c'ich	C.C.C.
	simultaneously	Opis Opis	Office
	a) disables all other control modes,	X X	N/A

s-clfi dus-clfi This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





only by cor device, a to control dev c) permits only in red reduced sp	operation of the hazardous elements of an enabling wo-hand control device or a hold-to-run	Result-Remark	Verdict
b) permits only by con device, a to control device) permits only in redireduced sp	operation of the hazardous elements of an enabling wo-hand control device or a hold-to-run	30 015,0	6,0
only by cor device, a to control dev c) permits only in red reduced sp	ntinuous actuation of an enabling wo-hand control device or a hold-to-run	9/10 01/10	
device, a to control device) permits only in redired sp	wo-hand control device or a hold-to-run		01/1
control dev c) permits only in red reduced sp		6 6 6	(A)
c) permits only in red reduced sp	ICE		CEL
only in red reduced sp	operation of the hazardous elements	is Mis Mis	Miz.
	uced risk conditions (for example,		(A
	peed, reduced power/force, step-by-	Chr. Chr. Ch	CER
step, for ex	cample, with a limited movement	5 1.5	1:15
	s any operation of hazardous functions	0. 0.	0
	y or involuntary action on the machine's	ath ath at	CERI
sensors.		5 , 5 , 5	1.5
	some special machinery other	0, 0,	0,
	measures can be appropriate. Il mode shall be associated with one or	(A) (A)	N/A
	e following measures:	.50	IN/A
- restriction	of access to the danger zone as far	ON ONE	01/1
as possible		à à à	10.
the operator	cy stop control within immediate reach of or:	Con Con Con	COLL
	control unit (teach pendant) and/or	is This This	Office
local contro	ols (allowing sight of the controlled		\ \ \
elements).		Str. Str. Str.	CEL
See IEC 6		5 15	S 1/A
, ,	of control and operating modes		N/A
	ry has been designed and built to allow		N/A
	n several control or operating modes ifferent protective measures and/or work	9 115	11.5
V V · · · · · · · · · · · · · · · · · ·	s (for example, to allow for adjustment,	4 4	(()
	intenance, inspection), it shall be fitted) CERI
	e selector which can be locked in each ach position of the selector shall be	5 1.5	11:5
	ntifiable and shall exclusively allow one	0, 0,	0,
	operating mode.		S CERT
	or may be replaced by another	· · · · · · · · · · · · · · · · · · ·	N/A
	neans which restricts the use of certain for the machinery to certain categories of	011. 011.	011.
	for example, access codes for certain	A A A	195
numerically	controlled functions).		SCC
	leasures to achieve electromagnetic	ON ONE	ON P
compatibili For quidan	ty (EMC) ce on electromagnetic compatibility,	(A) (A)	P
	204-1 and IEC 61000-6.		-5
6.2.11.12 Provision of	of diagnostic systems to aid fault- finding	0110 011	N/A
	systems to aid fault-finding should be	(R) (R) (R)	N/A
included in	the control system so that there is no	5 5 5	.50
	able any protective measure.	ONLY ONLY	01/1
	h systems not only improve availability inability of machinery, they also reduce	6. 6. 6.	5 .6
	re of maintenance staff to hazards	700. Val. Val.	CEL
	probability of failure of safety functions	is Ohis Ohis	ON P
6.2.12.1 General			P.
CX	nachinery is not only dependent on the		P
	f the control systems but also on the	onis onis	ONIT





	.~	EN ISO 12100	.~ .~	
ció (Clause	Requirement + Test	Result-Remark	Verd
	115	The continued operation of the safety functions is	15	1.6
		essential for the safe use of the machine. This can be achieved by the measures given in 6.2.12.2 to 6.2.12.4.	stri stri	0" P
-	5.2.12.2	Use of reliable components	Mis Mis	ON P
Ł	J.E. 12.E	"Reliable components" means components which		
		are capable of withstanding all disturbances and stresses associated with the usage of the equipment in the conditions of intended use (including the environmental conditions), for the		OVIS
(period of time or the number of operations fixed for the use, with a low probability of failures generating a hazardous malfunctioning of the machine. Components shall be selected taking into account all factors mentioned above (see also 6.2.13).	SERÍ SERÍ	Olisi
(Mis	NOTE 1 "Reliable components" is not a synonym for "well-tried components" (see ISO 13849-1:2006,	0115 0115	N/A
	- Chr	6.2.4). NOTE 2 Environmental conditions for		P
á		consideration include impact, vibration, cold, heat, moisture, dust, corrosive and/or abrasive substances, static electricity and magnetic and	A A A A	Olis
		electric fields. Disturbances which can be generated by those conditions include insulation failures and temporary or permanent failures in	cti ovis.cti ovis.cti	OVIS
	ERÎ	the function of control system components.		
6	5.2.12.3	Use of "oriented failure mode" components	J'5' J'5'	N/
	JViS-CERT	"Oriented failure mode" components or systems are those in which the predominant failure mode is known in advance and which can be used so that the effect of such a failure on the machine function can be predicted.	SERÍ OVIS-CERÍ	N/A
	W.S.CERI	NOTE In some cases, it will be necessary to take additional measures to limit the negative effects of such a failure.	stri wie stri	N/
£ .	S. CERT	The use of such components should always be considered, particularly in cases where redundancy (see 6.2.12.4) is not employed.	geri geri	N/
1	5.2.12.4	Duplication (or redundancy) of components or subsystems	Only Only	N/
8	JViS-CERI	In the design of safety-related parts of the machine, duplication (or redundancy) of components may be used so that, if one component fails, another component or components continue to perform the	GERT OVIS-CEEPT OVIS-CEEPT	N/
	, S.CERI	respective function(s), thereby ensuring that the safety function remains available.	CERT TE CERT	.,.5
		In order to allow the proper action to be initiated, component failure shall be detected by automatic monitoring (see 6.2.11.6) or in some circumstances by regular inspection, provided that the inspection interval is shorter than the expected lifetime of the	SERÍ OVIS-SERÍ OVIS-SERÍ	6 N/
SERÍ (JViS-CERT	components. Diversity of design and/or technology can be used to avoid common cause failures (for example, from electromagnetic disturbance) or common mode failures.	SERT ONES CERT ONES CERT	N/A





is-cert	EN ISO 12100	.51 .51	
01		Descrit Describ	Manaliat
Clause	Requirement + Test	Result-Remark	Verdict
6.2.13	Limiting exposure to hazards through reliability of equipment	015 015	N/A
OVISCER	Increased reliability of all component parts of machinery reduces the frequency of incidents requiring intervention, thereby reducing exposure to hazards.	SER OVIE SER OVIE SER	N/A
ONIS CIERY	This applies to power systems (operative part, see Annex A) as well as to control systems, and to safety functions as well as to other functions of machinery.	CEH. OHES CEH. OHES CEH	N/A
J.S. CEIN	Safety-related components (for example, certain sensors) of known reliability shall be used.		N/A
	The elements of guards and of protective devices shall be especially reliable, as their failure can expose persons to hazards, and also because poor reliability would encourage attempts to defeat them.	CERT .S. CERT	N/A
6.2.14	Limiting exposure to hazards through mechanization or automation of loading (feeding)/unloading (removal) operations		N/A
OVIS CERT	Mechanization and automation of machine loading/unloading operations and, more generally, of handling operations — of workpieces, materials or substances — limits the risk generated by these operations by reducing the exposure of persons to hazards at the operating points.	olisieki olisieki	N/A
OVIS-CERT	Automation can be achieved by, for example, robots, handling devices, transfer mechanisms and air-blast equipment. Mechanization can be achieved by, for example, feeding slides, pushrods and hand-operated indexing tables.	CERT ONES CERT ONES CERT	N/A
	While automatic feeding and removal devices have much to offer in preventing accidents to machine operators, they can create danger when any faults are being corrected. Care shall be taken to ensure that the use of these devices does not introduce further hazards, such as trapping or crushing, between the devices and parts of the	cti olis-cti olis-cti cti olis-cti	N/A
WiS CERT	machine or workpieces/materials being processed. Suitable safeguards (see 6.3) shall be provided if this cannot be ensured.	SERI NESSERI	. Wischill
OVISCERI	Automatic feeding and removal devices with their own control systems and the control system of the associated machine shall be interconnected after thorough study of how all safety functions are performed in all the control and operation modes of the entire equipment.	SERÍ DVIS-SERÍ DVIS-SERÍ	N/A
6.2.15	Limiting exposure to hazards through location of setting and maintenance points outside danger zones	or wisite discor	N/A
Wis Cliki	The need for access to danger zones shall be minimized by locating maintenance, lubrication and setting points outside these zones.	SERT SIERRE SIERRE	N/A
6.3	Safeguarding and complementary protective measures		P
6.3.1	General	1.50	P
0,,	Guards and protective devices shall be used to protect persons whenever an inherently safe	9, 9, 9,	Р





S-CERT	EN ISO 12100	SS.	<u> </u>
Clause	Requirement + Test	Result-Remark	Verdict
رين درين	<u> </u>		2,70
OVIS-CERT	design measure does not reasonably make it possible either to remove hazards or to sufficiently reduce risks. Complementary protective measures involving additional equipment (for example, emergency stop equipment) may have to be	CERT ON'S CERT ON'S CERT	OVIS-CERT
J'S CERT	implemented. NOTE The different kinds of guards and protective devices are defined in 3.27 and 3.28.	CEFÉ ASSELFÉ	S CERT
ON'S CERT	Certain safeguards may be used to avoid exposure to more than one hazard. EXAMPLE A fixed guard preventing access to a zone where a mechanical hazard is present used to reduce noise levels and collect toxic emissions.	SEFT ON SEEFT	O"P
6.3.2	Selection and implementation of guards and protective devices		P
6.3.2.1	General S	1/5/01/1/5/01	P
OVISCERT	This subclause gives guidelines for the selection and the implementation of guards and protective devices the primary purpose of which is to protect persons against hazards generated by moving parts, according to the nature of those parts (see	SERT ON'S SERT ON'S SERT	OVIS-CERT
S.CEPÁ	Figure 4) and to the need for access to the danger zone(s). The exact choice of a safeguard for a particular	stri sestri	· Sectific
ON.	machine shall be made on the basis of the risk assessment for that machine.		ON P
ONISCERÍ	In selecting an appropriate safeguard for a particular type of machinery or hazard zone, it shall be borne in mind that a fixed guard is simple and shall be used where the access of an operator into a danger zone is not required during the normal operation (operation without malfunction) of the machinery.	CERT ON'S CERT ON'S CERT	OVIS-CLE
OVIS-CEERI	As the need for frequency of access increases, this inevitably leads to the fixed guard not being replaced. This requires the use of an alternative protective measure (movable interlocking guard, sensitive protective equipment).	SERI OVIS-SERI OVIS-SERI	Perr
	A combination of safeguards can sometimes be required. For example, where, in conjunction with a fixed guard, a mechanical loading (feeding) device is used to feed a workpiece into a machine, thereby removing the need for access to the primary hazard	SEFT SESSEFT SESSEFT	ovie P CV
ON.	zone, a trip device can be required to protect against the secondary drawing-in or shearing hazard between the mechanical loading (feeding) device, when reachable, and the fixed guard.	Stri Creti On	OM,
OWN	Consideration shall be given to the enclosure of control positions or intervention zones to provide combined protection against several hazards including	SEE SEEE SEEE	ON P
ONTO	a) hazards from falling or ejected objects, using, for example, protection in the form of a falling object protection structure (FOPS),		N/A
OVISION	b) emission hazards (protection against noise, vibration, radiation, substances hazardous to health, etc.)	ONIS'D ONIS'D	Oli P

3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN ISO 12100				0
Clause	Requirement + Test	Resu	ılt-Remark	Verdict	
Olisi (c) hazards due to the environment (protection against heat, cold, foul weather, etc.)	01/5	115° 01'5'	O P	Ċ
ON'S CEER	d) hazards due to tipping over or rolling over of machinery, using, for example, protection in the form of roll-over or tip-over protection structures (ROPS and TOPS).	ON: S. CERT	NiscERR OVISC	N/A	0,0
Olis CER	The design of enclosed work stations, such as cabs and cabins, shall take into account ergono principles concerning visibility, lighting, atmosph conditions, access, posture.		Juis CERT Ouis	SEP PER	C
6.3.2.2	Where access to the hazard zone is not required	d during no	rmal operation	SEP PER	
OVID	Where access to the hazard zone is not required during normal operation of the machinery, safeguards should be selected from the followin	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Mis Olis	ON S	
.5.0	a) fixed guards (see also ISO 14120);	g.	.5	.P	
0110	b) interlocking guards with or without guard lock (see also 6.3.3.2.3, ISO 14119 and ISO 14120);	ing	240 0410	N/A	
CERN	c) self-closing guards (see ISO 14120:2002,3.3.	7.00	College College	N/A	
ONIS	d) sensitive protective equipment, such as electrosensitive protective equipment (see IEC 61496) or pressure-sensitive protective devices	ONITO	Julio Ovio	N/A	,
015	(see ISO 13856).	01/2	N'S OVE	0115	
	ON'S CEEN ON'S CEEN ON'S CEEN ON'S CEEN				
	Wis-CEFFI Wis-CEFFI ONIS-CEFFI ONIS-CEFFI				





		EN ICO	12100		
		EN ISO	12100		
Clause	Requirement + Test			Result-Remark	Verdict

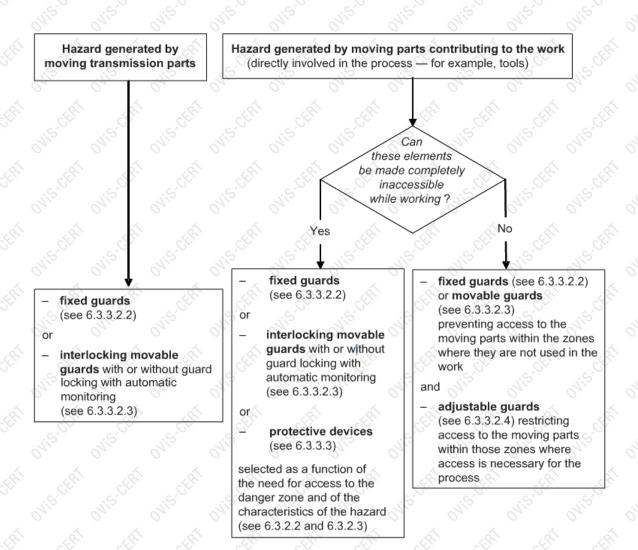


Figure 4 — Guidelines for choosing safeguards against hazards generated by moving parts





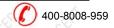
	EN ISO 12100	.5' .5'	.6
Clause	Requirement + Test	Result-Remark	Verdict
Oldusc	requirement i rest	result-remark	Verdict
6.3.2.3	Where access to the hazard zone is required during normal operation	olis olis	N/A
OVIS-CERT	Where access to the hazard zone is required during normal operation of the machinery, safeguards should be selected from the following: a) interlocking guards with or without guard locking (see also ISO 14119, ISO 14120 and 6.3.3.3.3.3 of this document):	ser outs seri	N/A N/A
OVE CERT	6.3.3.2.3 of this document); b) sensitive protective equipment, such as electrosensitive protective equipment (see IEC 61496);		N/A
	c) adjustable guards;	Nis' Nis's	N/A
	d) self-closing guards (see ISO 14120:2002, 3.3.2);	á á á	N/A
.c.Cth	e) two-hand control devices (see ISO 13851);	Constitution of the consti	N/A
Office	f) interlocking guards with a start function (control guard) (see 6.3.3.2.5).	of of of	N/A
6.3.2.4	Where access to the hazard zone is required for machine setting, teaching, process changeover, fault-finding, cleaning or maintenance	CERT ONIS CERT ONIS CERT	N/A
OVIS-CERT	As far as possible, machines shall be designed so that the safeguards provided for the protection of the production operator also ensure the protection of personnel carrying out setting, teaching, process changeover, fault-finding, cleaning or maintenance, without hindering them in the performance of their task. Such tasks shall be identified and considered	seri ouis-seri seri _{is-s} seri	N/A
	in the risk assessment as parts of the use of the machine (see 5.2). NOTE Isolation and energy dissipation for machine shut-down (see 6.3.5.4, and also ISO 14118:2000, 4.1 and Clause 5) ensure the highest level of safety when carrying out tasks (especially maintenance and repair tasks) that do not require the machine to remain connected to its power supply.	ceri ouis-ceri	ON'S CERT
6.3.2.5	Selection and implementation of sensitive	chi chi ch	N/A
6.3.2.5.1	protective equipment Selection	7. 2. 1.2. 0. 2. 0.	N/A
OVIS-CERT	Due to the great diversity of the technologies on which their detection function is based, all types of sensitive protective equipment are far from being equally suitable for safety applications. The following provisions are intended to provide the designer with criteria for selecting, for each application, the most suitable device(s).	SERÍ OVIS-SERÍ OVIS-SERÍ	N/A
OVISCERT	Types of sensitive protective equipment include - light curtains, - scanning devices, for example, laser scanners - pressure-sensitive mats, and - trip bars, trip wires. Sensitive protective equipment can be used - for tripping purposes,	CERT ONES CERT ONES CERT	N/A





2/1/2		EN ISO 12100		
CER	Clause	Requirement + Test	Result-Remark	Verdi
	015'	subject to stringent conditions.	015	01/5
	CERT	NOTE Some types of sensitive protective equipment can be unsuitable either for presence	chi chi	N/A
	ovis . S.CERT	sensing or for tripping purposes. The following characteristics of the machinery, among others, can preclude the sole use of sensitive protective equipment:	GERT SCERT SCERT	N/A
	OVIS-CERT	 tendency for the machinery to eject materials or component parts; necessity to guard against emissions (noise, radiation, dust, etc.); erratic or excessive machine stopping time; 	SERÍ OVIS-CERÍ OVIS-CERÍ	
		- inability of a machine to stop part-way through a cycle.		
	6.3.2.5.2	Implementation	115	N/A
	0.	Consideration should be given to	0, 0,	N/A
	OVIS-CEEN	a) the size, characteristics and positioning of the detection zone (see ISO 13855, which deals with the positioning of some types of sensitive protective equipment),	SERT OVISCERT OVISCERT	N/A
	ON'S CELL	b) the reaction of the device to fault conditions (see IEC 61496 for electrosensitive protective equipment),	SET OVIS CETT OVIS CETT	N/A
		c) the possibility of circumvention, and		N/A
	ovis clari	d) detection capability and its variation over the course of time (as a result, for example, of its susceptibility to different environmental conditions such as the presence of reflecting surfaces, other artificial light sources and sunlight or impurities in the air).	SERÍ WESTERÍ WESTERÍ	N/A
	oviscipi	NOTE 1 IEC 61496 defines the detection capability of electrosensitive protective equipment. Sensitive protective equipment shall be integrated in the operative part and associated with the control system of the machine so that	eki eki oviseki	N/A
	J.S.CEPA	- a command is given as soon as a person or part of a person is detected,	SERY SERVERS SERVERS	N/A
	OVIS-CERT	- the withdrawal of the person or part of a person detected does not, by itself, restart the hazardous machine function(s), and therefore the command given by the sensitive protective equipment is maintained by the control system until a new command is given,	SERÍ OVISICERÍ OVISICERÍ	O'N/A
	OVIS CERT	- restarting the hazardous machine function(s) results from the voluntary actuation by the operator of a control device placed outside the hazard zone, where this zone can be observed by the operator,		N/A
	OVIS	the machine cannot operate during interruption of the detection function of the sensitive protective equipment, except during muting phases, and	EFFT CEFFT CEFFT	N/A
	die	- the position and the shape of the detection field prevents, possibly together with fixed guards, a person or part of a person from entering or being	01:25	N/A

SCERT ON'S CERT! This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or orisison caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





		EN ISO 12100		
CER	Clause	Requirement + Test	Result-Remark	Verd
5	WS.	present in the hazard zone without being detected.	NiSi' NiSi'	N'S'
.0.	.6	NOTE 2 Muting is the temporary automatic		N/A
S. CEL		suspension of a safety function(s) by safety- related parts of the control system (see ISO 13849-1)	oti ovisicti ovisicti	ONIS
o CERN	W.S.CERT	For detailed consideration of the fault behaviour of, for example, active optoelectronic protective devices, IEC 61496 should be taken into account.	CERT WESCERT WESCERT	N/A
Á	6.3.2.5.3	Additional requirements for sensitive protective		N/A
Self.	WiS CEH.	equipment when used for cycle initiation In this exceptional application, the starting of the machine cycle is initiated by the withdrawal of a	Str. Olisicht. Olisicht	N/A
CERI		person or of the detected part of a person from the sensing field of the sensitive protective equipment, without any additional start command,	SERI COERT COERT	
		hence deviating from the general requirement given in the second point of the dashed list in 6.3.2.5.2, above. After switching on the power supply, or when	A A A	
S. Ct.		the machine has been stopped by the tripping function of the sensitive protective equipment, the machine cycle shall be initiated only by voluntary	ct. Nig.ct. Nig.ct.	
CERT	CERÍ .	actuation of a start control.	ethi ethi ethi	
5	OVISIO	Cycle initiation by sensitive protective equipment shall be subject to the following conditions:	Wist dist	N/A
CERT		 a) only active optoelectronic protective devices (AOPDs) complying with IEC 61496 series shall be used; 	olfi solfi solfi	N//
	ON	b) the requirements for an AOPD used as a tripping and presence-sensing device (see IEC	011, 011,	N/A
S.CERI		61496) are satisfied — in particular, location, minimum distance (see ISO 13855), detection capability, reliability and monitoring of control and		
CHÁ.	CERT	braking systems; c) the cycle time of the machine is short and the		N//
S' 4		facility to re-initiate the machine upon clearing of the sensing field is limited to a period commensurate with a single normal cycle;	Wising Mising	
o CER	Wis CER	d) entering the sensing field of the AOPD(s) or opening interlocking guards is the only way to enter the hazard zone;	SERY ONES SERY ONES SERY	N/A
,CEPT	SCEPT	e) if there is more than one AOPD safeguarding the machine, only one of the AOPDs is capable of cycle re-initiation;	SERT SUBERT SUBERT	N/A
SCERI	OWSCERT	f) with regard to the higher risk resulting from automatic cycle initiation, the AOPD and the associated control system comply with a higher safety-related performance than under normal	CERT ONE CHRI	N/A
S-CERT	OVISCERT	conditions. NOTE 1 The hazard zone as referred to in d) is any zone where the hazardous function (including ancillary equipment and transmission elements) is initiated by clearing of the sensing field.	CERT OUTS CERT OUTS CERT	N/A
CER	6.3.2.6	NOTE 2 See also IEC/TS 62046. Protective measures for stability	SER SERIO SERIO	P
0	01/13	If stability cannot be achieved by inherently safe design measures such as weight distribution (see	01/2 01/2	ON P

SCERT ON'S CERT. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





Page 38 of 104 Report No.:OViS202405009M					
01	EN ISO 12100	D # D .	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
Clause	Requirement + Test	Result-Remark	Verdict		
01/8	6.2.6), it shall be maintained by the use of protective measures such as	015	015		
CERT	- anchorage bolts,		Park		
Nis	- locking devices,	Nis Nis	NIP		
, si	- movement limiters or mechanical stops,		P.		
.5	- acceleration or deceleration limiters,		N/A		
011,	- load limiters, and	011 011	N/A		
CERT	- alarms warning of the approach to stability or		N/A		
J. 5'	tipping limits.	Nisio Nisio	1.12		
6.3.2.7	Other protective devices		N/A		
OVIS-CERT	When a machine requires continuous control by the operator (for example, mobile machines, cranes) and an error of the operator can generate a hazardous situation, this machine shall be equipped with the necessary devices to enable the operation to remain within specified limits, in particular	ser ovis-ser ovis-ser	N/A		
Office	- when the operator has insufficient visibility of the	0/1/2 0/1/2	N/A		
·S.CERT	hazard zone, - when the operator lacks knowledge of the actual value of a safety-related parameter (distance,	stri sisti	N/A		
01/10	speed, mass, angle, etc.), and	0410 0410	01/12		
	- when hazards can result from operations other than those controlled by the operator.	eri eri eri	N/A		
11:5	The necessary devices include	1.2	N/A		
O. CERT	a) devices for limiting parameters of movement (distance, angle, velocity, acceleration),		N/A		
1:5	b) overloading and moment limiting devices,	1,5,0	N/A		
0, W	c) devices to prevent collisions or interference with other machines,		N/A		
	d) devices for preventing hazards to pedestrian operators of mobile machinery or other pedestrians,	0, 12, 12, 12, 0,	N/A		
Or CERT	e) torque limiting devices, and breakage points to prevent excessive stress of components and		N/A		
1.15	assemblies, f) devices for limiting pressure or temperature,	115	N/A		
V .	g) devices for monitoring emissions,	0, 0,	N/A		
WiS-CERN	h) devices to prevent operation in the absence of the operator at the control position,	SER, "12-CEB, "12-CEB	N/A		
0.	i) devices to prevent lifting operations unless stabilizers are in place,		N/A		
ON'S'C'	j) devices to limit inclination of the machine on a slope, and	dision dision	N/A		
4	k) devices to ensure that components are in a safe position before travelling.	£ 6 6	N/A		
ON'S CERT	Automatic protective measures triggered by such devices that take operation of the machinery out of the control of the operator (for example, automatic stop of hazardous movement) should be preceded or accompanied by a warning signal to enable the	SERT SERT OUTS CO	N/A		
ONIS	operator to take appropriate action (see 6.4.3).	01/2 01/2	Olis		
6.3.3	Requirements for design of guards and protective devices	\$ \$ 6	Р		

s-clfi duis-clff. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

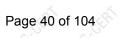




OViS-CERT	EN ISO 12100		.5
Clause	Requirement + Test	Result-Remark	Ver
1,6,0		.5 .5	
6.3.3.1	General requirements	0, 0,	0,
Ri Wis-cli	Guards and protective devices shall be designed to be suitable for the intended use, taking into account mechanical and other hazards involved. Guards and protective devices shall be compatible with the working environment of the	ERT ON'S SERT ON'S SERT	Olice
S OUIS-CH	machine and designed so that they cannot be easily defeated. They shall provide the minimum possible interference with activities during operation and other phases of machine life, in		Olice
ONIS	order to reduce any incentive to defeat them. NOTE For additional information, see ISO 14120, ISO 13849-1, ISO 13851, ISO 14119, ISO 13856, IEC 61496 and IEC 62061.	or officer of the	O'N
, C	Guards and protective devices shall	(A) (A) (A)	
Nie	a) be of robust construction,	Mis Mis	01,0
~	b) not give rise to any additional hazard,		
70.	c) not be easy to bypass or render non- operational,	24. 24. 24.	
0115	d) be located at an adequate distance from the danger zone (see ISO 13855 and ISO 13857),	91.2 91.2	011
1.5	e) cause minimum obstruction to the view of the production process, and	(ET) 1:50 (ET) 1:50 (ET)	N
ovis-cli	f) enable essential work to be carried out for the installation and/or replacement of tools and for maintenance by allowing access only to the area where the work has to be carried out — if possible, without the guard having to be removed or protective device having to be disabled.	SERÍ OVIS-SERÍ OVIS-SERÍ	O'i
3	For openings in the guards, see ISO 13857.		
6.3.3.2	Requirements for guards	1/2, 1/2,	die
6.3.3.2		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
ONIS CH	The functions that guards can achieve are - prevention of access to the space enclosed by the guard, and/or	Str. Olis Chy.	oli o
Ř Viscoi Ř	 containment/capture of materials, workpieces, chips, liquids which can be ejected or dropped by the machine, and reduction of emissions (noise, radiation, hazardous substances such as dust, fumes, gases) that can be generated by the machine. 	seri ovis-seri ovis-seri seri seri	, olic
OVISION OVISION	Additionally, they could need to have particular properties relating to electricity, temperature, fire, explosion, vibration, visibility (see ISO 14120) and operator position ergonomics (for example, usability, operator's movements, postures, repetitive movements).	SERÍ OVIŠ SERÍ	Oli Oli
6.3.3.2			
0115.6	Fixed guards shall be securely held in place either - permanently (for example by welding), or	office office	91's
RÍ OVIS:CH	 by means of fasteners (screws, nuts) making removal/opening impossible without using tools; they should not remain closed without their fasteners (see ISO 14120). 	EFF OVES-EFF	OVI
á	NOTE A fixed guard can be hinged to assist in its	5 5 5	

3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of fissuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



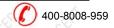




	04.8.01	ON'S CL	OVISICE	OVISICE	OVISICE	ON'S	ON'S CL	01.5.00	OVISICIE	OVISICE	Ó
Vis-cert	ri c.clir			Page 40	of 104		Report No	o.:OViS20	2405009M	-R1	
				EN ISC	O 12100					Olis	
Clause	Requ	irement + 7	Гest				Result-Rema	ark	Verdict	- CERT	
6,0	6,0	6	60	200	50	.6	2.	6,0	6,0	- C.C.	

	EN ISO 12100		
Clause	Requirement + Test	Result-Remark	Verdict
01/5	opening.	0150	04.5
6.3.3.2.3	Requirements for movable guards		N/A
0115-011	Movable guards which provide protection against hazards generated by moving transmission parts shall	OVIS.CO OVIS.CO	N/A
	a) as far as possible when open remain fixed to the machinery or other structure (generally by means of hinges or guides), and b) be interlocking (with guard locking when necessary) (see ISO 14119).	seri ovis-seri eri ovis-seri	Ovis-CERÍ
OVISIO	See Figure 4. Movable guards against hazards generated by non-transmission moving parts shall be designed and associated with the machine control system so that	chi nen ne	N/A
	 moving parts cannot start up while they are within the operator's reach and the operator cannot reach moving parts once they have started up, with this able to be achieved by interlocking guards, with guard locking when necessary, they can be adjusted only by an intentional 	CERT OUTS CERT OUTS CERT	OHIS CERT
	action, such as the use of a tool or a key, and - the absence or failure of one of their components either prevents starting of the moving parts or stops them, with this able to be achieved by automatic monitoring (see 6.2.11.6). See Figure 4 and ISO 14119.	ser ouis-cer ouis-cer seri ouis-ceri	OVIS-CERT
6.3.3.2.4	Requirements for adjustable guards	01/10 01/10	N/A
. i.S. CERT	Adjustable guards may only be used where the hazard zone cannot for operational reasons be completely enclosed.	offi its offi	N/A
O" CÉRÍ	Manually adjustable guards shall be - designed so that the adjustment remains fixed during a given operation, and - readily adjustable without the use of tools.	chi isthi isthi	N/A
6.3.3.2.5	Requirements for interlocking guards with a start function (control guards)		N/A
Vie Chy	An interlocking guard with a start function may only be used provided that	71.2. Ch.	N/A
6	a) all requirements for interlocking guards are satisfied (see ISO 14119),	\$ \$ 6 .6	N/A
.S.CV	b) the cycle time of the machine is short,	37 .5.37	N/A
Ovis-Ethi	c) the maximum opening time of the guard is preset to a low value (for example, equal to the cycle time) and, when this time is exceeded, the hazardous function(s) cannot be initiated by the closing of the interlocking guard with a start function and resetting is necessary before restarting the machine,		N/A
OVIS-CERT	d) the dimensions or shape of the machine do not allow a person, or part of a person, to stay in the hazard zone or between the hazard zone and the guard while the guard is closed (see ISO 14120),	SERÍ "S-SERÍ "S-SERÍ	N/A
011.	e) all other guards, whether fixed (removable type) or movable, are interlocking guards,	011 011	N/A

3.CERT OVIS.CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or ormission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





is-cert	EN ISO 12100	EN ISO 12100					
Clause	Requirement + Test	Result-Remark	Verdict				
.5,0	.5'0' .5'0' .5'0' .5'0' .5'	.50	.5.0				
OVISCERT	f) the interlocking device associated with the interlocking guard with a start function is designed such that - for example, by duplication of position detectors and use of automatic monitoring (see 6.2.11.6) - its failure cannot lead to an unintended/unexpected start-up, and	SEE ON SEE SEE	N/A				
	g) the guard is securely held open (for example, by a spring or counterweight) such that it cannot initiate a start while falling by its own weight.	SERY, ONES SERY, ONES SERY	N/A				
6.3.3.2.6	Hazards from guards	6 6 6	P				
Ovis-cert	Care shall be taken to prevent hazards which could be generated by - the guard construction (sharp edges or corners, material, noise emission, etc.), - the movements of the guards (shearing or crushing zones generated by power-operated guards and by heavy guards which are liable to fall).	Str. Onis-telly Onis-telly	Pott				
6.3.3.3	Technical characteristics of protective devices		N/A				
ONTO	Protective devices shall be selected or designed and connected to the control system such that correct implementation of their safety function(s) is ensured.	CEFT SCEFT	N/A				
ON'S CERT	Protective devices shall be selected on the basis of their having met the appropriate product standard (for example, IEC 61496 for active optoelectronic protective devices) or shall be designed according to one or several of the principles formulated in ISO 13849-1 or IEC 62061.	Stri Oniz-Criti	N/A				
	Protective devices shall be installed and connected to the control system so that they cannot be easily defeated.	CET OVIS-CET OVIS-CET	N/A				
6.3.3.4	Provisions for alternative types of safeguards	6 6 6	N/A				
OVIS-CERT	Provisions should be made to facilitate the fitting of alternative types of safeguards on machinery where it is known that it will be necessary to change the safeguards because of the range of work to be carried out.		N/A				
6.3.4	Safeguarding to reduce emissions	1:50 1:50	P				
6.3.4.1	General A A	V . O.	P ×				
6.3.4.2	If the measures for the reduction of emissions at source specified in 6.2.2.2 are not adequate, the machine shall be provided with additional protective measures (see 6.3.4.2 to 6.3.4.5). Noise		P				
0.3.4.2		15' 15'	- (-)5				
OV'S CERT	Additional protective measures against noise include - enclosures (see ISO 15667), - screens fitted to the machine, and - silencers (see ISO 14163).	SEE ON ON ON	ON P				
6.3.4.3	Vibration	\$ \$ \$	N/A				
OVIS-CEPT	Additional protective measures against vibration include - vibration isolators, such as damping devices placed between the source and the exposed	CET OVIS-CETT OVIS-CETT	N/A				





VIS-CERT EN ISO 12100						
Clause	Requirement + Test	Result-Remark	Verdict			
Cladoo	redailement : lest	2 COUNTRY CONTRACTOR	Vordiot			
Office	person,	, on one	0/1/2			
	- resilient mounting, and					
	- suspended seats.	Carry Carry	CHR.			
	For measures for vibration isolation of stationary industrial machinery see EN 1299.	1:5	1.5			
6.3.4.4	Hazardous substances	X X X	N/A			
0.0.7.7	Additional protective measures against		- 2			
	hazardous substances include	, 5	N/A			
	- encapsulation of the machine (enclosure with	0, 0,	0,,			
	negative pressure),	45 45	L PÁ			
	- local exhaust ventilation with filtration,	50 .50	.5.0			
	 wetting with liquids, and special ventilation in the area of the machine (air 	01/10 01/10	0/1/2			
	curtains, cabins for operators).	A A A				
Chi	See ISO 14123-1.	ter term term	Str			
6.3.4.5	Radiation	, Miz Miz	N/A			
	Additional protective measures against radiation	A A A	N/A			
	include	Carry Carry Carry	CHR.			
	 use of filtering and absorption, and use of attenuating screens or guards. 	1.5	1:15			
6.3.5	Complementary protective measures	0, 0,	N/A			
			- 2			
6.3.5.1	General Protective recovery which are reither inhoughtly	6,5,0	N/A			
	Protective measures which are neither inherently safe design measures, nor safeguarding	0, 0,	N/A			
	(implementation of guards and/or protective	A. A. A.	195			
	devices), nor information for use, could have to be	Ser Ser Ser	S.C.C.			
	implemented as required by the intended use and	Only Only	Ollis			
	the reasonably foreseeable misuse of the machine. Such measures include, but are not limited to, those	à à à	, á			
	dealt with in 6.3.5.2 to 6.3.5.6.	ich, "ich, "ich,	CELL			
6.3.5.2	Components and elements to achieve emergency	, Mig Mig	ON P			
	stop function	A A A				
	If, following a risk assessment, a machine needs to be fitted with components and elements to	the the	Per			
	achieve an emergency stop function for enabling	Wis Wis	Nis.			
	actual or impending emergency situations to be	X X X	\ \ \ \ \ \			
CER.	averted, the following requirements apply:	Ch, Ch, Ch	(E)			
	- the actuators shall be clearly identifiable, clearly	11:5	J. P			
	visible and readily accessible; - the hazardous process shall be stopped as	0, 0,	0,			
	quickly as possible without creating additional	LER LER LER	C.P.			
	hazards, but if this is not possible or the risk	(8)	.5			
	cannot be reduced, it should be questioned	01, 01,	011			
	whether implementation of an emergency stop function is the best solution;					
	- the emergency stop control shall trigger or	Con Con	.c.Ct.			
	permit the triggering of certain safeguard	Office Office	0110			
	movements where necessary.	8 8 8	× 5			
SCA	NOTE For more detailed provisions, see ISO 13850.	the state of				
	Once active operation of the emergency stop device has ceased following an emergency stop	Wis Wis	Ni _D			
	command, the effect of this command shall be	A A A	\ \ \ \ \			
	sustained until it is reset. This reset shall be	Carlo Carlo	CER.			
	possible only at the location where the emergency	1:5	1.5			
	stop command has been initiated. The reset of the device shall not restart the machinery, but shall only	0, 0,	0,,			





A 01	EN ISO 12100		
Clause	Requirement + Test	Result-Remark	Verdic
01/2	permit restarting.	01/2 01/2	01/2
Nis-CERT	More details for the design and selection of electrical components and elements to achieve the emergency stop function are provided in IEC 60204.	seri _{Mis-ser} i	N/A
6.3.5.3	Measures for the escape and rescue of trapped persons		N/A
OVIS	Measures for the escape and rescue of trapped persons may consist, among others, of - escape routes and shelters in installations generating operator-trapping hazards,	eleti eleti eleti	N/A
	 - arrangements for moving some elements by hand, after an emergency stop, - arrangements for reversing the movement of some elements, 	ceri ceri	OVis
ot of	 - anchorage points for descender devices, - means of communication to enable trapped operators to call for help. 		Ohio
6.3.5.4	Measures for isolation and energy dissipation		N/A
ONIS	Machines shall be equipped with the technical means to achieve isolation from power supply(ies) and dissipation of stored energy by means of the	CEFT CEFT CEFT	N/A
OVIS ON	following actions: a) isolating (disconnecting, separating) the machine (or defined parts of the machine) from all		N/A
WiS. OF.	power supplies;b) locking (or otherwise securing) all the isolating units in the isolating position;	St. Me all Me all	N/A
S. S. CERT	c) dissipating or, if this is not possible or practicable, restraining (containing) any stored energy which can give rise to a hazard;	clai is clai	N/A
S CERT	d) verifying, by means of safe working procedures, that the actions taken according to a), b) and c) above have produced the desired effect.		N/A
Olis	See ISO 14118:2000, Clause 5, and IEC 60204-1: 2005, 5.5 and 5.6.	Ohis Ohis	N/A
6.3.5.5	Provisions for easy and safe handling of machines and their heavy component parts		P
J OVIS	Machines and their component parts which cannot be moved or transported by hand shall be provided or be capable of being provided with suitable attachment devices for transport by means of lifting gear.	CERÍ _{LES-CE} RÍ	olisP i.s.ot
ON'S CERT	These attachments may be, among others, - standardized lifting appliances with slings, hooks, eyebolts, or tapped holes for appliance fixing, - appliances for automatic grabbing with a lifting hook when attachment is not possible from the	CERT OUTS-CERT OUTS-CERT	ON'S OF
OVIS-CERT	ground, - fork locating devices for machines to be transported by a lift truck, - lifting and stowing gear and appliances integrated into the machine.	CEFT OVIS-CEFT OVIS-CEFT	ONIES CO
OVIS-CER	Parts of machinery which can be removed manually in operation shall be provided with means for their safe removal and replacement.	CELL ON P. CELL	N/A
195	See also 6.4.4 c), item 3).		N/A



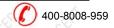


EN ISO 12100					
Clause	Requirement + Test	Result-Remark	Verdict		
Oldube	requirement : rest	TROOM TROTTAIN	VOIGIOU		
6.3.5.6	Measures for safe access to machinery	112 112	OVP		
0.5.5.0	Machinery shall be so designed as to enable	A A A	D 4		
	operation and all routine tasks relating to setting	ELE ELE ELE	P		
	and/or maintenance to be carried out as far as	.5	5		
	possible by a person remaining at ground level.	01, 01,	01,		
.6	Where this is not possible, machines shall have	á á á	N/A		
	built-in platforms, stairs or other facilities to provide	CELL CELL	CEL		
	safe access for those tasks; however, care should	Mis Mis	1,12		
	be taken to ensure that such platforms or stairs do				
	not give access to danger zones of machinery.				
	The walking areas shall be made from materials which remain as slip resistant as practicable	.55.	N/A		
	under working conditions and, depending on the	01/2 01/2	01/2		
	height from the ground, shall be provided with	5 5 6	5		
	suitable guard-rails (see ISO 14122-3).	CALL CALL	CELL		
1.12	In large automated installations, particular attention	1.12	N/A		
	shall be given to safe means of access, such as	0 0	0		
	walkways, conveyor bridges or crossover points.		(4)		
	Means of access to parts of machinery located at		N/A		
	height shall be provided with collective means of	Mis Mis	0/1/2		
	protection against falls (for example, guard-rails for stairways, stepladders and platforms and/or safety		· .		
	cages for ladders). As necessary, anchorage points	Carry Carry	. CEL		
	for personal protective equipment against falls from	1.5	11.5		
	height shall also be provided (for example, in	0, 0,	0,		
	carriers of machinery for lifting persons or with	A A A	195		
CV	elevating control stations).	12, 20 12,	C.C.V.		
	Openings shall, whenever possible, open towards a	Mis Mis	N/A		
	safe position. They shall be designed to prevent		× ×		
Chr.	hazards due to unintended opening. The necessary aids for access shall be provided	Ch. Ch. Ch.			
	(steps, handholds, etc.). Control devices shall be	1.5	N/A		
	designed and located to prevent their being used as	0, 0,	0,		
	aids for access.	é é	. 2		
C.Gr	When machinery for lifting goods and/or persons	, C,	N/A		
	includes landings at fixed levels, these shall be	Office Office	ONIS		
	equipped with interlocking guards for preventing	A A A			
	falls when the platform is not present at a level. Movement of the lifting platform shall be prevented	the the	CEL		
	while the guards are open.	1:5	11:5		
9.	For detailed provisions see ISO 14122.	0, 0,	N/A		
6.4		(A) (A)			
6.4	Information for use	, S C . S C	P.V		
6.4.1	General requirements	011, 011,	ON P		
6.4.1.1	Drafting information for use is an integral part of	à à à	Pá		
	the design of a machine (see Figure 2).	CEL CEL CEL	CER		
	Information for use consists of communication	Wis Wis	Nie		
	links, such as texts, words, signs, signals, symbols or diagrams, used separately or in	0 0	0		
	combination to convey information to the user.	CRI CRI CR	LP		
	Information for use is intended for professional	, S.C	.S.CV		
	and/or non-professional users.	Office Office	01/10		
	NOTE See also IEC 62079 for structuring and	A A A			
CES.	presentation of information for use.	Cap. Cap. Cap.	CER		
6.4.1.2	Information shall be provided to the user about	1:5	P		
	the intended use of the machine, taking into account, notably, all its operating modes.	0, 0,	0,		





VIS-CERT EN ISO 12100						
Clause	Requirement + Test	Result-Remark	Verdict			
Olause	requirement rest	result-remark	Verdict			
01/2	The information shall contain all directions required to ensure safe and correct use of the machine. With this in view, it shall inform and warn the user about		ON P			
OVISICI	residual risk. The information shall indicate, as appropriate,	CO ONS.CO	ON P			
	 - the need for training, - the need for personal protective equipment, and - the possible need for additional guards or protective devices (see Figure 2, Footnote d). 	SERÍ WESTERÍ WESTERÍ	Wis-CERT			
OVi5:CF	It shall not exclude uses of the machine that can reasonably be expected from its designation and description and shall also warn about the risk which would result from using the machine in other ways	SERÍ OVIS-SERÍ	P P P P P P P P P P P P P P P P P P P			
	than the ones described in the information, especially considering its reasonably foreseeable misuse.	SERT SCHRI SCHRI	SCERI			
6.4.1.3	Information for use shall cover, separately or in combination, transport, assembly and installation, commissioning, use of the machine (setting,		ON P			
	teaching/programming or process changeover, operation, cleaning, fault-finding and maintenance) and, if necessary, dismantling, disabling and		Olisich			
	scrapping.	Co. Co. Co.	C CELL			
6.4.2	Location and nature of information for use Depending on the risk, the time when the information is needed by the user and the machine design, it shall be decided whether the	SERI SERI	P			
0/1/2	information — or parts thereof — are to be given	, Oliz Oliz	0,1,2			
	a) in/on the machine itself (see 6.4.3 and 6.4.4),	A A A	Р			
N'S.CY	b) in accompanying documents (in particular instruction handbook, see 6.4.5),c) on the packaging,	St. M.S.Ch. M.S.Ch.	P			
- S	d) by other means such as signals and warnings outside the machine	stri stri stri	P			
Ohis	Standardized phrases shall be considered where important messages such as warnings are given (see also IEC 62079).		oli P			
6.4.3	Signals and warning devices	50 .2,50	. P			
	Visual signals, such as flashing lights and audible signals such as sirens may be used to warn of an impending hazardous event such as machine start-up or overspeed. Such signals may also be used to warn the operator before the triggering of	SERI ORIS-TERI	ON'P			
- 4	automatic protective measures (see 6.3.2.7).		DOM			
01/2.01	It is essential that these signals a) be emitted before the occurrence of the hazardous event,	or original original	P			
Z.	b) be unambiguous,	in in in	P			
OVIS.CX	c) be clearly perceived and differentiated from all other signals used, and	01/2, Cr. 01/2, Cr.	Ni Pott			
_ <	d) be clearly recognized by the operator and other persons.		P			
OVISIO	The warning devices shall be designed and located such that checking is easy. The information for use shall prescribe regular checking of warning	Olisia Olisia	ON'P			





CER	Clause	Requirement + Test	Result-Remark	Verdic
	- N.S.	devices.	15' 15'	115
0	0.		0, 0,	0
	CRI	The attention of designers is drawn to the	CHI CHI CHI	P
	C.CV	possibility of "sensorial saturation", which can	,00	
	Mis	result from too many visual and/or acoustic signals and which can also lead to defeating the	Mis Mis	
		warning devices.	4 4 4	
	CER.	NOTE Consultation of the user on this subject is	th, th, th,	
	1.5	often necessary.	,,5,0	
	6.4.4	Markings, signs (pictograms) and written warnings	0, 0,	Р
	LP.	Machinery shall bear all markings which are	(A) (B) (B)	Ps
	S	necessary		. 50
	0/1/2	a) for its unambiguous identification, including at	0/10 0/10	ONP
		least	A A A	
	CEL	1) the name and address of the manufacturer,	CEL CEL CEL	
	11:5	2) the designation of series or type, and	1:5	
	0,	3) the serial number, if any,	0, 0,	0,
		b) in order to indicate its compliance with	in in in	P
	CK	mandatory requirements, comprising	Ch. "Ch. "Ch.	
	Niz	1) marking, and	11,12 11,13	
	0	2) written indications, such as the authorized	4	
	C.R.	representative of the manufacturer, designation	(A) (A) (A)	
	.00	of the machinery, year of construction, and	in a contraction	
	01/10	intended use in potentially explosive atmospheres),	Office Office	
		c) for its safe use, for example,	A A A	
	CERT	1) maximum speed of rotating parts,	th, th, th	P
	5	2) maximum diameter of tools,	.50	
	01,	3) mass (in kilograms) of the machine itself	011, 011,	
	4	and/or of removable parts,	\$ \$ \$	
	CEL	4) maximum working load,	CEL CELL CELL	
	11.5	5) necessity of wearing personal protective	V.1.5	
	0.	equipment,	0. 0.	
	181	6) guard adjustment data, and	in in in	
	C.C.C.	7) frequency of inspection.	Cr. Cr.	
	11/2	Information printed directly on the machine should	Mis Mis	AL P
	×	be permanent and remain legible throughout the	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
	CERI	expected life of the machine.	ith, ith, ith	
	5	Signs or written warnings indicating only "Danger"	.5 .5	· CD
	011,	shall not be used.	011, 011,	01/
		Markings, signs and written warnings shall be	á á á	D
	Chr	readily understandable and unambiguous,	CEL CELL CELL	- G
	11:5	especially as regards the part of the function(s) of	11:5	
	0,	the machine to which they are related. Readily	0, 0,	
	187	understandable signs (pictograms) should be used	(A) (A) (A)	
	CCC		Co. Co. Co.	
	dis	in preference to written warnings.	412 412	1,12
	0	Signs and pictograms should only be used if they	0 0	P
	CRI	are understood in the culture in which the	CHI CHI CHI	
	.0,0	machinery is to be used.	or sor sor	. ~ C
	01/10	Written warnings shall be drawn up in the	Office Office	ON P
		language(s) of the country in which the machine	A A A	
	CERN	will be used for the first time and, on request, in	ET ET ET	
	.5	the language(s) understood by operators.	,5,0	
	01,	NOTE In some countries the use of specific	0, 0,	
	<u> </u>	language(s) is covered by legal requirements.	A A A	<u> </u>





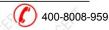
OVIS-CERT EN ISO 12100						
Clause	Requirement + Test	Result-Remark	Verdict			
.,6		5,5,0,	1.5			
	Markings shall comply with recognized standards (for example, ISO 2972 or ISO 7000, for	0, 0,	0 P			
	pictograms, symbols and colours in particular).	eri eri				
1.5	See IEC 60204-1 as regards marking of electrical	5 15	N/A			
0,,	equipment.	9, 9,	0,,,,,			
	See ISO 4413 and ISO 4414 for hydraulic and pneumatic equipment.	SERI SERI SER	N/A			
6.4.5	Accompanying documents (in particular - instruction handbook)	01/2 01/2	OV P			
6.4.5.1	Contents		P			
5.4.5.1	The instruction handbook or other written		Ji P			
	instructions (for example, on the packaging) shall contain, among others, the following:	(4) (4) (4)	0".F			
· 5.00	a) information relating to transport, handling and	100 - 500 - 500 C	P			
	storage of the machine, such as	01/12 01/13	01/12			
	1) storage conditions for the machine,		<u>ک</u> م ک			
	2) dimensions, mass value(s), position of the centre(s) of gravity, and	St. Sign Sign	. C. Chi			
	3) indications for handling (for example,	ONIS ONIS	01/12			
	drawings indicating application points for lifting	in its	Ó. Ó.			
C'CK,	equipment);		C.CE.			
ONIS	b) information relating to installation and	Ohis Ohis	ON P			
	commissioning of the machine, such as	á á á	5 5			
	fixing/anchoring and dampening of noise and vibration requirements,	Sec. Sec. Sec.	CER			
	2) assembly and mounting conditions,	o Wiz Wiz	Mis			
	3) space needed for use and maintenance,	A A A	5 6			
	4) permissible environmental conditions (for	Str. Str. Str.	. Citic			
	example, temperature, moisture, vibration,	o Miz Miz	Nis			
	electromagnetic radiation),	A A A				
	5) instructions for connecting the machine to power supply (particularly on protection against	the the	CER			
	electrical overloading),	Wis Wis	Wis			
	6) advice on waste removal/disposal, and		4			
	7) if necessary, recommendations related to	Sty. Sty. St	CER.			
	protective measures which have to be	o wis	N'iS'			
	implemented by the user — for example, additional safeguards (see Figure 2, Footnote	4 4	\ \ \ \ \ \			
	d), safety distances, safety signs and signals;	CERT CERT CE	CER!			
Visi	c) information relating to the machine itself, such as	115	N'P			
	1) detailed description of the machine, its	0. 0.	4			
	fittings, guards and/or protective devices,	EER CERT CE	C. C			
	2) the comprehensive range of applications for	5 VIST VISTO	1,5			
	which the machine is intended, including prohibited usages, if any, taking into account	0. 0,	0.			
	variations of the original machine if appropriate,	the the	S CERT			
	3) diagrams (especially schematic representation	5 1.5	1.5			
	of safety functions),	0, 0,	0,			
	4) data on noise and vibration generated by the	ART ART AR	S CERT			
	machine, and on radiation, gases, vapours and	, S, CY , S, CY	.5			
	dust emitted by it, with reference to the measuring methods (including measurement	01, 01,	01,			





uncertainties) used, 5) technical documentation of electrical equipment (see IEC 60204), and 6) documents attesting that the machine complies with mandatory requirements; d) information relating to the use of the machine, such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance		Verdict	Result-Remark Ve	Requirement + Test	Clause
5) technical documentation of electrical equipment (see IEC 60204), and 6) documents attesting that the machine complies with mandatory requirements; d) information relating to the use of the machine, such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance		OVS	× × × × × ×	1 toquii omont - 100t	Clause
5) technical documentation of electrical equipment (see IEC 60204), and 6) documents attesting that the machine complies with mandatory requirements; d) information relating to the use of the machine, such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance				.5' .5' .5' .5'	.5
equipment (see IEC 60204), and 6) documents attesting that the machine compiles with mandatory requirements; d) information relating to the use of the machine, such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			011, 011, 011		
6) documents attesting that the machine complies with mandatory requirements; d) information relating to the use of the machine, such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	. 4		5 5 5		
complies with mandatory requirements; d) information relating to the use of the machine, such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	J.		Service Service		
d) information relating to the use of the machine, such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			Tie Tie		
such as that related to or describing 1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	_	0.	0, 0,		0. (
1) intended use, 2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance		P			
2) manual controls (actuators), 3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	4				
3) setting and adjustment, 4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	0		0, 0, 0,		
4) modes and means for stopping (especially emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			.aaa.		
emergency stop), 5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			St. Ct. Ct.		
5) risks which could not be eliminated by the protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	2		Wis Wis Mis		
protective measures implemented by the designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	× 0		X X X		
designer, 6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			THE STATE STATE		
6) particular risks which can be generated by certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			,50 ,50		
certain applications, by the use of certain fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	0		0, 0, 0,		
fittings, and about specific safeguards necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			£ 5 5		
necessary for such applications, 7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			SELL SELL SELL		
7) reasonably foreseeable misuse and prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			Wis Wis Wis	1/2 1/2 1/2	
prohibited applications, 8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			4		
8) fault identification and location, for repair and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance					
and for restarting after an intervention, and 9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			, S, O' , S, O'		
9) personal protective equipment needed to be used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	0		01, 01, 01,		
used and the training that is required; e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance			5 5 5		
e) information for maintenance, such as 1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance					
1) the nature and frequency of inspections for safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance	-3	W.S.	1/2 1/2		1.6.
safety functions, 2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance		0. F	0. 0.		
2) specification of the spare parts to be used when these can affect the health and safety of operators, 3) instructions relating to maintenance					
when these can affect the health and safety of operators, 3) instructions relating to maintenance	,		.50		
operators, 3) instructions relating to maintenance	0		0, 0, 0,		
3) instructions relating to maintenance	4		5 5 5	•	
			Ser Ser Ser	3) instructions relating to maintenance	
operations which require a definite technical	3		Nis Nis Nis	operations which require a definite technical	
knowledge or particular skills and hence need			6. 6.	knowledge or particular skills and hence need	
to be carried out exclusively by skilled persons			CER CERT		
(for example, maintenance staff, specialists),			.50	(for example, maintenance staff, specialists),	
4) instructions relating to maintenance actions	0		01, 01, 01,		
(replacement of parts, etc.) which do not require			a a a		
specific skills and hence may be carried out by	***		CEL CELL		
users (for example, operators), and	3		Wis Wis Wis		
5) drawings and diagrams enabling	× 0		4		
maintenance personnel to carry out their task	-		THE THE THE	AV 7 AV 7 AV 7 AV 7	
rationally (especially fault-finding tasks);			, S.O. , S.O.		
f) information relating to dismantling, disabling	0)	0 ₁₁ , B	01, 01, 01,		
and scrapping;	_		A A A		
g) information for emergency situations, such as		P	ter term term		
1) the operating method to be followed in the	2		115 115 11°		
event of accident or breakdown,	0		0. 0. 0.		
2) the type of fire-fighting equipment to be			CAS CAS CAS		
used, and	2		S' S'S' S'S'		
3) a warning of possible emission or leakage of hazardous substance(s) and, if possible, an	0		ON1, ON1, ON1		

3.CEFT OVIS-CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





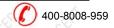
	EN ISO 12100		
Clause	Requirement + Test	Result-Remark	Verdi
5	indication of means for fighting their effects;	N'S N'S	0115
	h) maintenance instructions provided for skilled		Р
Str Str	persons [item e) 3) above] and maintenance	Str. Str. Str.	
5 4.5	instructions provided for unskilled persons [item	115 115	1,15
4	e) 4) above], that need to appear clearly	4 4	0
	separated from each other.		
6.4.5.2	Production of instruction handbook	,5,0	P
0,	The following applies to the production and	0, 0,	O P
	presentation of the instruction handbook.		
3,000	a) The type fount and size of print shall ensure		Р
Ni2	the best possible legibility. Safety warnings	Mis Mis	Nis
4 4	and/or cautions should be emphasized by the use	X X X	
E. TE.	of colours, symbols and/or large print.		
.5	b) The information for use shall be given in the	,5,0	P
0,,	language(s) of the country in which the machine	0, 0,	011.
à. à.	will be used for the first time and in the original	à à à	
SEL	version. If more than one language is to be used,	Cer Cer Cer	5
Nis	each should be readily distinguished from	11,12 11,13	11,2
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	another, and efforts should be made to keep the	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0
St. CERT	translated text and relevant illustration together.	CEN CEN CEN	
.5	NOTE In some countries the use of specific	.5.	5
0, 0	language(s) is covered by legal requirements.	0, 0,	011,
	c) Whenever helpful to the understanding, text	à à à	Р
C. C.	should be supported by illustrations. These	Cer. Cer.	2,5
Niz.	illustrations should be supplemented with written	Mis Mis	Nis
, \ \	details enabling, for example, manual controls	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0
El CERT	(actuators) to be located and identified. They should		
.5	not be separated from the accompanying text and	.55.	5
-0,1,	should follow sequential operations.	0, 0,	0,,
6 6	d) Consideration should be given to presenting information in tabular form where this will aid	\$ \$ 5	P
CELL	understanding. Tables should be adjacent to the	Con Con	S
Vis	relevant text.	Mis Mis	Nie
X X	e) The use of colours should be considered,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	D
CERT CERT	particularly in relation to components requiring	ER SER SER	P
,5	quick identification.	.5	1.5
0,,	f) When information for use is lengthy, a table of	0, 0,	Р
á. á.	contents and/or an index should be provided.	à à à	F
,55	g) Safety-relevant instructions which involve	St. "Copy "Copy,	
Wils	immediate action should be provided in a form	Mis Mis	Nil.
4 4	readily available to the operator.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
6.4.5.3	Drafting and editing information for use		P
3.1.5.0	The following applies to the drafting and editing of	.,5	.5
0,,	information for use.	0, 0,	Ø/\P
á á	a) Relationship to model: the information shall	á á á	_
C. Car.	clearly relate to the specific model of machine	Ch. Chi.	5
Wig.	and, if necessary, other appropriate identification	Wis Wis	115
0,	(for example, by serial number)	0. 0.	0
A COL	b) Communication principles: when information		
· S.G.	for use is being prepared, the communication	.SSSS.	P
01/2	process "see – think – use" should be followed in	011, 011,	01/1
A A	order to achieve the maximum effect and should	A A A	

s-ceri ouis-ceri. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



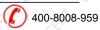


	EN ISO 12100		
Clause	Requirement + Test	Result-Remark	Verdi
S NiSi	follow sequential operations. The questions, "How?"	115 115	115
	and "Why?" should be anticipated and the answers provided.		
olis,	c) Information for use shall be as simple and as brief as possible, and should be expressed in	Wis Wis	N'SP
CERT	consistent terms and units with a clear explanation of unusual technical terms.	ceri ceri	5
Olis	d) When it is foreseen that a machine will be put	01/12 01/12	OII P
6	to non-professional use, the instructions should	6 6 6	5
Str. Str.	be written in a form that is readily understood by	CELL CELL	,
J.i.S	the non-professional user. If personal protective	Niz Niz	1,15
4	equipment is required for the safe use of the	4 4	ζ (
ath ath	machine, clear advice should be given, for example, on the packaging as well as on the	eth eth eth	5
.5	machine, so that this information is prominently	.50	
011	displayed at the point of sale.	01, 01,	01,
6	e) Durability and availability of the documents:	A A A	Š -
Str. Str.	documents giving instructions for use should be	off, off, off,	P
11.65	produced in durable form (i.e. they should be able	1.5	1.15
0,	to survive frequent handling by the user). It can be	0, 0,	0,
(4)		P3 P3 P3	S .
30	useful to mark them "keep for future reference".	ign "ign "ign	25
dis	Where information for use is kept in electronic form	Mis Mis	die
4 4	(CD, DVD, tape, hard disk, etc.), information on	X X	χ
	safety-related issues that need immediate action shall always be backed up with a hard copy that is		
1.5	readily available.	,5,0	1.5
0,1		0, 0,	-0,-
A /	Documentation of risk assessment and risk reduction		, P
	The documentation shall demonstrate the		
Nis	procedure that has been followed and the results	Mis Mis	1,12
4	that have been achieved. This includes, when	2 2	
	relevant, documentation of	chi chi	
.5		.5 .5	. 2
01/10	a) the machinery for which the risk assessment	01/10 01/10	ON P
6 6	has been made (for example, specifications, limits, intended use);	6 6 6	5
St. Chr.		E E	2_
11:6	b) any relevant assumptions that have been	11.6	P
0,	made (loads, strengths, safety factors, etc.);	0. 0,	0,
(A) (A)	c) the hazards and hazardous situations identified	(A) (A)	P
S. C.C.	and the hazardous events considered in the risk	Son Sign	2.5
Olis	assessment;	alis dis	- Olis
× ×	d) the information on which risk assessment was	4	P
it city	based (see 5.2):	ELL SELL SEL	
1.5	1) the data used and the sources (accident	1,5	1.5
0,	histories, experience gained from risk reduction	0, 0,	0,
à. à.	applied to similar machinery, etc.);	6. 16. 16.	5
Chi.	2) the uncertainty associated with the data	CE, CE, CE	
45	used and its impact on the risk assessment;	1,5	4:5
0.	e) the risk reduction objectives to be achieved by	0. 0.	O P
A W	protective measures;		
S. C.C.	f) the protective measures implemented to	SV COV	P
Olis,	eliminate identified hazards or to reduce risk;	Ohio Ohio	1,13
X X	g) residual risks associated with the machinery;	4 4	Р



Page 51 of 104

Clause	EN ISO 12100 Requirement + Test	Result-Remark	Verdict
015.0	h) the result of the risk assessment (see Figure 1	.5' .5'	O P
(A) (A)	i) any forms completed during the risk assessme	•	P
OVIS-CO	Standards or other specifications used to select protective measures referred to in f) above shoul be referenced.	4 4	Oli Por
OVIS-CELL	NOTE No requirement is given in thismInternatio Standard to deliver the risk assessment documentation together with the machine. See ISO/TR 14121-2 for information or	wish dist	OHIS CELL
OVISCERI	documentation.	WEEK ONE SERVE ONE SERVE	ONIS CERT
	ovis-cerí ovis-cerí ovis-cerí ovis-cerí		
	ONIS-CERT ONIS-CERT ONIS-CERT ONIS-CERT		
	OVIS-CERT OVIS-CERT OVIS-CERT OVIS-CERT		





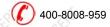
	EN 809		
Clause	Requirement + Test	Result-Remark	Ve
-6.00	.5.0 .5.0 .5.0 .5.0 .5.0	.5.0	
5	Safety requirements and/or measures	01/10 01/10	011
5.1	General requirements	See EN ISO12100 report	
ONIE	The operating conditions and features required of every pump and/or pump unit falling within the scope of this standard shall be defined in a specification.	Non-corrosive liquid	Oli
OVIE	This may be in the form of a manufacturer's description, or as a published national or international standard or in a data sheet within a	ERÍ CERÍ	Oli
OVIS	In the event of essential data not being provided by the purchaser, the manufacturer shall advise the purchaser of the data being adopted for the design	EKI CEKI CEKI	Oli
OWIS CERT	and being incorporated into the specification. The supplier shall assess the risks arising from the machine together with its operating conditions and the equipment shall be designed to reduce them to	ERI OVIS CERI	
OVISCERT	an acceptable level giving full regard to the requirements set out in this standard. A risk assessment according to EN ISO 14121-1 shall be carried out by the manufacturer. This has to be done for machinery as well as for partly	The Risk Assessment had done by	011
	completed machinery to the extent necessary to assess the conformity with the essential health and safety requirements. When assessing the risks arising from the machinery or partly completed	manufacturer	01.
	machinery,the manufacturer shall take into account any reasonable foreseeable misuse and the lifetime of the machinery including the phases of transport, assembly, dismantling, disabling and disposal. (EN 809/A1:2009)	eri ovis-cti ovis-cti eri ceri	01
OVIS'S	NOTE The technical specifications will vary with the application, and some technical specifications are already stated in EN or ISO Standards, such as: — EN 25199;	ERÍ SESERÍ	013
OVID	— prEN ISO 14847; — ISO 9905; — ISO 9908. Further safety information from the	ghi ghi	01
	manufacturer/supplier for: — planning; — installation; — operation; — maintenance; shall be contained in the information/instruction for use,including personnel protection equipment required and warning notices.	Found in manual	00.10
5.1.1	Environmental and working conditions	CAS CAST CAST	
ovis	In constructing the specification for the pump or pump unit particular attention shall be given to any special environmental and/or working conditions.		01:
W.S. Off	Examples of such special conditions are, amongst others:	St. Merch Merch	-1:
0.	environmental conditions at the place of installation,	V	0,

steri ousteri. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809	<u>Ci</u> Ci	C
Clause	Requirement + Test	Result-Remark	Ve
.6,0		5.00	
ONIN	such as:	01/10 01/10	011
i a	— abnormal temperature;	a a a	
C.Chi	— high humidity;		
Ohis	— corrosive atmospheres;	Ohis Ohis	01
, di	— explosive and/or fire danger zones;		
.5.00	— dust, sandstorms;	JV . S. CV . S. CV	
011	— earthquakes and other external imposed such	011 011	01
<u> </u>	conditions;		
.S.CV.	— vibrations;	300	
01/12	— altitude;	Max. 1000m	01
28	— flooding; type of liquid to be pumped, such as:	(A) (A) (A)	
S	— pumped liquid (denomination);	.5' 5'	
04/0	— mixture (analysis);	0410 0410	0,
(A)	— solid containing (solid matter content);	A A A	
.5	— gaseous (content);		
0/12	property of the liquid when being pumped, such as:	0/10 0/10	0,
· (A)	— flammable;	A A A	
. S. Ct.	— toxic;	S	
01/10		apple opposition	07
	— corrosive;	(A) (A) (A)	
.5	— abrasive;	.50	15
01/10	— crystallizing;	0/10 0/10	00
- 2	— polymerizing;	A A A	
- CV	— viscosity;	V). V). V).	
01/1	operating fluctuation in the system, such as:	011, 011,	0/
ia.	— temperature;		
S.Ct.	_ pressure;		
0/1/2	— flow rate;	Office Office	0/1
285	— dry running of the pump.	in in in	
5.2	Special requirements	3.5	
5.2.1	Requirements to avoid mechanical hazards	01, 01,	0,
5.2.1.1	Crushing, cutting and entanglement	CHI CHI CHI	
ONIS CO	Exposed moving parts may create a hazard and means shall be incorporated to reduce the risk.	01/2:01 01/2:01	01:
	Such means shall include as appropriate:		
Mis Ch	 barriers conforming to EN 294 preventing contact with moving parts; 	Ji Nisich Nisich	01:
	— gaps at the end-of-travel conforming to EN 349;	A A A	
CEL	— guards conforming to EN 953.		
OVIS	Rotating shafts with exposed keys, keyways or other projections liable to cut or catch shall be protected or guarded.	eri crei crei	01
OHIGH	Guards or permanent enclosures shall be used for rotating or reciprocating transmission couplings or	01.2	01





		EN 809		
CERT	Clause	Requirement + Test	Result-Remark	Verdi
1.65.0°	116:00	1500 150 150 150 150 150 150 150 150 150	180 180	1,15
5	0,	crossarms. Guards for the reduction of risks from contact with	0, 0,	03
18		parts of a pump or pump unit shall be removable		P
C.C.K.		only with the use of a tool.	ic, "Oc, "Oc,	C.C.
11,2	01,13	Movable or removable guards giving access for	412 413	N/A
~		adjustment or setting of controls or sensors whilst	A A A	
CEL		the pump is in operation shall not be required to be	Str. Cer. Cer.	S
1.15		interlocked and shall be secured against unintended	Wis Wis	1,15
3		disturbance.	4 4	0
CER.	CERT	Movable guards which remain attached to the pump	ar are	N/A
1.5	5	shall be secured also when in the opened position.	,5,0,0,5	.5
2,		Removable guards shall be completely disengaged	01, 01,	○N/A
(8)	129	from the pump.		
S.CV		Unhindered access to the shaft seal where required	St. C.C. C.C.	N/A
1112		for checking of its function and/or for its adjustment	Ohis Ohis	0/1/2
		shall be permitted.	A A A	Б
CER.		Machined or cut parts which are exposed or likely to be exposed at any stage during the installation,	EL CEL CEL	
115		operation, or servicing of the pump or pump unit	1.5	1:15
5~		shall be treated to remove burrs, rags and sharp	0. 0.	0.
CER)		edges by radiusing or chamfering.	eri eri	. <
	5.2.1.2	High pressure fluid ejection	,5 ,5	·SP
2,	5.2.1.2.1	Shaft, piston rod or plunger sealing system	0, 0,	Р
28	5.2.1.2.1	The pump shall be equipped with a shaft-, piston	(A) (A) (A)	, ,
Sich		rod-or plunger sealing system compatible with the	St. C.C.	5
7/12		pumped fluid and appropriate to the hazard likely to	ONIS ONIS	0/112
4		result from a leakage of that fluid.	5 5 5	
CELL	Con	In assessing the compatibility attention shall be	(4)	Р
1,12		given concerning the nature of the liquid, the	Mis Mis	Nis
)		pressure, and temperature.	4 4 4	0
C. (P.)	c.E.R.	Because of the range of characteristics of pumped	Ch. Ch. Ch.	P
1.5		liquids it is not possible to give any precise	1.5	1:5
2,,	0,	requirements to reduce the risks.	0, 0,	0,
687	5.2.1.2.2	Pressure containing elements		P
.5.0		Pressure containing parts and components of a	.50	P
21,		pump are to be designed to be suitable for the	011, 01/1	0/1/2
.6		maximum allowable working pressure. Movement resulting from the loss of pressure shall	A. A. A.	
CEL		not create a hazard.	in the teacher	5
1,1,2	dis	For reciprocating displacement pumps the	4,2 4,2	N/A
,		maximum allowable working pressure is the highest	A A A) IN//
CER.		value for the mean pressure in the outlet section of	Eg., City, City,	, c
1:5		the pump.	Wis 11:5	11,5
) "	0,	In the case where the pump potentially can	0, 0,	N/A
ER!		generate pressure in any part greater than the	CHI CHI	
.5.0		maximum allowable working pressure of that part,	.5.0	.5
21,		the supplier shall either provide a pressure relief	011, 011,	01/12
.05		valve or other device to prevent the pressure in the	6 6 6	
CELL		part exceeding 90 % of the hydrostatic test pressure	it cen cen	2,5
11:2		(see 6.2.4), or shall advise the user of the need to	Mis Mis	die
AL .		make such a provision.	0	0

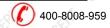
J.C.F.F. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or ormission caused by our negligence. Provided however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





-CERT EN 809			
Clause	Requirement + Test	Result-Remark	Verdict
Olduse	Trequirement - Test	Tresdit Fremant	Verdict
5.2.1.2.3	Permitted forces and moments on pipe connections	11.12 11.12	P
4	The permitted forces and moments on pump inlet	4 4 4	P
	and outlet branches are to be stated by the		CERT C
	manufacturer/supplier.	,5,0	1.5
0,1,	For rotodynamic pumps typical values for	0,, 0,,	O P
	permissible forces and moments can be taken from		(8)
	EN 25199, ISO 9905, ISO 9908.	ar, sign, sign,	C.C.C.
1113	For rotary positive displacement pumps typical	Mis Mis	N/A
	values for permissible forces and moments can be	A A A	
CER.	taken from pr EN ISO 14847.		, Chr.
1.5	Other connections shall be capable of withstanding	11:5° 11:5°	N/A
	the forces and moments which may arise from	0, 0,	0,,
(8)	normal operation and from foreseeable misuse.	A A A	-c81
5.2.1.3	Ejection of transmission parts	V 5,CV 5,CV	P
	The upper and lower limits for torque, speed, and	01/10 01/10	ON P
	loads, for coupling, gears, links, etc. shall not be	A A A	×
Chr.	exceeded.	the the	CEN.
5.2.1.4	Loss of stability	1:5	P.CP
	The pump or pump unit shall remain stable in all	0, 0,	0 P
	phases of transport, assembly, dismantling in the		
	conditions foreseen when tilted to an angle of 10o in	.5.0	.5
211,	any direction from its normal position.	01/10 01/10	01/1
	If the pump or pump unit does not meet this	à à à.	N/A
	requirement the manufacturer/supplier shall define	Con Con Con	CEL
	the supporting devices needed to achieve stability,	Mis Mis	Nie
	or include specific reference to their need in the information for use/instruction for use.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \ \ \
C. C.	The supporting devices shall be treated as special		N/A
	tools (see 5.2.8.4), and details of their use shall be	1.5	1.5
	provided in the information for use/instruction for	0, 0,	0,1
	use.		, pri
C.OK.	When the pump is installed it shall be made stable	an con con	c P
	by the use of holding-down bolts or by the use of	Mis Mis	Mis
	other anchoring methods.	A A A	
CER	Holding-down bolts or other anchoring methods		P
	shall be strong enough to prevent unintended bodily	Vi5' Vi5'	115
2,	movement of the equipment.	0, 0,	0.
5.2.1.5	Lifting of pumps and units	A) (A) (A)	P
.5.0	Lifting machinery for pumps and pump units, lifting	.5.0	P
	accessories and their components shall be capable	01/10 01/10	01/1
	of withstanding the stress to which they are	à à à	
	subjected. Lifting machinery for pumps and pump	Chi Chi	CEL
	units and lifting accessories shall be designed and	Mis Mis	Niz
	constructed in such a way as to withstand the	4	0
	overload in static tests without permanent	CER CERT CERT	- CER
	deformation. Strength calculations shall take into account the value of the static test coefficient of 1.5	,50, ,50	1.5
	to guarantee an adequate level of safety. (EN	01, 01,	01.
	809/A1:2009)		i al
5.2.2	Requirements to avoid electrical hazards	an in its	.cP
113	The electrical equipment of a pump unit shall satisfy	Mis Mis	P
	the general requirements set out in EN 60204-1.	A A 4	0 -

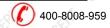
J.CERT ONIS-CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Partial such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





Clause			
	Requirement + Test	Result-Remark	Verdic
		J* (S.O* (S.O*	, (S)
0,7	Particular features shall conform to the particular clauses of EN 60204-1 as indicated in this standard.	0, 0,	92. B
433	Electrical equipment shall be selected for safe	\$. S	P.
	operation in the intended application when used in	.5.0	.50
01/10	the specified environment and working conditions,	0/10 0/10	01/10
6 6	and on the declared characteristics and tolerances	d d	
CEL	of the electrical supply taking into account		S. C.
1.15	predictable malfunctions (EN 60204-1, clauses 4, 7,	1.15	1,5
0,	8, 13, and 18).	0, 0,	0,
(8)	The electrical supply on the pump unit shall be	85 BS BS	P
6.00	provided with means for its isolation from energy	3, 2,0,	C.C.
Nis.	supply, or recommendations shall be included in the	Mis Mis	die
< 4	information for use/instruction for use.	X X	X
	Such means shall allow for switching-off during		P
1.5	normal operation and/or in an emergency (EN	,50	1.5
0,	60204-1, clauses 5, 18, and 5.2.8.3 of this	01, 01,	0,
À. À	Standard).	d d d	<u> </u>
, , ,	Access to connections shall be restricted by devices	20 CO. CO.	N/A
1,15	e.g. shrouds or enclosure, which shall be adequate	Nie Nie	11,5
. 0	to prevent the entry of predictable fluids or solids	0. 0.	0
A CAN	and will require tools for removal (EN 60204-1,	er er	3
5	clauses 4, 13, and 16).	.5	.50
0,1	The pump unit shall be protected by an earth	0410 0410	O P
1	terminal against the build-up of positive charge.	A A A	4
COL	The earth terminal shall be connected directly to an		P
1.15	earth conductor.	1,15	11,5
0,	Unbonded pipe connections shall not be considered	0, 0,	Р
(R)	as providing a continuous earth path.		3
.5	Conductors shall be adequately sized for the	.50	··P
0/1/2	maximum power load and insulated against the	0/10 0/10	01/10
× ×	supply voltage and its tolerances, and be	A A	<
CELL	unambiguously identifiable by means of colour or		S CS
11:5	other indicators (EN 60204-1, clauses 6, 7, 8, 14, 15	11.5	1.5
0,	and 18).	0, 0,	0,
(4)	Systems provided for the operational control of the	(A) (A) (A)	Po
S.C.	pump unit shall be constructed from components	SY COV	- a.C.
01/10	and conductors meeting the requirements of this	Office Office	01/10
× ×	clause, and take into account the appropriate	A A	<
c CER.	requirements and considerations set out in	EL CH.	C.
115	EN 60204-1, clauses 9, 10, 12, 18, and 19.	115	11.5
5.2.2.1	Electrical contact	0, 0,	0 P
(4)	Enclosures of electrical motors and control systems	Rs (A) (A)	Po
S.C.	on the pump unit shall as a minimum give protection	SY COV	2.0
01/10	in accordance with EN 60529 IP 22.	On One	01/12
5.2.2.2	Electrostatic phenomena	A A	Р
5.Z.Z.Z		\$\\ \tau_{\chi}\ \	D
.5	In order to prevent the build-up of electrostatic charge, an electrical potential balance for the	.55	.5
011.		01, 01,	011.
10.00	related equipment is to be provided, if necessary by	á á á	
- CELL	the use of an earthing route.	X. 30. 30.	<u> </u>
N'S	Care shall be taken to ensure that the electrical	115	W.C.P
0.	potential balance of the pump is not changed by lining, coating or similar treatment	0. 0.	0.

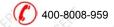
S.CERT OVIS.CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809		
Clause	Requirement + Test	Result-Remark	Verdi
-125,01	1.8. 1.8. 1.8. 1.8. 1.8. 1.8. 1.8. 1.8.	15.0	1,15
5.2.2.3	External effects on electrical equipment	0, 0,	0, b
ONIS-CERT	Electrical enclosures and other protection arrangements together with their means of fitting shall be so constructed that no operating conditions occur which can lead to danger to personnel.	ERI OVIS-CERI OVIS-CE	Ni Pi
5.2.2.4	Electromagnetic compatibility		N/A
ovis ctri	The equipment shall conform to the requirements set out in EN 50081 parts 1 or 2, and to EN 50082 parts 1 or 2 and relevant parts of EN 61000 with regard to electromagnetic compatibility.	iri seri ser	N/A
5.2.3	Requirements to avoid thermal hazards	Mis Mis	Ni P
i.S.CERT	The pump or pump unit shall have reduced hazards to personnel arising from temperatures which result from the operation of the pump.	jeti i seti	P P
ON'S LEFT	This standard does not deal with means to reduce hazards from surface temperatures which derive from the temperature at which the pumped fluid is delivered to the pump inlet.	EKI ON: STEELE	N/A
OVISCERT	Steps shall be taken to minimize contact with or to warn operator/users of any surface which in normal operation will achieve a temperature exceeding those set out in Table 2.	ERÍ OVIS-CÉRÍ OVIS-CÉ	N/A
E.SERÍ	The safety instructions required shall be set out in the information for use/instruction for use.	je ^{ri} zefe ^{ri} zef	N/A
5.2.4	Requirements to avoid the danger of noise and vibrations		Olive
5.2.4.1	Requirements to avoid the danger of noise	A AN E	P
Olis, Cr.	This standard does not deal with the reduction of risks of hearing loss arising from prolonged exposure to noise from pumps and pump units.	of of of other	N/A
OVIS-CELY	The pump manufacturer shall not take into account the effects of the installation in assessing the noise level.	olis citi	P. P.
5.2.4.2	Requirements to avoid the danger of vibrations	ER ER E	N/A
Olis	This standard does not deal with the reduction of risks arising from the prolonged exposure to vibrations generated by the pump or pump unit.	01/5 01/5	N/A
5.2.5	Requirements to avoid hazards from materials	the state of	P
OVIE	The wide and varied nature of pump applications makes it not possible to specify precise	01/2 01/2	OII P
Nis CEH.	combinations and grades of materials in a standard of common requirements.	fir wis of	. <u>M.2.</u> Q
S CECHE	Materials shall be selected taking into account the chemical and mechanical characteristics of the liquid to be pumped and of the operating		F P
ONIS CERT	environment, its ability to safely withstand operating loads, its working life and the effect of fatigue, ageing, abrasion, thermal, electrostatic and any		EL ONIS
OViS.CL	other factor which it is expected may arise from the application and impact upon the materials.		01:5:0

S.C.E.F. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809		
Clause	Requirement + Test	Result-Remark	Ver
6,0		2,0,0,0,0	C/
01/12	regarding materials suitable for particular purposes	01/19 01/19	01/10
6 6	such as use with potable water, with foodstuffs,	5 5 5	
S. SEL	designated for fire protection reasons, etc.		
Nis	Materials used shall not endanger the health and safety of personnel.	Mis Mis	Nice
	Materials used shall be appropriate with the liquid		
CELL.	being pumped and identified in the specification,	ELF. CELF. CELF.	
1.15	and with any lubricants, cooling/heating means,	1,5	1,15
0,	barrier or other fluids that may be introduced.	0, 0,	0.
5.2.5.1	Disposal of liquid	er er	N
1.50	A pump or pump unit operating on a flammable,	1.5	N/
0,	toxic, corrosive or otherwise hazardous liquid, or on	0, 0,	011.
CRI	a liquid at a temperature of more than 60°C shall be	A CHI CHI	
. S. GV	provided with a means such as a pipe connection,	S	.5
07/10	for use by the user, to collect for safe disposal any	01/10 01/10	0/1/2
20. 22	drained liquid or leakage from the shaft seal or	6 6 6	
COL	discharge from a pressure relief valve.		
Nis	Due to the varied nature of the liquid it is not	Mis Mis	N/N/
5050	possible to specify more precise means of disposal.	A A A	N/
5.2.5.2	Disposal of gases	Er, Er, Er,	
1.5	Pump units driven by an IC engine shall be provided	1.5	Ŋ
0.	with a means to collect exhaust gases for safe disposal.	0, 0,	0,
	Advice on safe disposal of exhaust gases, and the		N.
5	provision of combustion air into the room of	.55.	.5
011	installation, shall be included in the information for	011, 011,	011
	use/instruction for use.		
5.2.3	Fire and explosion hazards	JC 200 2.00	اے
0113	Pumps and pump units shall be designed and	Odio Odio	OTIF
()	constructed in such a way as to avoid any risk of	A A A	
City	ignition of gases, liquids, dust, vapours or other	Str. Str. Str.	
N.i.S.	substances within their intended use.	Wis Wis	1,15
V .	(EN 809/A1:2009)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0
CERT,	The requirements regarding potentially explosive	ER, CER, CER,	N.
11:65	atmospheres shall be applied as far as a risk of explosion occurs due to the use of the pump in a	11.5	1.5
0.	potentially explosive atmosphere.	0. 0.	0,
(ERI)	(EN 809/A1:2009)	eri seri seri	
500	Requirements to avoid hazards from neglecting	,5,0,0	, N
5.2.6	ergonomic principles of machine design	0, 0,	011,
· A	Pump units incorporating signal displays and/or	(A) (A) (A)	N.
. C.C.C.	control actuators shall be designed in accordance	JY . C. CY . C. CY	. 5
01/10	with the principles set down in EN 894.	ONLY ONLY	0/11/2
5 5	Signals shall be arranged to be easy to read and	5 5 5	N.
Sept.	unambiguous in meaning.	de the ten	N.I.
Nie	Manual controls and other operating devices shall be easy to reach and operable without	Wis Wis	N.N.
< 4	unreasonable effort.	A A A	
CELL	In particular, starting and stopping devices shall be		N
11:5:0	clearly identified.	1.5	1.5
0,,	Steps shall be taken, including marking if	0, 0,	N





EN 809				
Clause	Requirement + Test	Result-Remark	Verdict	
C.O.		0, 0,0	6,01	
Mig	necessary, to avoid errors arising from confusion.	Mig Mig	01/13	
5.2.7	Requirements to avoid hazards caused by failure of	A A A	P	
	energy supply, breakdowns of machinery	Str. Str. Str.	, City,	
1.5	components and other malfunctions	1.5	1.5	
5.2.7.1	Errors of fitting	0, 0,	0 P	
.S.CERI	Hazards arising from misassembly of parts shall be eliminated by design.	SEE SEEE SEEE	Piri	
	If fasteners with special requirements are used,	011, 011,	N/A	
CERT	then interchangeable parts from other fasteners shall have the same quality.	ghi ghi	SERI	
5.2.7.2	Non-return device	Mis Mis	N/A	
	If after switching off the pump unit, risks of hazards		N/A	
	can occur through reverse flow in the pump, the manufacturer/supplier shall advise the necessity of a non-return device.	SER. ORIS CEER. ORIS CEER	Wis City	
5.2.7.3	Direction of rotation of the pump	A A A	N/A	
Cth	The direction of rotation of the pump shall be		N/A	
	indicated in a distinctive place with a suitable arrow in a permanent form.	Ohis Ohis	Olis	
5.2.7.4	Auxiliary piping	ER ER ER	N/A	
OVIS	Auxiliary piping necessary for the operation of the pump is to be set out in the information/instruction for use and/or arrangement drawing.		N/A	
OVIS-CE	Where functions of connections may be confused, leading to an unacceptable risk of hazard, connections shall be marked permanently on the	H Oligicia Oligica	N/A	
5.2.7.5	pump. Unexpected start-up	.5 .5	N/A	
5.2.7.5	When the hazard exists the requirements of prEN	0/1 0/1	N/A	
SERI	1037 shall be fulfilled. Requirements to avoid hazards through breakdown	A SERIO SERIO	N/A	
5.2.8	wrong installation of protection devices	Mis Mis	ON'13	
5.2.8.1	All types of guards	6 6 6	N/A	
ON'S CER	Removeable or openable guards shall be designed so that the reduction in risk will not be diminished by incorrect replacement.	Oligication Oligication	N/A	
5.2.8.2	Measuring instruments and measuring instrument connections	3ER .: 5-CER .: 5-CER	N/A	
94.	If for reasons of operating security of the pump or pump unit monitor and/or alarm devices are		N/A	
	necessary, the necessary connections for them shall be made available.	Jer 112 Cer 112 Cer	11.5.CE.	
5.2.8.3	Emergency stop	0, 0,	N/A	
CERT CONTRACTOR	If a dangerous situation arises which has to be	AN AND AND	N/A	
	stopped through manual intervention, then an emergency stop facility shall be provided conforming with the requirements of EN 418, or	OVISION OVISION	OVISION	
	instructions shall be provided for its provision.	ER CERT CERT	CERT	
11:15	If it can be shown that a normal cut-off device	11:55	N/A	
	functions as an emergency stop with the same	0, 0,	0,	

SEERY ONES SEER This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809	CiCi	C.i
Clause	Requirement + Test	Result-Remark	Verdic
116	Afficiency Maio is additionable and it shall be marked	15.01	1.6
0,	efficiency this is admissible and it shall be marked as such.	0, 0,	0,
5.2.8.4	Special tools	er er er	N/A
ON'S CERT	If special tools are required to install, set up, or start the pump, or during its maintenance, they shall be fully specified and offered for supply by anufacturer/supplier.	SERT ONES CERT OF SERT	N/A
5.2.8.5	Safety devices (by-pass, control valve, pressure relief valve)	Only Only	N/A
OVISCERY	Safety devices which are adjustable shall be adjustable only by the use of tools or shall be contained in enclosures which can only be opened by the use of tools.	SER OFFICER OFFICER	N/A
Nie Cliff	The manufacturer shall include warnings of the risks arising from adjusting such devices incorrectly.	Mis-Chi. Mis-Chi	N/A
6	Verification of the safety requirements and/or measures		P
6.1	General reference	ST SS	P
On. CERT	Compliance with the safety requirements set out in clause 5 shall be verified by the use of one or more of the methods set out in 6.2.	ERI CERI CERI	ON P
ONIS	The appropriate method for a particular safety requirement can be found in clause 4, Table 1 in the column headed "Verification".		Oli P
ovis-cli	Verification shall be carried out with the equipment assembled for normal use as intended. Accessories and covers may or may not be fitted as long as the effect is not to obscure the validity of the test.	SET ISCEPT NESCEPT	P
ON'S CERT	When dimensions, mass, or other factors make particular tests on complete equipment impractical, tests on sub-assemblies or components are permitted provided that it is verified that the result can be considered representative of the fully assembled equipment.	EKÍ OKISCEKÍ OKISCEKÍ	OT P
OVISIO	The verification in accordance with the safety requirements may be carried out in any sequence.	OVISIO OVISIO	OVICE
6.2	Specific methods of verification	á á á	Р
6.2.1	Verification shall be by appropriate physical examination and measurements of the pump or	onig cor.	P.
· S-CEPAT	pump unit, of the specification defining it, and of the labelling and documentation describing it.	eri seriri sereri	·Sich
6.2.2	Review of documentation	0/10 0/10	011. B
ovis-clar	The stated performance and features of the pump or pump unit shall be compared with those specified in the data sheet, standard, suppliers' data, or any other appropriate ource to demonstrate compliance.	SERT ONIS-CERT ONIS-CERT	P
6.2.3	Calculations Calculations used to establish compliance with a requirement shall be recorded by the manufacturer, be checked, and be retained for subsequent	CH. CEH. OHE CH	P

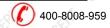
J.C.F.F. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify use of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809		
Clause	Requirement + Test	Result-Remark	Verdict
6,0		J. C.O. C.O.	6.00
01/10	examination.	Mis Mis	Ollin
6.2.4	Hydrostatic pressure test for pressure containing parts	er er er	P
ONIS	All pressure containing parts shall be hydrostatically pressure tested in accordance with prEN 12162.	Misich Misich	ON'SP
Wis-CERT	The test pressure shall be related by a factor to the maximum allowed working pressure set out in the specification.	EH NISCEH NISCEH	PH
	In no case shall the factor be less than 1,3.	A A A	P
6.2.5	Noise measurement		P
OAIS	The noise emission of the equipment shall be assessed by reference to measured values.	Olisi Olisi	ON'P
ON'S CLERY	These may be measured on the equipment concerned or from similar equipment operating under similar conditions.	EFF OUTS CEFFE OUTS CEFFE	PER
Wis-CERT	Noise emissions shall refer to the unit fully assembled with all auxiliary equipment, guards, and any noise control elements.	ERI MESCHI MESCHI	P
- EFF	The noise measurements shall be made in accordance with prEN 12639.		P
6.2.6	Guarding	,5,0	P
	Guards provided to prevent contact with surfaces or with moving parts shall be considered adequate if contact is not made when tested with the test fingers defined in EN 60529 with respect to penetration, rigidity, and impact.	ERÍ OVIS-CERÍ OVIS-CERÍ	ON P
6.2.7	Stability	PASS PASS PASS	P
ONISCH	The conformity can be demonstrated by test, or by calculation for equipment other than for portable units.		N. P
OVISCERT	If a test is to be undertaken, the fully assembled pump shall be mounted on its usual base or feet and with all ancillary equipment fitted. If the unit is wheel-mounted, the wheels shall be positioned in the worst orientation for the test.	cri ouis-coti ouis-coti	N/A
04.	The base shall be tilted to up to 10° and no loss of stability shall be acceptable.	61 61 61	N/A
04:5.Ct.	Care should be taken during the test to ensure that in the event of instability no damage can occur to people or to property.	St. Oligical Oligical	N/A
OVISCERI	If calculations are to be the basis of conformity checking, they shall be based upon the centres of gravity method and shall not show any likely instability up to displacements of 12,5°.	SERY ONES CERTY	P.E.P.I
6.2.8	Surface temperatures	St. Ch. Ch.	N/A
ONIS	Temperatures of touchable external surfaces are to be measured in accordance with the method defined in EN 563:1994.	01/2 01/2	N/A
		Ch. Ch. Ch.	600
7	Intermation for use		
7.1	Information for use General	115	P

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify use of any error or or mission caused by our realigence. Path at such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809		
Clause	Requirement + Test	Result-Remark	Verdi
.5.0	- C		
0,1,	set out in EN 292-2, clause 5.	011, 011,	0,11,
7.2	Instruction for use — instruction handbook		P
7.2.1	General		P
	The instruction for use/instruction handbook shall	Mig Mig	Ji's P
· ×	correspond to the rules set out in EN 292-2, 5.5.	X X X	
	The customer/purchaser shall receive the	EL EL EL	
	instruction handbook not later than when the pump or the pump unit is delivered by the manufacturer.	1:50	1.5
0,	An instruction handbook shall be included with the	0, 0,	P
	delivery.		S 5
7.2.2	Contents		· cP
01/10	The instruction handbook shall include safety	Office Office	ON P
	information on the following subjects as far as they	A A A	
	are relevant for the pump or pumping unit and any		· S
	auxiliary equipment supplied and if they are	1.5	1,15
	necessary for reducing the risks during use:	0. 0.	0,
-CRI	— general;		P
.5.0	— transport and intermediate storage;	3, 20, 20,	.cP
01/1	— description of the pump or pump unit;	0/10 0/10	01 P
<u> </u>	— installatioNssembly;	A A 6	P
Ch	— commissioning startup, operation, shutdown;	30, 100, 100	R
1,12	— maintenance and servicing;	Miz Miz	J'i'P
V	— faults; cause and remedies;	4 4	Р
- ER	— relevant documentation.		P
1.5	Additional information may be provided.	.50	, GP
7.2.2.1	General	0, 0,	O _M P
	Fields and limits of application or use, intended		P
C.C.C.	or permissible use, including any site conditions;	200 200	C.C.Y
Olis,	— details of the pump/pump unit:	0/12 0/12	Wi P
	a) details which relate the operating manual to	A A 2	P
Chr.	particular product;	Er. Er. Er	· <
1.5	b) manufacturer, importer or supplier;	1:5	P.SP
0,	c) designation, type, size;	0. 0.	ON P
	d) version no. and/or date of issue of instruction handbook;	est sest ses	P
1.5	e) noise emission.	'U 'U' 'U'	A P
01,	The sound pressure level of the pump or pump unit	01, 01,	N/A
	shall be shown as either 70 dBA, if this value is not	6. 6. 6.	
	exceeded or its actual value.	an the training	2,0
0/12	The peak C-weighted instantaneous sound	Oly Oly	N/A
	pressure level shall be quoted where it exceeds 63	A A 4	<
	Pa (130 dB in relation to 20 μPa).	the chi	C.
115	Where the continuous A-weighted sound pressure	1/2	Ni P
	level exceeds 85 dBA it shall be shown also as the	0. 0.	0.
CR1	sound power level.	83 (R) (R)	
	NOTE Should the situation arise, then noise	.5,0	P)
	reducing measures should be agreed between	01/12 01/12	01/12
	purchaser and manufacturer/supplier.		<u></u>
	f) utility requirements e.g. electrical supplies, water	to the	R
4.6	supplies;	115	4.5
0	— warnings against foreseeable misuse.	0. 0.	0 P
	The following signs are to be adopted into the	6 6 6	P.

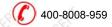
J.CERT OUTS-CERT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify use of any error or or mission caused by our realigence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809		
Clause	Requirement + Test	Result-Remark	Verdict
Olduse	Trequirement Test	Tresuit remark	Verdiot
116	instruction handbook.	18 18	116
0,	Safety instructions given in this manual	0, 0,	D
	non-compliance with which would affect safety are	(A) (A) (A)	
			CCC
11,2	identified by the following symbol:	412 412	11,2
0	where electrical safety is involved, with:		0 P
	Safety instructions which shall be considered for	eki eki eki	P
	reasons of safe operation of the pump or pump unit	.5.0	.5
	and/or protection of the pump or pump unit itself are	0/10 0/10	0/1/2
	marked by the sign: ATTENTION	A A A	
7.2.2.2	Transport and intermediate storage		P
.5	— Preservative measures:	, S' , S'	· SP
0,	a) durability of protection;	0, 0,	0 P
, Q.	b) any subsequent preservation;	(A) (A) (A)	P
CCC	c) removal of protection;	dr. "Cp. "Cp.	R
Nis	— protection against environmental influences.	1/12 1/12	JIP
7.2.2.3	Description of the pump or pump unit	0	Р
-CRI	— General description;	A3 (A3 (A3	P.P.
.6,0	— design and function;	.5,67	.P
0412	— design, function and use of safety protection	0/12 0/12	O P
	devices;	4 4 4	
CKY.	— additional descriptions for accessories;	100 CO. CO.	P
.19	— dimensions, mass, centres of gravity, capacities.	.,50	JI'P
7.2.2.4	Installationssembly	0, 0,	Р
1.2.2.4		A. A. A.	
	— Special assembly tools;		P
1.5	— initial installation;	4.5	, SP
0.	— data on installation site:	0. 0.	0" P
	a) space requirement for operation and	(A) (A) (A)	P
C.CV	maintenance;	0, 0, 0, 0,	C.C.
ONI S	b) inspection before start of installation;	0/10 0/10	Wi P
	c) details of base, foundation;	4 4 4	P
CER.	d) installation of pump assembly;		P
	e) alignment requirements including flexible	.5,0	.SP
0,	couplings;	0, 0,	01.
á	— assembly of driver and accessories;	d d d	P
CCC	correct installation of safety devices and control	as "Cos "Cos	R
Nis	systems;	Mis Mis	N.I.s
4	— electrical connection, connecting cables;	X	Р
C. R.	— grouting and other completion work;	ch ch ch	P
.5	— pipework:	.50	.cP
041	a) general;	011, 011,	ОПР
	b) allowable forces and moments on inlet and outlet	A A A	PÁ
	branches;	Oth Chy. Chy.	CELL
1.5	— tightening torques for screw threads.	1.5	11°P
7.2.2.5	Commissioning startup, operation, shutdown	0, 0,	Р
1.2.2.5	— Documentation:	a. a. a.	P
CE.	a) measuring point and piping diagrams (e.g.	gr, "cg, "cg,	P
	//- //- //- //- //- //- //- //- //- //-	Nig Nig	1,13
0	PI-diagram);	0, 0,	0
195	b) list of lubricants;	in in in	P
, CV	— making the product ready for operation:	QV	R
Mis	a) bearings;	Mis Mis	N'iP
	b) shaft seal;		P ,

J.C.F.F. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Partial such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 809		
Clause Requirement + Test		Result-Remark	Verd
.5.0	. 6,00	.5.0	.6
c) filling up/venting;	Office Office Office	01/10 01/10	ON P
d) electric connections;		A A A	P
e) check of direction of ro			P
— control and monitoringa) functional testing;	devices:	- A12 A12	P
b) setting values;			P
c) additional facilities (coo	oling, circulating, heating		N/A
etc.);	9,5		Ni2
d) motor protection (setting	g);	\ \ \ \ \ \ \ \	Р
e) emergency switch;	CELL CELL CO	CELL CELL	N/.
— safety devices:	415 High High	1,2	J.SP
a) mechanical (e.g. guard			N//
b) sound insulation (e.g. p		y, Ry, Ry,	N/.
c) splash protection (e.g.	412 412	45	1:15
d) relevant electrical regul	lations;	X X X	0 P
e) special devices;		r, chy chy	N/A
— commissioning:	1.5	1.5	, GP
a) initial commissioning;	0, 0, 0,	0, 0,	0 P
b) start after interruptions	to the operation;	E CERT CERT	P
c) pump-related requirement	ents to the plant;	1.5	, SP
d) activation/switching free	quency	0, 0,	Р
e) operation and start-up			P
f) special information (e.g.		115 115	N/
— shutdown:	0, 0, 0,	_ 0" 0"	P
a) switching off;		H CELL CELL	R
b) draining;	115' 115' 115'	1:5:0	JIS P
c) preservation;	0, 0, 0,	0, 0,	Р
(A) (A) (A)			R
d) storage;	150 150	1/5	N/
— other measures.	0, 0, 0,	0, 0,	0
7.2.2.6 Maintenance and servicin		E HE HE	P
Maintenance and inspection	110 110	1,5,0	P
a) consumable items inclu		0, 0,	0, b
b) monitoring during opera		e en en	Р
c) any preventive action to		115,0	P
parts subject to wear, lubr	0	0, 0,	0,,
— disassembly and re-as	sembly:		P
a) tools;			P
b) re-assembly procedure		0, 0,	0 ₂₁ , b
— tightening torques for s	screw threads.	in, in, in	Р
7.2.2.7 Faults; cause and remedie	es solvers	.5.0	P
— Faults:	01, 01, 01,	01, 01,	ON P
a) hydrodynamic;	CA CAS CAS	(A) (A) (A)	Р
b) mechanical;	- COV - COV - COV	.50	.c
c) electrical;	011 011 0110	041, 041,	011 P
— remedying of causes u	sing product-related check		Р

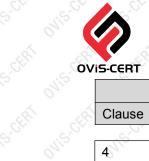
J.CEFFT ON'S CEFFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify use of any error or or mission caused by our realigence. Path at such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



	EN 809		
Clause	Requirement + Test	Result-Remark	Verdict
116	list.	1.5.0	115
7.2.2.8	Relevant documentation	0, 0,	P
(LE.Z.)	As agreed between manufacturer/supplier and	ATT CHE CHE	P
4:5:0	customer/purchaser.	115'0 H'S'	15
0			- D 6
8	Marking	Str. Str. Str.	P
01/12	The pump or pump unit shall carry the following minimum marking:	Ohis Ohis	OWIGP
		Worimex Iklimlendirme	P
	— name and address of the manufacturer/supplier;	Sistemleri Sanayi ve Ticaret A.s.	OVISION
CERT	— type, designation;	XR-PRO 32-80-180	P
1.15	— year of manufacture, serial number (if any);	1187	II.SP
~0 /a.	— for pump units with electric motor, information about the electrical data, e.g.:		P
.5.05.	a) voltage;	220-240 V	.cP
0112	b) frequency;	50 Hz	O P
CERT.	c) power rating.	245 W	P.
115	Additional details may be provided for the pump as,	1/5	ii.eP
0,	e. 0 0 0 0	0, 0,	0,,
C. C	— flow;	3.2 m ³ /h	P
J.15	head;	8 m . 5	W.E.P.
\ \	— speed of rotation.	4 4 4	N/A

BECEFFI OUTS CEFFI OUT Outs of the outs o Tions' st. schi ovischi This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify use of any error or or mission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





S-CERT	EN 60204-1		. C.(
Clause	Requirement + Test	Result-Remark	Verdict
.5,0	.66666.	500 .500	-5.0
4	GENERAL REQUIREMENTS		ON P
4.1	General		P
OVIS-CIL	Hazards relevant to the electrical equipment are assessed as part of the overall risk assessment of the machine.	Ser Misign Misign	ONIGE ST.
4.2	Selection of equipment	CERT CERT CERT	P
4.2.2	Electrical components/devices suitable for their intended use and applied in accordance with Supplier's instructions. Where possible electrical equipment in compliance with the IEC 60439 series.	SERÍ SEERÍ SEERÍ	P.E.
4.3	Electrical supply	0410 0410	O P
4.3.1	Electrical equipment to be designed for correct operation within the conditions of mains power supply - as stated below (cl. 4.3.2 or 4.3.3)	SEER OUISTELLER	P.C.F.
	or as stated by the user (record specs in this TR)	Ster, Ster, Ster,	P
Nis	or as stated by the supplier 1	Wis Wis	N'P
4.3.2	AC supplies		P.
ON'S SE	Supply Voltage: Steady state voltage: 0,9 1,1 of nominal voltage	of officer of the open	P
OV'S CEPT	Frequency: 0,99 1,01 of nominal frequency continuously; 0,98 1,02 short time. Harmonics: not exceeding 10 % of the total r.m.s.	SERT OFFICERY	P
	etc.		
.S.CV	Voltage unbalance: not exceeding 2% deviation.	S' S' S'	R
ON.	Voltage interruption: interrupted or at zero voltage for not more than 3 ms at any random time in the supply cycle with more than 1 s between successive interruptions.	,GV ,G,GV	ON P
ON.	Voltage dips not exceeding 20 % of the peak voltage of the supply for more than one cycle with more than 1 s between successive dips.		ON P
4.3.3	DC supplies		N/A
Nis CERT	Supply Voltage: - other:0,85 to 1,15 of nominal voltage; - battery-operated vehicles: 0,7 to 1,2 of nom. volt from converting equipment: 0,9 to 1,1 of nom.volt.	SERT WESTERN WESTERN	N/A
S.CEPT	Voltage interruption: - other: not exceeding 5 ms - converting equipment: not exceeding 20 ms	SER SERVE SERVE	N/A
	Ripple (peak-to-peak): not exceed. 0,15 of nom.	011, 01/12	N/A
4.3.4	Special supply systems; e.g. on board generators limits acc. 4.3.2 /.3 exceeded, but equipment designed acc. exceeded limits.	SERI WESTERN WESTER	N/A
4.4	Physical environment and operating conditions		Р
4.4.1	Electrical equipment suitable for the physical environment and operating conditions of its intended use.	Str. Onis-cep. Onis-cep.	P

S.CEFT OVIS-CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

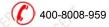




	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
4.4.2	Electromagnetic compatibility (EMC): Equipment shall not generate electromagnetic disturbances above levels that are appropriate for its intended operating environment and shall have a level of immunity to electromagnetic disturbances so that it can function in its intended environment (IEC 61000-6-1 or IEC 61000-6-2 and CISPR 61000-6-3 or IEC 61000-6-4 give general EMC	SERÍ OVIS-CERÍ OVIS-CERÍ	OVI P
	emission and immunity limits.) Are there sufficient measures to limit the generation of electromagnetic disturbances, i.e. conducted and radiated provided? (E.g. power supply filtering; cable shielding; enclosures designed to minimize RF radiation; RF suppression techniques; design of functional bonding system, using conductors with	SERÍ OVIS-CERÍ SERÍ OVIS-CERÍ SERÍ SECERÍ OVIS-CERÍ	ON'S CERT
4.4.3	low RF impedance and as short as practicable. Electrical equipment shall be capable of operating correctly in the intended ambient air temperature. (Minimum requirement: air temperatures of +5 °C and +40 °C)	SERT WESTERN WESTERN	P
4.4.4	Electrical equipment shall be capable of operating correctly when the relative humidity is up to 50 % at a maximum temperature of +40 °C	eri ereki ereki	P
4.4.5	Electrical equipment shall be capable of operating correctly at altitudes up to 1 000 m above mean sea level.	et et et	ON P
4.4.6	Electrical equipment shall be adequately protected against the ingress of solids and liquids (see 11.3)	Wist Wist	Nic. P
4.4.7	Electrical equipment shall withstand ionizing and non- ionizing radiation.	eki eki eki	N/A
4.4.8	Electrical equipment shall withstand vibration, shock and bump.	Wisis Wisis	N/A
4.5	Electrical equipment designed to withstand the effects of transportation and storage within a temperature range of - 25 to + 55 °C.	ghi isethi isethi	Poten
4.6	Heavy or bulky electrical equipment of the machine provided with suitable means for handling.	9, 9, 9,	O ^N P
4.7	Electrical equipment is installed and operated in accordance with the supplier's instruction.	5t' ,(5t' ,(5t'	Pili

Pili	
0, 0,	WiS-CEL
ES FOR	. S. CEP
ON P	0/1/2
ONIS CERT ONIS CERT	owis chi
P	C.CEP
N/A	Offis
ati	N/A It is drawn to the limitations of liability, ation that you provided. You have 30 days fro specifically address the issue you wish to and the correctness of the report contents.

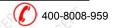
3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Partial such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
Clause	Requirement Flest	Tresuit-Iremark	Verdict
OVIS CERT	No connection between neutral conductor and protective bonding circuit nor combined PENterminals. Exception: a connection may be made between the neutral terminal and the PE terminal at the point of the connection of the power supply to the machine	CHÍ OVÍS CHÁÍ OVÍS CÍ	N/A
WiS GERI	for TN-C systems. All terminals of incoming supply clearly marked in ac. with cl. 16.1 (symbols acc. to EN 60445)	eri die eri	N/A
5.2	Terminal for connection to external protective earthing	g system	A P
ovi ^S -chi	For each incoming supply, a terminal shall be provided in the vicinity of the associated phase conductor terminals for connection of the machine to the external protective earthing system or to the external protective conductor, depending upon the	SERIS.CERIS.C	H WESTER
ovis-cepti	supply distribution system. Cross section of incoming PE conductor acc. to cl. 5.2, table 1. (Where an external protective conductor of a material other than copper is used, the terminal size shall be selected accordingly. See also 8.2.2).	SHI ONESCHEN ONESCH	P OVIS-CERT
Wis CERT	Protective earth identified either by graphic symbol, Letters "PE", or bicolour combination GREEN / YELLOW	EFF WESCHER WESCH	P. P
5.3	Supply disconnecting device	A A	A P
5.3.1	A supply disconnecting device shall be provided: - for each incoming source of supply to a machine - for each on-board power supply.	ovis cith ovis ch	Olisboth
5.3.2	Type of power supply disconnecting device:	STAN STAN S	<u> </u>
OVISIO	a) Switch-disconnector, acc. to EN 60947-3 for appliance category AC-23 B or DC-23 B	Olisio Olisio	oli P
CEERI	b) Disconnector with or without fuses, with aux. contact (acc. to EN 60947-3)	SERI LISERI	N/A
01/13	c) Power circuit breaker suitable for isolation (acc. to EN 60947-2)	01/10 01/10	ON'P
	d) any other switching device in accordance with an IEC product standard for that device and which meets the isolation requirements of IEC 60947-1as well as a utilization category	Sth. Ohis Cith. Ohis Ci	N/A
C.CERI	e) Plug/socket combination for electrical load (requirements see cl. 5.3.3)	this ofthis of	Per
5.3.3	Disconnection device has to fulfil all of the following re	equirements	_
.S.CERI	- isolate the electrical equipment from the supply and have only one OFF (isolated) and only one ON position marked with "O" and "I"	th is the	P. P.
ON' SCERT	- visible contact gap or a position indicator which cannot indicate OFF (isolated) until all contacts are actually open and the requirements for the isolating function have been satisfied	SERI MESCERI MESCE	P
o dei	- have an external operating means e.g.a handle (except power operated CB's)		P
WiS.C.	 coloured black or grey recommended (If used as an emergency stop, red/yellow combination elected) be provided with a means permitting it to be locked 	01.2.0	P

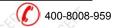
3.CEFT OVIS.CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

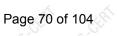




C/	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
,6		.6,0	, S
	remote as well as local closing shall be prevented	011, 011,	0,1
a Light	- disconnect all live conductors of its power supply		N/A
	circuit (For TN supply systems, the neutral conductor may	1.2.0	11:5:01
	or may not be disconnected except in countries	0, 0,	0,
	where disconnection of the neutral conductor (when used) is compulsory.)	eth eth et	r) cffr
Nisi	Requirements for plug/socket combination as a	Wis Wis	Ni P
	disconnection device: - Breaking capacity of the plug/socket combination:		4
	sufficient to interrupt the current of the largest motor	ofth, "Sepp. "Sep	CELL
	when stalled together with the sum of the normal	Ohis Ohis	Ohis
	running currents of all other motors and/or loads further see. cl. 13.4.5 a) to f)		
5.3.4	The operating means are easily accessible and		.eP
	located between 0,6 m and 1,9 m above the servicing level.	01/10 01/10	01/10
5.3.5	Only the following circuits need not be disconnected	ari ari	N/A
	by the supply disconnecting device: - lighting circuits for lighting needed during	1,5,0, 1,5,0	1.5.01
	maintenance or repair;	0, 0,	0,
	- plug and socket outlets for the exclusive		el elle
	connection of repair or maintenance tools and equipment;	Wisi Wisi	115
	- under voltage protection circuits that are only	4 4	X X
	provided for automatic tripping in the event of supply failure;	Carry Carry Car	y, Office,
	- circuits supplying equipment that should normally	Mis Mis	ON'S
	remain energized for correct operation - control circuits for interlocking		۵. ۵
	Such circuits are provided with their own	ofthe condition condition	S. Citi
01/12	disconnecting device. Circuits not disconnected by the supply	0/100 0/100	0///2
	Disconnecting device have:	ari ari a	N/A
	- permanent warning labels in accordance with	°°, °°, °°, °°	.5
0,,	cl.16.1 - a statement is included in the maintenance manual	0, 0,	N/A
C. P.	- additionally one or more of the following is applied;		K) (8)
	- a permanent warning label in accordance with	Wi5" Wi5"	N/A
	16.1 is affixed in proximity to each excepted circuit, or		4
	- the circuit is separated from other circuits, or	ofth. "Seft, "Sef	C. Cith.
	- the conductors are identified by colour taking	Ohis Ohis	Ollip
5.4	into account the recommendation of Cl.13.2.4.	Link A	
	Disconnecting devices to prevent of unexpected start - Devices for the prevention of unexpected start-up	Eah. Co	· CD
	are provided	01/12	ON P
	These devices are appropriate and convenient for the intended use, are suitably placed, and readily	eri seri se	A LEAS
	identifiable as to their function and purpose (for	1.5.0	1.5.01
	example by a durable marking in accordance with cl.	0, 0,	0,1
CER	16.1).- Means are provided to prevent inadvertent and/or		P
	mistaken closure of these devices either at the	Wist Wist	Nis.
٥	controller or from other locations	0 0.	V

s-CEFT OVIS-CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of fissuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.







is-cert	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
.5.0		.5.0	.5
	 Devices that do not fulfil the isolation function (e.g. a contactor switched off by a control circuit) are only used for situations that include: inspections; adjustments; no hazardous work on the electrical equipment 	EH ON OUR OUR CHE	N/A
	(for example replacement of plug-in devices without disturbing existing wiring)		1.5.0ET
5.5	Devices for disconnecting electrical equipment	03, 03,	
OVIS-CERT	- Requirements to devices for disconnecting electrical equipment to enable work to be carried out when it is de-energised and isolated: - appropriate and convenient for the intended use; - suitably placed; - readily identifiable as to which part or circuit of the equipment is served (for example by durable marking in accordance with 16.1 where necessary).	SERT ON'S CERT ON'S CERT	Р
OVIS-CERT	- Additional means are provided to prevent of inadvertent and/or mistaken closure of these devices either at the controller or from other locations		
	- Where it is necessary to work on individual parts of the electrical equipment of a machine, or on one of a number of machines fed by a common conductor bar, conductor wire or inductive power supply system, a disconnecting device is provided for each part, or for each machine, requiring separate isolation.	CERT OUIS-CERT OUIS-CERT	N/A
	In addition to the mentioned supply disconnecting device, the following devices that fulfil the isolation function may be provided for this purpose: - devices described in 5.3.2; - disconnectors, withdrawable fuse links and withdrawable links only if located in an electrical operating area (see 3.15) and relevant information is provided with the electrical equipment (see 17.2 b)9)	EH OVESEH OVESEH	
5.6	and b)12)). Protection against unauthorized, inadvertent and/or n	niotakan aannaatian	
OViSCERT	For devices acc. to cl. 5.4(disconnecting electrical equipment) and 5.5 (prevention of unexpected start-up) locking means in OFF position are provided and no remote reconnection is possible.	INSTANCE I CONTROLLON	P
OVIS-CERT	Where a non-lockable disconnecting device is provided (for example withdrawable fuse-links, withdrawable links), other means of protection against unintended energising are used.	EFF OUTS CEFF	N/A
OVIS-CERT	Where plug/socket combinations according to 5.3.2 e) are used for the purpose of prevention of unexpected start-up the are so positioned that they can be kept under the immediate supervision of the person carrying out the work.		Р
Sich		30 200	Sich
6	PROTECTION AGAINST ELECTRIC SHOCK	01/10 01/10	01/10

6	PROTECTION AGAINST ELECTRIC SHOCK	12 01/2	01/13	01/12
6.2.2	Protection against direct contact	A	A A	_

s CEFF This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





EN 60204-1						
Clause	Requirement + Test	Result-Remark	Verdict			
.5	.50 .50 .50 .50 .50	.55.	-5.0			
	Live parts that are located inside enclosures have to	One One	ON P			
	bee conform to the relevant requirements of Clauses 4, 11, and 14 and have to have a protection	á á	à. à.			
	against direct contact of at least IP2X or IPXXB.	Con Con S	262.			
Nie	Where the top surfaces of the enclosure are readily	Mis Mis	OII P			
	accessible, the minimum degree of protection	A A	4			
	against direct contact provided by the top surfaces	Chr. Chr.	Ele.			
0,00	shall be IP4X or IPXXD. Opening an enclosure (i.e. opening doors, lids,	18 18	3.5			
6.2.2.a	covers, and the like) is possible only when:	0. 0.	0" P			
	service, and the line) is peculial entry when		(A).			
	a) Either the use of a key or tool is necessary for	,5,0	,5			
	access and:	0, 0,,	0,			
	- all live parts, that are likely to be touched when resetting or adjusting devices intended for such	eri eri	193 193			
	operations while the equipment is still connected are		3			
	protected against direct contact to at least IP2X or	0/10 0/10	01/10			
	IPXXB	á á	à à.			
	- live parts on the inside of doors are protected against direct contact to at least IP1X or IPXXA.	Cer Cer S	Ser. Ser.			
6.2.2 b	b) Or the opening of an enclosure (i.e. opening	Aig Aig	Oli P			
J.Z.Z J	doors, lids, covers, and the like) is possible only	A A	\ \ \			
	if disconnection is provided for all live parts inside	EL. CEL.	EL.			
	the enclosure before it can be opened.	1,5	1.6			
	Exception: If a special device or tool (intended for	4	4			
	use only by skilled or instructed persons) as	effi effi	eff) eff)			
	prescribed by the supplier is provided that can be	.5.	.5			
	used to defeat the interlock and that intends that:	0, 0,	0,,			
	—it is possible at all times while the interlock is defeated to open the disconnecting device	CRI CRI	igi igi			
	and lock the disconnecting device in the OFF	.5.0	5			
	position or otherwise prevent unauthorised	01, 01,	01/			
	closure of the disconnecting device;	á á	à. à.			
	-upon closing the door, the interlock is	an Fight Ti	St. City			
	automatically restored —all live parts, that are likely to be touched when	Ohis Ohis	ONLY			
	resetting or adjusting devices intended for such	á á	à à.			
	operations while the equipment is still connected	Chi. "Chi. "	Str. Cer.			
	are protected against direct contact to at least	Mis Mis	die			
	IP2X or IPXXB	A A	X X			
	 live parts on the inside of doors shall be protected against direct contact to at least IP1X or IPXXA 	SER, SER,	Ely, Cely,			
	relevant information is provided with the electrical	Wis Wis	Wis.			
	equipment like instructions on the procedures for	0. 0.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
	securing the machine for safe maintenance and	ERI CERI	ER CERT			
	information on the residual risks.	1,5	11.5			
	—means are provided to restrict access to live parts behind doors not directly interlocked with the	0, 0,	0,,			
	disconnecting means to skilled or instructed	CRI CRI	(A) (A)			
	persons.	.5,0	.S.CV			
	-parts still alive after switching off are protected at	01/10 01/10	01/12			
	least IP 2X or IP XXB and marked with a warning		(A) (A)			
		Ch. Chr.	St. CEL.			
	sign in accordance with 16.2.1	11,12 11,13	dis			

3.CEFFT ON'S CEFFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Partial such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





EN 60204-1					
Clause	Requirement + Test	Result-Remark	Verdict		
Ciddoo	Tredamental Floor	Troodic Fromanc	Vordiot		
ONIS	 parts that can be live only because of connection to interlocking circuits and that are distinguished by colour as potentially live in 	AT AT OUTS			
	accordance with 13.2.4 —the supply terminals of the supply disconnecting device when the latter is mounted alone in a	Cr. Mizicr. Mizicr	Olisiot.		
CERT	separate enclosure.	Chy Chy	E SERI		
6.2.2 c	c) Or the opening without the use of a key or a tool and without disconnection of live parts shall be possible only when all live parts are protected against direct contact to at least IP2X or IPXXB. Where barriers provide this protection, either they shall require a tool for their removal or all live parts	CERT ONES CERT ONES CERT	Nis-CERT		
	protected by them shall be automatically disconnected when the barrier is removed.	EFF CEFF	ri celer		
6.2.3	Protection by insulation of live parts:	115	_		
OVIS-CERT	Live parts are completely covered with insulation that can only be removed by destruction and that is capable of withstanding the mechanical, chemical, electrical, and thermal stresses to which it can be	SERI OVISICERIO OVISICE	P		
c.cERT	subjected under normal operating conditions. Paint, varnish lacquer etc. not used as the unique insulation layer.		P. P.		
6.2.4	Protection against residual voltages		_		
OVIS-CERT	Live parts with residual voltage greater than 60 V after a time period of 5 s after disconnection of the supply shall be discharged until this interferes with the proper functioning of the equipment. Except are components with charges of \leq 60 μ C (\rightarrow equivalent to capacitor with less then 1 μ F @ 60V).	ceri ovis-ceri ovis-cer ceri	P CHE		
onis-cliffi onis-cliffi	Where pins of plugs or similar devices after withdrawal are exposed, discharge time is ≤ 1s. Otherwise such conductors are protected against direct contact to at least IP2X or IPXXB. If above requirements cannot be achieved, additional disconnecting devices or appropriate warning devices shall be applied (e.g. warning acc. cl. 16.1).	GERT WESTERN WESTER	O P		
6.2.5	For protection by barriers, 412.2 of IEC 60364-4-41 is applied		N/A		
6.2.6	For protection by placing out of reach, 412.4 of IEC 60364-4-41 shall apply. For protection by obstacles, 412.3 of IEC 60364-4-41 is applied.	or orisite orisite	N/A		
6.3	Protection against indirect contact	CHA CHAI	E LEE		
6.3.2	Prevention of the occurrence of a touch voltage	1.67	_		
6.3.2.2	Protection by provision of: - class II electrical devices or apparatus (double insulation, reinforced insulation or by equivalent insulation in accordance with IEC 61140) or - switchgear and control gear assemblies having	OF OF OF	O" P		
	total insulation in accordance with IEC 60439-1or - supplementary or reinforced insulation in accordance with 413.2 of IEC 60364-4-41.	GERT LISTERY LISTERY	KIS.CERI		
3.3.2.3	Protection by electrical separation. For this type of protection, the requirements of 413.5	04, 04,	N/A		

3.GERT OVES.GERTL This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, Partial such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

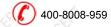




	%	ON'S CE	OViS.CK	ON'S Ch.	OVISICE	ON'S CE	OV'S.CL	ONIS,CL.	OVISICIE	OViS-CK.	
V	is-cert				Page 73	of 104		Report No	.:OViS202	405009M-	R
					EN 6	0204-1					
1	Clause	Require	ement + T	est			R	Result-Rem	ark	Verdict	

	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
2,01		0, 00, 00	2.00
11,2	of IEC 60364-4-41 apply.	1112 1112	dis
6.3.3	Protection by automatic disconnection of supply.	4 4	4 4
6.3.3 a)	Use of overcurrent protective device for automatic		NIA
0.3.3 a)	cut-off in the event of an insulation failure in a TN-System.	Or Orision Orision	N/A
	Where disconnection within the time specified in Clause A.1 cannot be assured, supplementary bonding is provided as necessary to meet the	CERT WESCERT WESCE	ri Nis-Chi
6.3.3 b)	requirements of Clause A.3. Use of residual current protective devices (RCD) for	X X	Δ NI/A Δ
3.3.3 D)	automatic cut-off in the event of an insulation failure in a TN - or TT -System.	SERT WESTERN WESTER	N/A
6.3.3 c)	Use of earth fault detection device to initiate automatic disconnection in a IT-System.		N/A
6.4	Protection by the use of PELV		P
6.4.1 a)	PELV circuits shall satisfy all of the following conditions:	0112 0113	011
	 -the nominal voltage does not exceed: • 25 V a.c. r.m.s. or 60 V ripple-free d.c. when the equipment is normally used in dry locations and 	CERT WIS CERT WIS CE	it.
	when large area contact of live parts with the human body is not expected; or		in the
JViSiCV	• 6 V a.c. r.m.s. or 15 V ripple-free d.c. in all other cases;	Or Orision Orision	01/15/01
6.4.1 b)	one side of the circuit or one point of the source of the supply of that circuit is connected to the protective bonding circuit;	SERT SCHALL SCH	P CUR
6.4.1 c)	live parts of PELV circuits is electrically separated from other live circuits	91 91	0) P
6.4.1 d)	Conductors of each PELV circuit are physically separated from those of any other circuit. If this requirement is impracticable, the insulation provisions of 13.1.3 are fulfilled;	CER OHS CER OHS CR	r Rich
6.4.1 e)	plugs and socket-outlets for a PELV circuit are conform to the following: 1) plugs do not to enter socket-outlets of other	SER, ORIS CER, ORIS CE	Pith
	voltage systems; 2) socket-outlets do not admit plugs of other voltage systems.	eth is eth	A CER
6.4.2	Sources for PELV	041 0413	
·S.CERT	The source for PELV shall be one of the following: - safety isolating transformer in accordance with IEC	CERT SCIENT SCIENT	P
	61558-1 and IEC 61558-2-6 or - a source of current with a degree of safety equivalent to that of the safety isolating transformer or - an source independent of circuit with higher	SERÍ CERÍ	A OWY
ONIS	voltage - electronic power supply conforming to appropriate standards	Wis Oils	ai ai
6.1	Other measures from IEC 60364-4-41 are used. (Description!)	G. 5.00 5.00	N/A

on one	ONLY	voltage - electronic power supply conforming to appropriate	ř
LP.	(4)	standards	<
Sich Misic	6.1	Other measures from IEC 60364-4-41 are used. (Description!)	o'C
4	<u></u>		
CER S	F 7.	PROTECTION OF EQUIPMENT	Š
is onis	7.2.	Overcurrent protection Unless otherwise specified by the user, the supplier of the electrical	0
CERT C	The state of the s	equipment is not responsible for providing the overcurrent protective device	~
Silv Wisi	indemnification and juriso date of issuance of this to	d by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, dictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from est report to notify us of any error or ormission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to ich issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.	0
e left	欧非亚美检测技术(浙江 OViS Testing Technology		<
9 .9			0





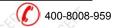
Page 74 of 104 Report No.:OViS20240	
	5009M-F
EN 60204-1	
Clause Requirement + Test Result-Remark	/erdict

- 6			
7/1	01/1	for the supply conductors to the electrical equipment (see Annex B).	01/1
<	7.2.2.	On the installation diagram data necessary for	Р
(P)		selecting the overcurrent protective device are	
C.CV		stated for each incoming feeder. (see 7.2.10 and	6
1,13		17.4)	Nils
S .	7.2.3	Power circuits:	_
CEP.	C.E.	Devices for detection and interruption of overcurrent,	В
.5		selected in accordance with 7.2.10, are applied to	.5
21,		each live conductor.	011
		And, none of the following conductors, as applicable,	
all Par		is disconnected without disconnecting all associated	
. C. O.		live conductors:	. 5
1112			1112
		- the neutral conductor of a.c. power circuits;	
(8)		- the earthed conductor of d.c. power circuits;	
C,CV		 d.c. power conductors bonded to exposed 	
1,1,2	Ni2	conductive parts of mobile machines.	1,12
)		Cross section area of neutral conductor is at least	P
1		equal to the phase conductor. No overcurrent	
Chi		protective/ disconnecting device is required.	(
1,5			11,5
200		(For a neutral conductor with a cross sectional	0,
6		area smaller than that of the associated phase	
CEL		conductors, the measures detailed in	
.5		524 of IEC 60364-5-52 shall apply.)	5
27.		IT-Systems:, no neutral conductor is used.	0 N/
		Or, when it is used, the measures detailed in 431.2.2	
- (P)		of IEC 60364-4-43 are applied.	1
.5	7.2.4	Control circuits	_
110	011		0
		Conductors of control circuits directly connected to	
-(P)		the supply voltage and of circuits supplying control	
. C. O'		circuit transformers are protected against	
110	Mis.	overcurrent in accordance with 7.2.3.	1110
		Conductors of control circuits supplied by a control circuit transformer or d.c.	_
all P		supply: see 9.4.3.1	
.5	7.2.5	Socket outlets and their associated conductors	_
1		Overcurrent protection is provided for the circuits	01/F
		feeding the general purpose socket.	
CEL	7.2.6	Lighting circuits	_
.5	11,5	Lighting circuits are protected separate from other	N/
	0,	circuits.	0,
28	7.2.7	Transformers	_
C.CV	6,6	Transformers are protected in accordance with the	.N/
110		manufacturer's instructions and includes:	Miles
		- avoiding tripping due to transformer magnetizing	0
(8)		inrush currents	
CA		- avoiding a winding temperature rise in excess of	~ /
1.12		the permitted value for the insulation class when	1.12
			0
. 5		there is a short circuit at the secondary terminals.	
CEL		- type and setting of the overcurrent protective	(
(5)		device in accordance with the recommendations of	5
7.	011.	the transformer supplier.	011.
á	7.2.8	Location of overcurrent protective devices:	_
CK		- located at the point where a reduction in the cross	N/
1.12		sectional area of the conductors or another change	11,15
		reduces the current-carrying capacity of the	0,
_ <		conductors.	
0.7			





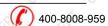
	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
۵,0		C. C. C.	C./U*
0/1/2	Exceptions:	Only Only	N/A
	- current carrying capacity of the conductors is at	A A	A A
	least equal to that of the load and	Eth. CELL. C	St. City
	- conductors between the point of reduction of current-carrying capacity and the position of the	1,15	11,5
	overcurrent protective device is ≤ 3 m and	9. 0.	4 0
	- the conductor is protected e.g. by an enclosure or	ERY CERY C	EL CER
700	duct.	,5,5,	.5
7.2.9	Selection of overcurrent protective devices	0, 0,	
	The rated short-circuit breaking capacity Icn is at least equal to the prospective fault current at the	eri erri	N/A
	point of installation.	.5.	·.S.
	Additional currents other than from the supply (e.g.	0, 0,	011,
	from motors, from power factor correction	(A) (A)	A A
· o'C.	capacitors) shall be taken into consideration.	SV	, S.C.C.
	Reduced breaking capacity is permitted, where another protective device is installed at supply side	01/12 01/13	N/A
	with the necessary breaking capacity.	. d . d	d d
	(In that case, the characteristics of the two devices	der der d	Section 1
	shall be co-ordinated so that the let-through energy	Wis Wis	Nis
	(I ² t) of the two devices in series does not exceed that which can be withstood without damage to the	A A	A A
	overcurrent protective device on the load side and to	eth, eth, e	St. Other
	the conductors protected by that device. See Annex	415	1.5
0.	A of IEC 60947-2).	0, 0,	4 0
	Where fuses are provided as overcurrent protective devices, a type readily available in the country of use	eth eth	N/A
	shall be selected, or arrangements shall be made for	,5,0	
0,	the supply of spare parts.	0, 0,	0
7.2.10	Rating and setting of overcurrent protective devices:		<u> </u>
,5	Rated current of fuses or overcurrent setting of other	,5,0	N/A
	protective devices selected as low as possible, but	0, 0,	011.
18	adequate for anticipated overcurrents. The rated current of overcurrent protective device is		S NIAS
	determined by the current carrying capacity of the	ar car ca	N/A
	conductors to be protected in accordance with	Office Office	01/12
	Cl. 12.4, D.2 and the maximum allowable	A A	á á
	interrupting time t in accordance with Clause D.3, taking into account the needs of coordination with	de l'april de	CELL
	other electrical devices in the protected circuit.	Mis Mis	Olis
7.3	Protection of motors against overheating	A A	A PA
7.3.1	Overload protection for all motors provided for	de cer	P
Nie	ratings of > 0.5 kW in continuous operation.	Mis Mis	Ni2
	Protective device may be omitted for motors, which	A A	P
C.R.	cannot be overloaded. Exceptions:	(A) (A)	NI/A
	In applications where an automatic interruption of	J.15" J.15"	N/A
	the motor operation is unacceptable (for example fire	0. 0.	0.
	pumps), the means of detection shall give a warning	agi aggi a	ER) LERI
7 3 2	signal to which the operator can respond.	,5,5,0,5	1:52
7.3.2	Protection achieved by overload protection device: — detection in each live conductor	0, 0,	ON P
	switching off of all live conductors (not)		A A
	necessary to switch of neutral conductor)		C. CK
01/13	For special duty motors, appropriate protective	oli oli	N/A





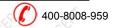
	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
C.O*		C. C. C.	6,00
7.3.3	Protection achieved by over-temperature protection device: Is recommended in situations where the cooling can be impaired (for example dusty environments)	GEFT SCEFT SCE	N P
7.3.4	Protection achieved by current limiting protection: Where protection against the effects of overheating in three phase motors is achieved by current limitation, the number of current limitation devices may be reduced from 3 to 2.	CERT ONESCERT ONESCE	N/A
7.4	Abnormal temperature protection: Resistance heating or other circuits that are capable of attaining or causing abnormal temperatures and can cause a hazardous situation are provided with suitable detection to initiate an appropriate control response.	CERT OVIS-CERT OVIS-CE	FI P
7.5	Protection against supply interruption or voltage reduction and subsequent restoration: Where a supply interruption or a voltage reduction can cause a hazardous situation, damage to the machine, or to the work in progress, undervoltage protection is provided.	CERT ON'S CERT ON'S CE	N/A
N'S CEN	Upon restoration of supply voltage, automatic or unexpected restarting of machine prevented.	CET WESTERN WESTER	N/A
O. CERI	Undervoltage protection does initiate appropriate control responses to ensure necessary coordination of groups of machines working together		N/A
7.6	Motor overspeed protection: Overspeed protection is provided where overspeeding can occur and could possibly cause a hazardous situation.	SERÍ SERÍ OVIS	N/A
7.8	Phase sequence protection: Where an incorrect phase sequence of the supply voltage can cause a hazardous situation or damage to the machine, protection shall be provided.	OHS OHS	N/A
7.9	Protection against overvoltage due to lightning and to switching surges: - Devices are connected to the incoming terminals of the supply disconnecting device.	CHÍ CHÍ CH	N/A

7.9	to switching surges:		N/A	Onis	
S.CEPA	- Devices are connected to the incoming terminals of the supply disconnecting device.	eri ceri	C.C.E.R.	CERN	
Ni2	Mis Mis Mis Mis Mis Mis	Mis Mis	Mis	- Niz	
8	EQUIPOTENTIAL BONDING		P	~	
8.2	Protective bonding circuit	th other other	R	CEL	
8.2.1	Where the conductance of structural parts of the electrical equipment or of the machine is less than	Only Only	Oli P	Ohio	
Wis Chi	that of the smallest protective conductor connected to the exposed conductive parts, a supplementary bonding conductor is provided.	iki wis-ciki wis-ciki	WiS CERT	WiS CERI	
C.SERÍ	In IT distribution systems, the machine structure is part of the protective bonding circuit and insulation monitoring is provided.		P	C.CERÍ	
01/13	Exposed conductive parts of equipment in accordance with 6.3.2.3 (Protection by electrical	01/13 01/13	ON P	01/13	
CERT	separation) are not connected to the protective bonding circuit.		C. SERI	S.CERÍ	
Ohis	(For this type of protection, the requirements of 413.5 of IEC 60364-4-41 apply.)		ONIS	ONIS	





5-CERT	EN 60204-1	<u> </u>	
Claves		Decult Demont	Vordiat
Clause	Requirement + Test	Result-Remark	Verdict
8.2.2	Danta sti sali sa di sati sa	16 16	.5
0.2.2	Protective conductors	0, 0,	
- (8)	Protective conductors shall be identified in accordance	e with 13.2.2.	P
.5	Copper conductors are preferred.	.5' .5'	, cPo
	Where other material is used, its electrical resistance per unit length shall not exceed that of the allowable copper conductor and such conductors shall be not less than 16 mm² in cross-sectional area.	Copper conductors	OW P
ON CERT	The cross-sectional area of protective conductors shall be determined in accordance with the requirements of: -543 of IEC 60364-5-54; or -7.4.3.1.7 of IEC 60439-1, as appropriate. This requirement is met in most cases if it is in accordance with Table 1 of this standard (see 5.2).	SHÍ OHS-CHÍ OHS-CHÍ	N/A
3.2.3	Continuity of the protective bonding circuit	1.5	11:5
O. CERT	All exposed conductive parts are connected to the protective bonding circuit in accordance with 8.2.1.	eti eti eti	P
ovis-ceri	Parts that are mounted so that they do not constitute a hazard because cannot be touched on large surfaces or grasped with the hand and they are small in size (less than approximately 50 mm × 50 mm) or they are located so that either contact with live parts, or an insulation failure is unlikely need not be connected to the protective bonding circuit	SERT OVISCERT OVISCERT	OVIS-CERT
N.E. CEL	Where a part is removed the protective bonding circuit for the remaining parts isn't interrupted.	SET CETT OF SET	P
SUIS-CERT	Current-carrying capacity of connection and bonding points cannot impaired by mechanical, chemical, or electrochemical influences (e.g. electrolytic corrosion on aluminium parts) Metal ducts of flexible or rigid construction and metallic cable sheaths are not used as protective	ERT ONES CERT ONES CERT	P
Nis Cith	conductors. Nevertheless they are connected to the protective bonding circuit. Where the electrical equipment is mounted on lids,	Sth. Original Original	ON'S CELY
	doors, or cover plates, continuity of the protective bonding circuit shall be ensured. The use of a protective conductor (see 8.2.2) is recommended.	ERÍ OVIS-CERÍ OVIS-CERÍ	ON'S CERT
OViS-CERÍ	For cables that are exposed to damage (for example flexible trailing cables) the continuity of the protective conductors are ensured by appropriate measures (for example monitoring).	SERT ONIS-CERT ONIS-CERT	P.E.F.
8.2.4	No means of interruption of the protective bonding conductor are provided.	ER S.CER	Pili
ON.	Exception: links for test or measurement purposes that cannot be opened without the use of a tool and that are located in an enclosed electrical operating area.	ELL MECELL	ON'
o. cthi	As well the protective bonding circuit does not incorporate a switching device or an over current protective device (for example switch, fuse).	eti ceti ceti	O" P
Jilis I	Removable current collectors, plug/socket combinations or withdrawable plug-in units: The protective bonding circuit is interrupted by a first	Ones Ones	Ñ/A





EN 60204-1	VIS-CERT Page 78 of 104 Report No.:OVIS202405009M-R	Page 78 of 104 Report No.:OViS202405009M-F	•										
------------	---	--	---	--	--	--	--	--	--	--	--	--	--

	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
5		9.00	-5
01/12	make last break contact. (see also 13.4.5)	0/12 0/12	01/10
8.2.6	Protective conductor connecting points: have no other function and are not intended to attach or connect appliances or parts.	stri stri	P
OWISCERT	Each protective conductor connecting point is marked or labelled as such using the symbol IEC 60417-5019 or the letters PE or by use of bicolour GREEN / YELLOW	SERÍ OVIS-CERÍ OVIS-CERÍ	OWP Wiscourt
8.2.7	Mobile machines with on-board power supplies: The protective bonding system is connected to a single protective bonding terminal. This protective bonding terminal is the connection point for a possible additional external incoming power supply.	geri ovis-ceri	N/A
8.2.8	Electrical equipment having earth leakage currents higher than 10 mA a.c. or d.c.:	SER NISCER NISCER	N/A
	Additional protective bonding requirements: - Cross section of protective conductor ≥ 10 mm ² CU or 16 mm 2 AL - OR Second protective conductor of at least the same cross sectional area if above cross section is impracticable - OR monitoring of continuity of protective conductor	geri geri geri	S Ouis-othi
Olis	with automatic disconnection function.	alis alis	Ohio
	Additionally a warning label is provided adjacent to the PE terminal.	A A A	N/A

	die	with automatic disconnection function.		1,12
. EPS		Additionally a warning label is provided adjacent to the PE terminal.		N/A
	9	CONTROL CIRCUITS AND CONTROL FUNCTIONS	04, 04,	011.
Q.	9.1.	Control circuit	iki iki iki	P
×	9.1.1	Control circuit supply: Control transformers mandatory only when more then one motor starter or two control devices are used.	er eri	N/A
	OVISIO	Control transformers with separate windings are used for supplying the control circuits.	Nisio Nisio	N/A
	CERT	Where several transformers are used, the secondary voltages are in phase.		N/A
	OVISIT	Separate windings on transformer for DC supplies connected to PE.	ONIS'S ONIS'S	N/A
3	CEPÉN	Switch-mode units fitted with transformers in accordance with IEC 61558-2-17	EFF SEFF	N/A
	9.1.2	The nominal voltage of control supply does not exceed 277 V when supplied from a transformer.	ovis ovis	N/A
1	9.1.3	Control circuits are provided with overcurrent protection in accordance with 7.2.4 and 7.2.10.	iki chi chi	Peri
	9.2	Control functions		N/A
S.	195	Safety related control functions in accordance with ISC ISO 13849-2 (2003) and /or IEC 62061 (see 9.4.1)) 13849-1 (2006),	
	9.2.1	Start functions operating by energizing the relevant circuit (see 9.2.5.2).	Nie Co	Mis.Cr
4	9.2.3	Operating modes	A A A	_
	OViS-CEEN	Suitable means are prevented for unauthorized or inadvertent mode selection if hazardous situations can result.	ET OVES CETT	Pili
_<		Mode selection by itself does not initiate machine	6 6 6	P.á





	EN 60204-1				
Clause	Requirement + Test	Result-Remark	Verdict		
.5	.5' .5' .5' .5' .5'	.50	-5		
	operation. A separate actuation of the start control has to be stated by the operator.	ONLY ONLY	07/1		
- 18	Indication of the selected operating mode is provided	chi chi	PUR		
	(e.g. the position of a mode selector, the provision of	D			
9.2.4	an indicating light, a visual display indication). Where it is necessary to suspend safety functions	01, 01,	011,		
9.2.4	and/or protective measures (for example for setting		N/A		
	or maintenance purposes), protection is ensured.	0° , 5° , 5°			
9.2.5	Operation	0, 0,	_		
	Prevention of movement of the machine in an		N/A		
	unintended or unexpected manner is taken after any stopping of the machine. (e.g. due to locked-off	1;5,0	1.5		
	condition, power supply fault, battery replacement,	0, 0,	0,		
C.E.	lost signal condition with cableless control) When a machine has more than one control station,	E EE EE	NICA CO		
	measures are provided to ensure that initiation of	Visio Visio	N/A		
	commands from different control stations do not lead	4	4 0.		
0.2.5.2	to a hazardous situation. Start of an operation is possible only when all of the	the children	N/A		
1,15	relevant safety functions and/or protective measures	Wisi Wisi	IN/A		
2	are in place and are operational.		· · · · · ·		
	Where safety functions and/or protective measures cannot be applied for certain operations, manual	tik, city, ci	N/A		
	control of such operations are by hold-to-run	Wis Wis	1.15		
	controls, together with enabling devices, as appropriate.		<u> </u>		
CO.	In the case of machines requiring the use of more		N/A		
	than one control station to initiate a start, each of	Ohis Ohis	Olis		
	these control stations shall have a separate manually actuated start control device.	á á .	á á		
	The conditions to initiate a start are:	Str. Sight Sigh	C.C.C.		
	- all required conditions for machine operation are	Ohis Ohis	Olis		
	met - and all start control devices are in the released (off)				
	position	Jr	.5,00		
	- then all start control devices have to be actuated concurrently (see 3.6).	ONL ONL	01/10		
0.2.5.3	Stop category 0 and/or stop category 1 and/or stop	and and a	P. P.		
	category 2 stop functions are provided as indicated	1.5° 1.5°	1.5		
	by the risk assessment and the functional requirements of the machine (see 4.1).	0, 0,	0,		
CERT	Stop functions override related start functions	ER CERT CE	P.C		
1:5	Facilities to connect protective devices and	1150	Ý		
	interlocks are provided, where required. If such a protective device or interlock causes a stop of the	0. 0.	Y 0,		
	machine, it may be necessary for that condition to be	EER, CEER, CE	R. CER		
	signalled to the logic of the control system.	Wis Wis	Wis.		
	The reset of the stop function does not initiate any hazardous situation.	4	X X		
CERN	Where more than one control station is provided,	SEL CELL CE	N/A		
	stop commands from any control station is effective	Wis Wis	N.E.		
	when required by the risk assessment of the machine.	A A	5 5		
0.2.5.4	Emergency operations (emergency stop, emergency	switching off)			
11/2	Emergency stop or emergency switching off commands are sustained until it is reset.	Mis Mis	ON P		



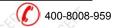


EN 60204-1					
Clause	Requirement + Test	Result-Remark	Verdict		
, S'O'		(6)	,6,0		
0,,	This reset is possible only by a manual action at that location where the command has been initiated.	01, 01,	0)\P		
.S.CEIR	The reset of the command does not restart the machinery but only permit restarting.	Str. Science Science	Polit		
	It is not be possible to restart the machinery until all emergency stop commands are reset.	OHIS OHIS	ON P		
S.C.E.	It is not be possible to reenergize the machinery until all emergency switching off commands are reset.	SEE SEE SEE	N/A		
0.2.5.4.2	The emergency stop does function either as a stop category 0 or as a stop category 1.	01, 01,	0 P		
·SCER	- it overrides all other functions and operations in all modes;		R		
0.2.5.4.3	Emergency switching off is provided where: -Protection against direct contact is achieved only by placing out of reach or by obstacles (see 6.2.6) - or there is the possibility of other hazards or	GERT COERT COERT	AT OWP		
Ohis	damage caused by electricity.	Ohis Ohis	Olis		
	Emergency switching off is accomplished by electromechanical switching devices, effecting a stop category 0 of machine actuators connected to this incoming supply.	seri _{Oviss} ceri	A PHA		
9.2.5.5	Movement or action that can result in a hazardous	A A O	E P		
	situation are monitored by providing, for example, overtravel limiters, motor overspeed detection, mechanical overload detection or anti-collision devices.	or ovision ovision	ouis.cu		
9.2.6	Other control functions	CONTRACTOR CONTRACTOR	_		
9.2.6.2	No type 1 two-hand control device is used for the initiation of hazardous operation. It need type 2 or type 3 two-hand control devices for such operations.		N/A		
9.2.6.3	Enabling control: Enabling control are arranged in the way to minimize the possibility of defeating, e. g. by requiring the deactivation of the enabling control device before machine operation may be reinitiated. It is not possible to defeat the enabling function by simple means.	GERT OVIS-CERT OVIS-CE	N/A		
9.2.6.4	Combined start and stop controls: Push-buttons etc. that alternately initiate and stop motion are provided only for functions, which cannot result in a hazardous situation.	SERY OVIS CERY OVIS CE	N/A		
9.2.7	Cableless control station	SER SER SE	N/A		
9.2.7.1	Means shall be provided to readily remove or disconnect the power supply of the operator control station (see also 9.2.7.3).	at at	N/A		
OVi5-Chi	Means (for example key operated switch, access code) are provided, as necessary, to prevent unauthorized use of the operator control station.	disign disign	N/A		
	Each operator control station carries an unambiguous indication of which machine(s) is (are) intended to be controlled by that operator control station.	geri ovis-ceri	N/A		
9.2.7.2	Measures shall be taken to ensure that control commands: – affect only the intended machine; – affect only the intended functions.	dhi nisilhi nisili	N/A		





EN 60204-1				
Clause	Requirement + Test	Result-Remark	Verdict	
.5.0		.5.0	.6.0	
ON. SERI	Measures are taken to prevent the machine from responding to signals other than those from the intended operator control station(s).	eki eki ek	N/A	
ONISTOR	Where necessary, means are provided so that the machine can only be controlled from operator control stations in one or more predetermined zones or locations.	eki reki re	N/A	
9.2.7.3	Operator control stations include a separate and clearly identifiable means to initiate the stop function of the machine or of all the operations that can cause a hazardous situation.	A CHI CHI	N/A	
	The actuating means to initiate this stop function are not marked or labelled as an emergency stop device, even though the stop function initiated on the	at at	OVIS CIT	
ON'S OFF	machine can fulfil an emergency stop function. Stopping of the machine and preventing a potentially hazardous operation is automatically initiated in the following situations:	onis on onis on	N/A	
	following situations: - when a stop signal is received; - when a fault is detected in the cableless control system;	ER WESTER WESTER	Nis-CERI	
	 – when a valid signal (which includes a signal that communication is established and maintained) has not been detected within a specified period of time (see Annex B), except when a machine is executing a pre-programmed task taking it outside the range of 	EFT OVIS-CEFT OVIS-CEF	ON'S CERT	
HE CERT	the cableless control where no hazardous situation can occur.	iki ne reki	i discepti	
9.2.7.4	Machines having more than one operator control station, including one or more cableless control stations, have measures provided to ensure that only one of the control stations can be enabled at a given time.	eki ovis-eki ovis-eki	ON'S CERT	
OViS-CERÍ	An indication of which operator control station is in control of the machine is provided at suitable locations as determined by the risk assessment of the machine.	eri ovišetri ovišetri	P. P. P. C. C. P. P. C. C. P. P.	
0075	Exception: a stop command from any one of the control stations are effective when required by the risk assessment of the machine.	eki wis-ciki wis-ciki	A WiS-CERY	
9.2.7.5	Battery-powered cableless operator control stations: A variation in the battery voltage does not cause a hazardous situation.		N/A	
Ohio	A clear warning is given to the operator when a variation in battery voltage exceeds specified limits.	Ohio Ohio	N/A	
OVIS-CERT	Under those circumstances, the cableless operator control station remains functional long enough for the operator to put the machine into a non-hazardous situation.	SERÍ OVIS-SERÍ	N/A	
9.3	Protective interlocks		N/A	
9.3.1	The reclosing or resetting of an interlocking safeguard does not initiate hazardous machine operation.	24. Olizian Olizian	N/A	
9.3.2	Where overtraveling an operating limit (for example speed, pressure, position) can lead to a hazardous situation, means are provided to detect when a predetermined limit(s) is exceeded and initiate an	SER OVIS-SER OVIS-SER	N/A	





EN 60204-1				
Clause	Requirement + Test	Result-Remark	Verdict	
-5,0	- 6' - 6' - 6' - 6' - 6' - 6'		-5'0	
	appropriate control action.	Office Office	Office	
9.3.3	The correct operation of auxiliary functions is checked by appropriate devices.	GERT SERTE	N/A	
ovis'	Appropriate interlocking is provided, when non- operation of an auxiliary function (for example lubrication, supply of coolant, swarf removal) can cause a hazardous situation, or cause damage to the machine or to the work in progress.	CERT IS CERT IS CERT	N/A	
9.3.4	Interlocks between different operations and for contrary motions are provided if this operations lead to hazardous situations.	eti, seti, seti	N/A	
9.3.5	Reverse current braking: Where braking of a motor is accomplished by current reversal, measures prevent the motor starting in the opposite direction at the end of braking where that reversal can cause a hazardous situation or damage to the machine or to the work in progress. For this purpose, a device operating exclusively as a	OFFI ONES CERT ONES CERT	N/A N/A	
OVIS-CETT	function of time is not permitted. Control circuits are arranged that rotation of a motor shaft, for example manually, does not result in a hazardous situation.		N/A	
9.4	Control functions in the event of failure		P	
9.4.1	The safety related electrical control circuits have an appropriate level of safety performance that has been determined from the risk assessment at the machine. The requirements of IEC 62061 and/or ISO 13849-1, ISO 13849-2 are met.	SERÍ OVIS-SERÍ OVIS-SERÍ	OW'S CERT	
OVIS-CERT	Where memory retention is achieved for example, by battery power, measures are taken to prevent hazardous situations arising from failure or removal of the battery. Means are provided to prevent unauthorized or	SERI OVIS-SERI	P	
115°CETT	inadvertent memory alteration by, e.g. requiring the use of a key, access code or tool.		1.5	
9.4.2	Measures are taken to minimize risk in the event of fa	ailure:	_	
9.4.2.1	- Use of proven circuit techniques and components		Poly	
9.4.2.2	- Provisions of partial or complete redundancy	1.5	ı P	
9.4.2.3	- Provision of diversity	0, 0,	N/A	
9.4.2.4	- Provision for functional tests		R	
9.4.3	Protection against mal-operation due to earth faults, vand loss of circuit continuity	voltage interruptions	_	
OVISCERI	Earth faults on any control circuit don't cause unintent potentially hazardous motions, or prevent stopping of Methods to meet these requirements include but are following:	the machine.	_	
OVISCERT	a) 1) Control circuits, fed by control transformers and connected to the protective bonding circuit at the point of supply. (PELV) (see Figure 3 of this standard)	CERT ONES CERT ONES CERT	PER	
	a) 2) Control circuits, fed by control transformers without connection to the protective bonding circuit at the point of supply in the arrangement according to figure 3 and having a device that interrupts the	oliz cell.	Oli Selle	





	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
300	(2) (2) (2) (2)	3,00	6,0
Olla	circuit automatically in the event of an earth fault	011, 011,	01/10
S OVIS-CERT	b) Control circuits fed by a control transformer with a centre-tapped winding, this centre tap connected to the protective bonding circuit, arranged as shown in Figure 4 of this standard with the overcurrent protective device having switching elements in all control circuit supply conductors.	SET OUTS-CEFT OUTS-CE	N/A
OVISCERT	c) Where the control circuit is not fed from a control transformer and is either: 1) directly connected between the phase conductors of an earthed supply, or; 2) directly connected between the phase conductors or between a phase conductor and a	SEFT OUTS CEFT OUTS CE	N/A
	neutral conductor of a supply that is not earthed or is earthed through a high impedance, multpole switch that switch all live conductors are used for those functions that can cause hazardous situations or damage to the machine.	SET OVIS-CERT OVIS-CE	in die chi
Wis-CER	Or in case of c) 2), a device is provided that interrupts the circuit automatically in the event of an earth fault.	ovision ovision	N/A
9.4.3.2	For control systems using a memory device(s), proper functioning in the event of power failure is ensured (e.g. by using a non-volatile memory) to prevent any loss of memory that can result in a hazardous situation.	SET OVIS-CERT OVIS-CE	P. P. C.
9.4.3.3	Upon sliding contacts the loss of continuity of safety-related control circuits depending on, can result in a hazardous situation. Appropriate measures are taken (for example by duplication of the sliding contacts).	EFF OUTS OFF OUTS OF	HI OHIS BUT

S CERT	result in a hazardous situation. Appropriate measures are taken (for example by duplication of the sliding contacts).	ER CERT	O" CERT
Mig.	the shulling contacts).	113,0 11,9,0	N.E.
10	OPERATOR INTERFACE AND MACHINE-MOUNTED DEVICES	D CONTROL	P
10.1.1	As far as is practicable, those devices are selected, mounted, and identified or coded in accordance with relevant parts of IEC 61310.	iki riki riki	ON P
10.1.2	As far as is practicable, machine-mounted control devices are: — readily accessible for service and maintenance;	a distance	OVICE OF
Wis-CER.	 mounted in such a manner as to minimize the possibility of damage from activities such as material handling. 	SERY ONIS CERY	N/A
OVIS-CERT	The actuators of hand-operated control devices are selected and installed so that: – they are not less than 0,6 m above the servicing level and	EHI ONIS CEHI ONIS CEHI	N/A
· EER	 are within easy reach of the normal working position of the operator; 		N/A
OVISIO	 the operator is not placed in a hazardous situation when operating them. 	Wist Wist	N/A
OVIS-CERT	The actuators of foot-operated control devices are selected and installed so that: – they are within easy reach of the normal working position of the operator;	EFT OVIS-CEFT OVIS-CEFT	N/A
	- the operator is not placed in a hazardous situation	(A) (A) (A)	N/A
indemnification and juris date of issuance of this	Led by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for you adictional policies defined therein. This test report includes all of the tests requested by you and the results there or test report to notify us of any error or omission caused by our negligence, Provided, however, that such notice two hissue within the prescribed time shall constitute your unqualified acceptance of the completeness of this rep	of based upon the information that you provided all be in writing and shall specifically address th	You have 30 days from e issue you wish to
欧非亚美检测技术(浙 OViS Testing Technolog			400-8008





EN 60204-1					
Clause	Requirement + Test	Result-Remark	Verdict		
Cladoo	Treduitment Freet	Troodic Fromanc	Vordiot		
01/2	when operating them.	Mis Mis	Mis		
10.1.3	The degree of protection (see IEC 60529) together with other appropriate measures does afford protection against:	CERT 15-CERT 15-CE	N/A		
CÉBÍ	 the effects of aggressive liquids, vapours, or gases found in the physical environment or used on the machine; 	CERT CERT C	N/A		
01/15	 the ingress of contaminants (for example swarf, dust, particulate matter). 	01/12 01/12	N/A		
W.S.CERI	The operator interface control devices has a minimum degree of protection against direct contact of IPXXD (see IEC 60529).	SERÍ WESCERÍ WESCE	N/A		
10.1.4	Position sensors (for example position switches, proximity switches) are so arranged that they will not be damaged in the event of overtravel.	steri steri	N/A		
OVÍ ^{TO} CÉRÍ	Position sensors in circuits with safety-related control functions shall have direct opening action (see IEC 60947-5-1) or shall provide similar reliability (see 9.4.2).	chi chi	N/A		
10.1.5	Portable and pendant operator control stations and their control devices are so selected and arranged as to minimize the possibility of inadvertent machine	eki eki ole	N/A		
10.2	operations caused by shocks and vibrations Push-buttons	1,50	NI P		
0.2.1	Mandatory: The colour RED is used only for	0, 0,	0° F		
10.2.1	emergency stop and emergency switching off actuators.	SERÎ NISCERÎ NISCE	in Principle		
10.0.00	The recommend colours of push-buttons are as shown in table 2 of this standard.		O P		
10.2.2	The recommend markings on push-buttons are as shown in table 3 of this standard.		P		
10.3	Indicator lights and displays	0,, 0,,	N/A		
10.3.1	Indicator lights and displays are selected and installed in such a manner as to be visible from the normal position of the operator (see also IEC 61310-1).	SERT OVIS-CERT OVIS-CE	N/A		
NiS-CERI	Indicator light circuits used for warning lights are fitted with facilities to check the operability of these lights.	CERT WIS-CERT WIS-C	N/A		
C. C.	The recommend colours on Indicator light are as shown in table 4 of this standard.		N/A		
OVIST	Indicating towers on machines have the applicable colours in the following order from the top down; RED, YELLOW, BLUE, GREEN and WHITE.	Mish dish	N/A		
OVIS-CERY	Where flashing lights or displays are used to provide higher priority information, audible warning devices should also be provided.	Str. Orisiciti. Orisici	N/A		
10.4	illuminated push-button actuators are colour-coded in accordance with Tables 2 and 4. Where there is difficulty in assigning an appropriate colour, WHITE is used.	GERT NISCERT NISCE	N/A		
CERT	The colour RED for the emergency stop actuator shall not depend on the illumination of its light.		N/A		
10.5	Devices having a rotational member, such as potentiometers and selector switches, have means of prevention of rotation of the stationary member.	Ovision Ovision	N/A		





	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
W.S.O.	Friction alone isn't considered sufficient.	Wision Wisio	N.S.O.
10.6	Actuators used to initiate a start function or the		N/A
ON'S CERT	movement of machine elements (for example slides, spindles, carriers) are constructed and mounted so as to minimize inadvertent operation.	ith Wiscoth Wiscot	OVIS-CEP
c ERI	However, mushroom-type actuators are used for two-hand control only. (see also ISO 13851).	er er	N/A
10.7	Emergency stop devices	V.5. V.5.	N/A
10.7.1	Devices for emergency stop are readily accessible.	4 4	N/A
CER	They are located at each operator control station		N/A
	and at other locations where the initiation of an emergency stop can be required (exception: see 9.2.7.3).	at at of	
OVIS-CEL	In circumstances where confusion can occur between active and inactive emergency stop devices caused by disabling the operator control station, means (for example, information for use) are	of of of	N/A
C.C.C.	provided to minimise confusion.		Y. Car
10.7.2	Allowed types of device for emergency stop: – a push-button operated switch with a palm or mushroom head type; – a pull-cord operated switch;	SERT SCERT SCE	N/A
0/12	 a pedal-operated switch without mechanical guard. The devices are direct opening operation (see IEC 	0/10 0/10	O NIVA
	60947-5-1, Annex K).		N/A
10.7.3	Actuators are coloured RED. If a background exists immediately around the actuator, then this background is coloured YELLOW. See also ISO 13850.	at at	N/A
10.7.4	The supply disconnecting device may be locally		N/A
	operated to serve the function of emergency stop when:	Onis Onis	Olis
	 it is readily accessible to the operator; and it is of the type described in 5.3.2 a), b), c), or d). When also intended for this use, the supply disconnecting device meets the colours RED/YELLOW. 	ERI ONES CERI ONES CE	is original
10.8	Emergency switing off device	.5.0	.cP
10.8.1	Means are provided, where necessary, to avoid	0/12 0/12	ОПР
10.8.2	confusion between these devices. The types of device for emergency switching off		
OVISTO	include: — a push-button operated switch with a palm or mushroom head type of actuator; — a pull-cord operated switch.		ří vis
	The devices are direct opening action (see IEC 60947-5-1, Annex K). The push-button operated switch may be in a		ali th
10.8.3	break-glass enclosure. Actuators are coloured RED. If a background exists	.S .S	CV D
on octifi	immediately around the actuator, then this background is coloured YELLOW. See also ISO 13850.	EFT CEFT CT	EL CHE
10.8.4	Where the supply disconnecting device is to be locally operated for emergency switching off, it is be readily accessible and meets the colours	di di	oli P





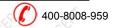
	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
.5		.5.0	.S. O'
	RED/YELLOW.	011, 011,	011
10.9	Enabling control device	A A A	N/A
OVISTOR	An enabling control device as a part of a system, does allow operation when actuated in one position only. In any other position, operation is stopped or prevented.		N/A
OVISCOR	Functions of two-position types: position 1: off-function of the switch (actuator is not operated); position 2: enabling function (actuator is operated)	ovieron ovieron	N/A
ONIS CERT	Functions of three-position types: position 1: off-function of the switch (actuator is not operated); position 2: enabling function (actuator is operated in its mid position); position 3: off-function (actuator is operated past its mid position); when returning from position 3 to position 2, the enabling function is not activated.	CERT OFFICER OFFICER	N/A
11	CONTROL GEAR: LOCATION, MOUNTING AND E	NCLOSURES	P.
11.2.1	All items of control gear (inclusively terminals that are not part of controlgear components or devices) are placed and oriented so that they can be identified without moving them or the wiring.		Olio Profit

-68	The state of the s	CONTROL GEAR: LOCATION, MOUNTING AND ENCLOSURES	560		
;.C'	11.2.1	All items of control gear (inclusively terminals that are not part of controlgear components or devices) are placed and oriented so that they can be identified without moving them or the wiring.	Ji ^{is}	Wic Port	
, Citri	ovis-chi	For items that require checking for correct operation or that are liable to need replacement, those actions should be possible without dismantling other equipment or parts of the machine (except opening doors or removing covers, barriers or obstacles).	Nis-Cr	Wic P	
	ON	All control gear are mounted so as to facilitate its operation and maintenance from the front.	27,	Р	
CER	· Scill	Necessary tools to adjust, maintain, or remove a device are supplied.	, S. CER.	Pili	
CERT	On.	Where access is required for regular maintenance or adjustment, the relevant devices shall be located between 0,4 m and 2,0 m above the servicing level.	Zn. Cffg	o _{M.} b	
	ONIS	Terminals are least 0,2 m above the servicing level and so placed that conductors and cables can be easily connected to them.	Wist of	JI'SP	
SEL	OVIS-CELY	Only operating, indicating, measuring, and cooling devices are mounted on doors or on normally removable access covers of enclosures.	Nis-Cith	P.E.	
200	, cri	Plug-in arrangements of control devices and plug-in-devices:	195	-	
3	Olisica	The connection is clearly identified by shape, marking or reference designation, singly or in combination.	Mis Cr	Mic Por	
5EP	Wis-CERI .	When they have to bee handled during normal operation means are provided with non-interchangeable features where the lack of such a facility can result in malfunctioning.	Wis-CERI	Perri	
(ER)	S.CER.	Plug/socket combinations that are handled during normal operation are unobstructedly accessible.	S.CER.	N/A	
	On	Test points for connection of test equipment are: – unobstructedly accessible;	2/10	N/A	





EN 60204-1				
Clause	Requirement + Test	Result-Remark	Verdict	
6,00		C. C	6,0	
0/1/2	- clearly identified to correspond with the	0/10 0/10	0/1/2	
	documentation;	A A	A .	
	- adequately insulated;	ELE, CELL, CE	k. Chr.	
11.2.2	– sufficiently spaced.Non-electrical parts and devices, not directly	1.6	JIS.	
N:2.2	associated with the electrical equipment, are not	0. 0.	0 P	
- ER	located within enclosures containing control gear.		k) Ekj	
	Devices such as solenoid valves are separated from	1.5.0	P	
	the other electrical equipment (for example in a	0, 0,	0,	
- 28	separate compartment). Control devices mounted in the same location and	· 45 / 45	& DO	
	connected to the supply voltage, or to both supply	3	, Control	
	and control voltages, are grouped separately from	Ohio Ohio	Office	
~	those connected only to the control voltages.	A A	<u> </u>	
	Terminals shall be separated into groups for:	it it is	P	
	power circuits;associated control circuits;	Mis Mis	Ni2	
	other control circuits, fed from external sources	4 4	4	
	(for example for interlocking).	ERI ERI	E CERT	
115	The clearances and creepage distances specified by	1.6	, P	
	the supplier are maintained, taking into account the	0, 0,	0,	
	external influences or conditions of the physical environment.	CRI CRI	RI LIKI	
11.2.3	Heat generating components (for example heat	.5' .5'	N/A	
01/2	sinks, power resistors) are located so, that the	011, 011,	0)1.07	
	temperature of each component in the vicinity	á á	(A) (A)	
- CE	remains within the permitted limit.		, C()	
	Control gears are sufficiently protected against: - ingress of solid foreign objects	Mis Mis	N/A	
	- liquids	A A	<u> </u>	
	- dust, coolants, and swarf,	Ser Ser Se	in City	
	taking into account the external influences under	Wig. Mig.	Nie.	
	which the machine is intended to operate (i.e. the		4	
- CEP	location and the physical environmental conditions). Enclosures of controlgear provide a degree of		N/A	
	protection of at least IP22 (see IEC 60529).	1,5,0	IN/A	
	Exceptions:	0, 0,	0,	
	a) specific electrical operating area	CRI CRI	RI CRI	
	b) When with removable collectors on conductor wire or conductor bar systems do not achieve IP22	· · · · · · · · · · · · · · · · · · ·	.5.0	
	measures of 6.2.5 are applied.	011, 011,	01/2	
11.4	Enclosures, doors and openings		é Pé	
C.Ch.	Enclosures (inclusively screens of windows	2, 50, 50	P	
	(windows: toughened glass or polycarbonate sheet	Onis Onis	Office	
	of not less than 3 mm thickness), joints, gaskets of	A A	A A	
	doors and lids) do withstand the foreseeable	the ten of	ic CELY,	
	mechanical, electrical and thermal stresses and other environmental factors and of the aggressive	Wis Wis	Wis.	
	liquids, vapours, or gases used on the machine.	0. 0.	0	
CERT	Fasteners used to secure doors and covers are of		P. P.	
,50	the captive type.	,5,0	,5	
	Enclosure doors are not wider than 0,9 m and have	0, 0,	011 P	
- 2	vertical hinges, with an angle of opening > 95°.		A _ A	
	Openings in enclosures (for example, for cable access), including those towards the floor or	3, 5,0, 5,0,	P	
	foundation or to other parts of the machine are	Ohio Ohio	Ohio	
	equipped with means to ensure the degree of	A A	4 4	





EN 00004 4	<u> </u>	
EN 60204-1	December December	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Clause Requirement + Test	Result-Remark	Verdict
protection specified for the equipment.	16 16	116
A suitable opening may be provided in the base of enclosures within the machine so that moisture due to condensation can drain away	SERI JESCERI JESCE	AT USSIGN
Openings for cable entries shall be easily re-opened on site.		P
No openings between enclosures containing electrical equipment and compartments containing coolant, lubricating or hydraulic fluids, or those into which oil, other liquids, or dust can penetrate.	or visit visit	ovie Pir
Holes in an enclosure for mounting do not impair the required protection.	Si Nigiti Nigiti	Pilip
Equipment that, in normal or abnormal operation, can attain a surface temperature sufficient to cause a risk of fire or harmful effect to an enclosure material is: - located within an enclosure that will withstand, such temperatures; and - is located at a sufficient distance from adjacent equipment allowing safe dissipation of heat (see also 11.2.3); or	CERT ONIS CERT ONIS CE	P ONIE CHE
 – is otherwise screened by material that can withstand to the harmful effect. 1.5 Access to control gear 	SERI NESCERI NESCE	N/A
Doors in gangways for access to electrical operating areas: - are at least 0,7 m wide and 2,1 m high; - do open outwards; - have a means (for example panic bolts) to allow opening from the inside without the use of a key or tool.	CERT ON'S CERT ON'S CE	N/A
Enclosures which readily allow a person to fully enter are be provided with means to allow escape, e.g. panic bolts on the inside of doors.	ekt ekt ek	N/A
Enclosures intended for such access, for example for resetting, adjusting, maintenance, shall have a clear width of at least 0,7 m and a clear height of at least 2,1 m When equipment is likely to be live during access with > 1,0m and when on both side with > 1.5m.	OHE OHE OHE	N/A

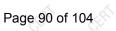
Nis CERT	clear width of at least 0,7 m and a clear height of at least 2,1 m When equipment is likely to be live during access with > 1,0m and when on both side with > 1.5m.	OVIS-CERT	ONIS-CERTI O
193 13		195	L.R.
12	CONDUCTORS AND CABLES	.cP ^S	5
A CERT	IMPORTANT: The following requirements do not apply to the integral wiring of assemblies, subassemblies, and devices that are manufactured and tested in accordance with their relevant IEC standard (for example IEC 60439-1).	_	ON O
12.2	In general, conductors are of copper. Where aluminium conductors are used, the cross-sectional area is at least 16 mm ² .	O P	On CERT
01/2	The cross-sectional areas of conductors are according to Table 5 and its notes.	oli P	Wist of
A NISCHAI	All conductors that are often in movement (> one movement per hour of machine operation) have flexible stranding of class 5 or class 6.	P. CERT	N'S CERT
<u> </u>	Where the insulation of conductors and cables (for example PVC) can constitute hazards due to the	P	0, 0
indemnification and juri- date of issuance of this	ted by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitati sdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided test resport to notify us of any error or omission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address th such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of	You have 30 days from e issue you wish to	nyis Cri
欧非亚美检测技术(浙	江)有限公司(OVIS) 地址:浙江省台州市椒江区下陈街道飞跃科创园 31 幢 🖳 www.ovis-lab.com 🖂 info@ovis-lab.com		





	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
OVISO	propagation of a fire or the emission of toxic or corrosive fumes adequate means are provided. Special attention is given to the integrity of a circuit		ONE
01:5	having a safety-related function Minimum insulation test voltages for used cables	01:5	P
	are: -≥ 2 000 V a.c. for a duration of 5 min for operation at voltages higher than 50 V a.c. or 120 V d.c., or -≥ 500 V a.c. for a duration of 5 min for PELV	EFFI OVIS-CEFFI OVIS-CEFF	OVIS-CEP
- CER.	circuits (see IEC 60364-4-41, class III equipment).	Sept. Sept.	
	Insulation strong enough to withstand damage due to operation or during laying, especially for cables pulled into ducts.	of of of	oli P
12.4	Current-carrying capacity in normal service in accordance with table 6.	Olisich Olisich	Olica
12.6	Or in accordance with suppliers recommendation. Flexible cables	A A A	N/A
12.6.1	All flexible cables have Class 5 or Class 6	0, 12, 12, 12, 0, 12, 0, 12, 0, 12, 0, 12, 13, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14	N/A
o. c.cERI	conductors. Cables under severe duties are adequately protected against:	the city	N/A
	 - abrasion due to mechanical handling and dragging across rough surfaces; - kinking due to operation without guides; - stress resulting from guide rollers and forced 	EFF CEFF CEF	OVies SER
Vie	guiding, being wound and re-wound on cable drums.	Wis Wis	N'S'
12.6.2	The tensile stress applied to copper conductors does not exceed 15 N/mm ² of cross-sectional area.		N/A
	Or special measures are taken to withstand the applied stress.	OVISIO OVISIO	OVISIO
o SoftRi	For material other than copper the applied stress is within the cable manufacturer's specification.	stri sestri	· Section
12.6.3	For cables installed on drums, the maximum current- carrying capacity in free air is derated in accordance with Table 7.		N/A
12.7	Conductor wires, conductor bars and slip-ring assem	blies s	N/A
12.7.1	During normal access to the machine, protection against direct contact to conductor wires, conductor bars and slip-ring assemblies is achieved by the application of one of the following protective measures:	SERÍ OVIS-SERÍ OVIS-SERÍ	N/A
OVIS-CERT	 protection by partial insulation of live parts, or where this is not practicable; protection by enclosures or barriers of at least IP2X. 	EH OVES-CEPT OVES-CEPT	OVIS-CEP
N'S CERT	Horizontal top surfaces of barriers or enclosures that are readily accessible provide a degree of protection of at least IP4X.	SERT STEELERS STEELERS	N/A
o' CERÍ	Where the required degree of protection is not achieved, protection by placing live parts out of reach in combination with emergency switching off in accordance with 9.2.5.4.3 is applied.	the or or	N/A
	Conductor wires and conductor bars are so placed / protected as to:		N/A

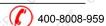






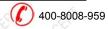
/is-cert	Page 90 of 104)2405009M
	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
.65			
	 prevent contact with conductive items such as the cords of pull-cord switches, strain-relief devices and drive chains; prevent damage from a swinging load. 	ER CERT CE	E ON.
12.7.2	Protective conductor circuit (PE) and the neutral conductor (N) each use a separate conductor wire, conductor bar or slip-ring.	THE ONE	N/A
OVIS-CERT	The continuity of the protective conductor circuit using sliding contacts is ensured by taking appropriate measures (for example, duplication of the current collector, continuity monitoring)		N/A
2.7.3	Protective conductor current collectors have a shape or construction so that they are not interchangeable with the other current collectors. Such current collectors shall be of the sliding contact type.	THE SHE STEEL	N/A
12.7.4	Removable current collectors (e.g. swivelingable) with disconnector function: The protective conductor circuit interrupts after and reconnects before any live conductor.	eti eti	N/A
2.7.5	Clearances in air between conductors and adjacent systems are suitable at least a rated impulse voltage of an overvoltage category III in accordance with IEC 60664-1 (For example 4 kV for 230/400 V systems → clearances 3mm)	EFF OVIS-CEFF OVIS-CE	N/A
2.7.6	Creepage distances between conductors and adjacent systems are suitable suitable for operation in the intended environment, e.g. open air (IEC 60664-1), inside buildings, protected by enclosures.	ERT ONE CERT ONE CE	N/A
	In abnormally dusty, moist or corrosive environments, the following creepage distance requirements apply: — unprotected conductor etc.: minimum creepage dist. of 60 mm — enclosed conductor etc.: minimum creepage distance of 30 mm	seri ovis-ceri ovis-cer seri ovis-ceri	il ouis-cliff
12.7.7	Conductor system divided into isolated sections: suitable design measures are employed to prevent the energization of adjacent sections by the current collectors themselves.	ERÍ WESTERÍ WESTER	N/A
12.7.8	Construction of conductor wires etc.: - power circuits are grouped separately from those in control circuits do withstand the foreseeable mechanical forces and thermal effects of short-circuit current covers can not be opened without the use of a tool - all conductive parts of accompanying enclosures	ERÍ OVISJERÍ OVISJERÍ	N/A

11:5	1.6. 1.6. 1.6. 1.6. 1.6. 1.6. 1.6. 1.6.
13	WIRING PRACTICES P
13.1	Connections and routing P
13.1.1	All connections are secured against accidental loosening.





	EN 60204-1	c/c/_	
Clause	Requirement + Test	Result-Remark	Verdict
.5	.5' .5' .5' .5' .5'	.50	-5
	The means of connection are suitable for the cross- sectional areas and nature of the conductors being terminated.	thi thi th	ON P
Wis. or	No connection of two or more conductors to one terminal, unless the terminal is designed for it. No soldered connections to terminals unless they	at at a	P
Wis CELL	are suitable for it. Terminals on terminal blocks are plainly marked or	80, 160, 160	P
0.,	labelled corresponding with the diagrams. Installations of flexible conduits and cables are such that liquids drain away from the fittings.	EKI EKI E	P. P.
Wis cr.	Retaining means for conductor strand and shields provided (no soldering for that purpose)	ar oriete	olice Olice
. S. CEPÁ	Indentification tags legible, permanent, and appropriate for the physical environment. Terminal blocks mounted and wired so that the	Stri Schi Sch	P
ONIS	internal and external wiring does not cross over the terminals (see IEC 60947-7-1).	of of of	
13.1.2	Conductors and cables run from terminal to terminal without splices or joints.	CET WIS CET WIS CET	P.F.F.
	Connections using plug/socket combinations with suitable protection against accidental disconnection are not considered to be joints for the purpose of this subclause.	SERÍ NIS-CERÍ NIS-CE	A ONIS CEPA
. c.:GERÍ	Terminations of cables are adequately supported to prevent mechanical stresses at the terminations of the conductors.	SERI CERT COS	A PA
OWN	Protective conductor placed close to the associated live conductors in order to decrease the impedance of the loop.		OW P
13.1.3	Conductors for circuits that operate at different voltages are separated by suitable barriers, or are insulated for the highest voltage that occurs within the same duct.		A CERT
13.2	Connections and routing	,5,0,,5,0	· SP
13.2.1	Each conductor is identifiable at each termination in accordance with the technical documentation.		P
13.2.2	The protective conductor has the bicolour combination GREEN-AND-YELLOW	Cr. Nigick Nigick	Pili
	Where the protective conductor can be easily identified colour coding throughout its length is not necessary, but the ends or accessible locations are clearly identified by the graphical symbol or by the bicolour combination GREEN-AND-YELLOW.	SERT OVIS-SERT OVIS-SER	Nis-clair
13.2.3	Neutral conductors are identified by the colour LIGHT BLUE. That colour is not used for identifying any other conductor where confusion is possible.	CERT ONES CERT ONES CERT	Pill
OVIS-CERT	Bare conductors used as neutral conductors have at minimum a stripe in LIGHT BLUE 15 mm to 100 mm wide in each compartment or unit and at each accessible location.	SERÍ WIS-ICEÍ	P P P
	Identification by colour for other conductors: Colours GREEN or YELLOW are not used. (Details to colour coding see this norm Cl. 13.2.3)	SERI SESSERI	KI PHKI
13.3	Wiring inside enclosures	01/2 01/2	ONE



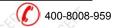


	EN 60204-1	c/c/_	
Clause	Requirement + Test	Result-Remark	Verdict
6,01		. C.	6.0
Olis	Conductors inside enclosures are supported where	Opis Opis	ON P
	necessary.		4 4
	Conductors and cables that do not run in ducts are	Office Color	it. Ofth.
116	adequately supported. Non-metallic supports are made with a flame-	1.6	119
	retardant insulating material (see IEC 60332 series)	0, 0,	0, b
CERT	Connections to devices mounted on doors or to		PUR
	other movable parts are using flexible conductors in	, 5,0	1.5
0,1.	accordance with 12.2 and 12.6.	0, 0,	0,,
13.4	Wiring outside enclosures		P
13.4.2	Conductors and their connections external to the	or cor	P
	electrical equipment are placed in suitable ducts (see cl.13.5).	ONLY ONLY	01/12
		á á	A 6
	Exceptions: - Cables with special suitable protection.	of con con	CEL
	- Position switches or proximity switches supplied	Mis Mis	Niz
	with a dedicated cable which is sufficiently short.	4 4	A
CER.	Connections to moving elements of the machine are		P.
	made of flexible cable in accordance with 12.2 and	1.5	1:5
0,	12.6. Bending radius of the cable are of at least 10 times	0, 0,	0,
	the diameter of the cable	eth eth et	P
.5	Cables close to moving parts, maintain a space of at	9.50	SP.
	least 25 mm between the moving parts and the	0, 0,	011.
<u> </u>	cables or barriers are provided.	Á Á	
	Cable handling systems: Lateral cable angles do not exceeding 5°, at being	dr. Fig., Fig.	R
	wound on and off cable drums or approaching and	Mis Mis	Olis
	leaving cable guidance devices. The bending radius	A A .	4
Chr	is in accordance with table 8.		i. Chi.
	Flexible conduit:	Mis Mis	Ni P
	- is not used for connections to rapidly or frequently moving parts, except when specifically designed for	4	A .
	that purpose.	all all a	(43)
1.5	- is supported when adjacent to moving parts	1.5	3.5
13.4.4	Interconnection of devices on the machine is made	0, 0,	O P
40.45	through adequate terminals. Requirements to plug/socket combinations outside	the state of	
13.4.5	of enclosures:	.50	S
	Exceptions: components connected to a bus system	0,, 0,,	01.
	by a plug/socket combination	(A) (A)	(A) (A)
	a) Prevention for unintentional contact with live parts	or con co	. C. C.C.
	at any time.	ONLY ONLY	0/1/2
	At least IPXXB. (PELV circuits are excepted from	á á .	(A)
	this requirement.) b) First make last break protective bonding contact if	der Tops	CEL
	used in TN- or TT-systems.	Mis Mis	die
	c) Sufficient load-breaking capacity, when intended	4 4	A A
	to be disconnected under running conditions.	ER' CER' CE	y, cally
	When rated at ≥ 30 A interlocked with a switching	1,5	11:5:00
	device d) When rated at ≥ 16 A having a retaining means to	0, 0,	0,
	prevent unintended or accidental disconnection.	ari ari	ERI IN
	e) when unintended or accidental disconnection	S. S	SCV
	+can cause a hazardous situation, having a retaining means.	01/12 01/13	01/10





EN 602	204-1	
Clause Requirement + Test	Result-Remark	Verdict
f) Component remaining live after disconnected having at least IP2X or IPXXB, taking in the required clearance and creepage distances.(PELV circuits are excepted)	nto account	A ONE CHAI
requirement.) g) Metallic housings of plug/socket corbeing connected to the protective bond (PELV circuits are excepted from this rh) Having retaining means to prevent upon and being means to prevent upon the providental disconnection and being means.	ling circuit. equirement.) Inintended or	OVIS-CERT
accidental disconnection and being ma are not intended to be disconnected un i) Clearly identifiable if more then one per device. It is recommended that me coding being used.	nder load. olug / socket	H ON'S CEH
 j) When used in control circuits fulfilling applicable requirements of IEC 61984. see item k). k) No plug/socket combinations intend 	Exception:	R OVIS-CERT
household and similar general purpose control circuits. In plug/socket combina accordance with IEC 60309-1, only the shall be used for control circuits which for those purposes.	es used for utions in use contacts	ří ovis-obří
Exception: The requirements of item k to control functions using high frequen the power supply. Protection of Plug / socket from the ph	cy signals on	A Wisin
3.4.6 Protection of Plug / socket from the ph environment during transportation and		Pur
Ducts, connection boxes and other box		P
Provided with a degree of protection stapplication.		Pith
No sharp edges, flash, burrs, rough su threads with which the insulation of the can come into contact.	conductors	ON P
Where human passage is required, lea	01, 01, 01, 01,	Oli EP
Not used as connection for protective circuit.		P CEPT
Where cable trays are a.s.o. are only p covered, the cables used are of a suita	ible type.	oli P
Filling the percentage of ducts adapted straightness and length of the duct and of the conductors.		P P P
Rigid metal conduit and fittings shall gasteel or of a corrosion-resistant materia		0 P
Fittings compatible with the conduit.		P
Conduit bends properly made	Mis Mis Mis	oli P
Flexible metal tubing or woven wire are for the expected physical environment		r P _{ref}
3.5.5 Flexible non-metallic conduit resistant suitable for the expected physical envi	to kinking and	W.S.P.
Requirements to cable trunking system - Rigidly supported and clear of all more contaminating portions of the machine - Covers overlapping the sides and att	ns: ving or	P. P
3.5.7 The compartments of machine used as		ó Pá

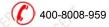




	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
9.00		0 00 00	.0.0
OW SERI	trunking systems are isolated from coolant or oil reservoirs and are entirely enclosed, and the conductors are secured.		OM SEE
13.5.8	Connection boxes and other boxes used for wiring: - Are accessible for maintenance Provide protection against the ingress of solid bodies and liquids, taking into account the external influences under which the machine is intended to operate (see 11.3) Do not have unused knockouts etc.	CERT ONES CERT ONES CERT	OHIS CERT
3.5.9	Motor connection boxes: Encloses only connections to the motor and motor- mounted devices (e.g brakes, temperature sensors)	CERT NESCHER NESCHE	PER

	- Do not have unused knockouts etc.		\ \ \
13.5.9	Motor connection boxes: Encloses only connections to the motor and motor- mounted devices (e.g brakes, temperature sensors)	ik, onig elki, onig elki,	Pil
, al			, d
14	ELECTRIC MOTORS AND ASSOCIATED EQUIPMEN	NT CON CONT	P
14.1	Electric motors are conform to the relevant parts of IEC 60034 series.	for the electric start	о‴Р
ONISCEEN	There protection is conform to the requirements given in 7.2 for overcurrent protection, in 7.3 for overload protection, and in 7.6 for overspeed protection.	A ONIS CERT ONIS CERT	P. F.
·S.CER	Motor control equipment is located and mounted in accordance with Clause 11.	. S. (EP) . S. (EP)	Park
14.2	Minimal IP23 protection for all motors. More stringent requirements depending on the application and the physical environment.	for the electric start	ON P
14.4	Motors incorporated as an integral part of the machine are adequately protected from mechanical damage.	olier olier	Ni ^C P
OVi5-CEL	motors and its associated parts (inclusively motor connection box) are easily accessible for inspection and maintenance etc	OVIS-CELLE OVIS-CELLE	Pili
.S.CERI	Cooling is ensured and the temperature rise remains within the limits of the insulation class (see IEC 60034-1)	ri istri	P
ON. CERT	No opening between the motor compartment and any other compartment that does not meet the motor compartment requirements.	ki siki siki	ON P
14.5	The characteristics of motors and associated equipment are selected in accordance with the anticipated service and physical environmental conditions (see 4.4). Detailed criteria see 14.5 of this norm.	ET UIS CERT	ovie P
14.6	Overload and overcurrent protective devices for mechanical brake actuators initiate simultaneously the deenergization (release) of the associated motors.	H OS OS	O" P
0		*** ***	0
15	ACCESSORIES AND LIGHTING	Eg., Chy, Chy,	N/A
15.1	Requirements for socket-outlets for accessory equipment:	ovisi ovisi	N/A

SCH	OVIS-CEPT	14.6	Overload and overcurrent protective devices for mechanical brake actuators initiate simultaneously the deenergization (release) of the associated motors.	
CERT	CER	15	ACCESSORIES AND LIGHTING N/A	
6	01:5:0	15.1	Requirements for socket-outlets for accessory equipment:	
Sich	OVIS-CERT	OViS-CERT	- conform to IEC 60309-1 (Where that is not practicable, they are clearly marked with voltage and current ratings); -continuity of the protective bonding circuit to the	
Sictific		indemnification and juris date of issuance of this	socket-outlet is ensured, except where protected by ed by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use Attention is drawn to the limitations of liability, sdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from test report to notify us of any error or omission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to uch issue within the prescribet time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.	
SCERI		欧非亚美检测技术(浙 OVIS Testing Technolog	江)有限公司(OVIS) 地址:浙江省台州市椒江区下陈街道飞跃科创园 31 幢 및 www.ovis-lab.com ⊠ info@ovis-lab.com	





Ci	EN 60204-1	,ట,ట	
Clause	Requirement + Test	Result-Remark	Verdict
2,00	Treduitable 1995	Troodic Fromain	70.000
1/2	PELV;	112 112	11/2
	– unearthed conductors connected to the		0
	socket-outlet are overcurrent- and if required	(A) (A) (A)	L ERI
	overload- protected	3	. C.CV
	 protection is separately from other circuits; 	Mis Mis	01,12
	 power supply to the socket-outlet is not 	A A A	
	disconnected by the supply disconnecting device for	th, th, th	, cffr
	the machine or the section of the machine, the	1.5	1.5
2,	requirements of 5.3.5 apply.	0, 0,	0,1
5.2.1	Requirements for local lighting of the machine and equipment:	(A) (A) (A)	N/A
	- protective bonding circuit in accordance with 8.2.2.	3 City	C.C.V.
	- ON/OFF switch incorporated in the lamp-holder or	Mis Mis	Mis
	in the flexible connecting cords.	4 4 4	×
	- Stroboscopic effects avoided.	E. CE. CE	CER!
	- Where fixed lighting electromagnetic compatibility is	,5,0	5
011.	taken into account.	0, 0,	011.
5.2.2	Requirements to the power supply for local lighting:	6 6 6	N/A
	Nominal voltage not exceeding 250 V between		CEL
	conductors — isolating transformer connected to the load side of	115	1,15
	the supply with overcurrent protection in the	0. 0.	0.
	secondary circuit; or	A. A. A.	
	- isolating transformer connected to the line side of	3' .5'0' .5'0'	.5.01
	the supply disconnecting device with overcurrent	0/10 0/10	0/10
	protection in the secondary circuit. That source is	4 4 4	
	permitted for maintenance lighting circuits in control	the the	, Chr.
	enclosures only; or	1.5	1.5
	- from a machine circuit with dedicated overcurrent	0, 0,	0,
	protection; or		(2)
	 from an isolating transformer connected to the line side of the supply disconnecting device, provided 	30, 30, 30,	C.C.
	with a dedicated primary disconnecting means and	Mis Mis	die
	secondary overcurrent protection, and mounted	A A A	
	within the control enclosure adjacent to the supply	AN ARY AR	, CER
	disconnecting device; or	1.50	1.5
	- from an externally supplied lighting circuit (for	0, 0,	01.
	example factory lighting supply). This shall be	in in in	· al
	permitted in control enclosures only, and for the machine work light(s) where their total power rating is	30 700	CK
	not more than 3 kW.	Mis Mis	Mis.
		4 4 4	×
	Exception: Where fixed lighting is out of reach of	E. EE, EE	CERI
	operators during normal operations, the provisions of this subclause do not apply.	1.5	1:5
522	All unearthed conductors of circuits supplying lighting	0,, 0,,	NI/A
5.2.3	have their own overcurrent protecting devices.	is is is	N/A
5.2.4	Requirements to the fittings for local lighting:	3, 20, 20,	N/A
Mis.	Adjustable lighting fittings are suitable for the	Mis Mis	Chilan.
	physical environment.	X X X	
	- lamp holders are in accordance with the relevant	elle elle elle	(ER)
	IEC standard;	.5.0	.5
	- lamp holders are constructed with an insulating	011, 011,	011
	material protecting the lamp cap	6 6 6	· ·
	Reflectors are supported by a bracket and not by the lamp holder.	the other other	CER
	the lamp holder.	11.5	1.5
	Exception: where fixed lighting is out of reach of	0, 0,	0,
a	operators during normal operation, the provisions of	6 6	





	ir, Origina, Origina,	ovisiciti ovisiciti	OVIS.CE.	Nisian Onisian	OVIS-CL.	NiS-Ch.
ViS-CER	ERÍ CERÍ CERÍ	Page 96	6 of 104	Report No	.:OViS20240	5009M-R
		EN 6	60204-1			
Claus	e Requirement + Te	est		Result-Rem	ark	Verdict
.6	.5.0	.55.	-5	.55.	.5.0	.5.0
0/1/2	this subclause do	not apply.	0/1/2 6	1110	ONLY C	171

identification plates are of sufficient durability to withstand the physical environment. Enclosures that do not clearly show that they contain electrical equipment that has a risk of electric shock are marked with the graphical symbol plainly visible on the enclosure door or cover. Exception: - enclosure equipped with a supply disconnecting device; - operator-machine interface or control station; - a single device with its own enclosure (for example position sensor). 16.2.2 Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol General Symbol General Symbol Symb	Identification plates are of sufficient durability to withstand the physical environment.	16	MARKING, WARNING SIGNS AND REFERENCE DESIGNATIONS Warning signs, nameplates, markings, and	PO
electrical equipment that has a risk of electric shock are marked with the graphical symbol plainly visible on the enclosure door or cover. Exception: - enclosure equipped with a supply disconnecting device; - operator-machine interface or control station; - a single device with its own enclosure (for example position sensor). 16.2.2 Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol read equipment with the graphical warning symbol surfaces, so the electrical equipment, are equipped with the graphical warning symbol elearly and durably marked. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION 17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(jes); 2) electrical supply(jes); 2) electrical supply(jes); 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	electrical equipment that has a risk of electric shock are marked with the graphical symbol plainly visible on the enclosure door or cover. Exception: - enclosure equipped with a supply disconnecting device; - operator-machine interface or control station; - a single device with its own enclosure (for example position sensor). 16.2.2 Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol release equipped with the graphical warning symbol eleastly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION 17.1 Documentation in agreed language provided. Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	16.1	identification plates are of sufficient durability to withstand the physical environment.	ON P
plainly visible on the enclosure door or cover. Exception:	plainly visible on the enclosure door or cover. Exception:	16.2.1		ic. Olice
- enclosure equipped with a supply disconnecting device; - operator-machine interface or control station; - a single device with its own enclosure (for example position sensor). 16.2.2 Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol 16.2.3 Control devices, visual indicators, and displays are clearly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION 17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies); 2) electrical supply(ies); 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	- enclosure equipped with a supply disconnecting device; - operator-machine interface or control station; - a single device with its own enclosure (for example position sensor). 16.2.2 Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol 16.2.3 Control devices, visual indicators, and displays are clearly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION Phocumentation in agreed language provided. Pinformation provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	, , <u>, , , , , , , , , , , , , , , , , ,</u>		SCHRI WISC
Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol 16.2.3 Control devices, visual indicators, and displays are clearly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION 17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	Hazardous hot surfaces of the electrical equipment, are equipped with the graphical warning symbol 16.2.3 Control devices, visual indicators, and displays are clearly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (iff a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION PT.1 Documentation in agreed language provided. Phomogeneous and device and device and mounting, and the connection to the electrical supply(ies); a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; The lase Regort is based by the Company subject to be Corditions of ileasure of the Regorts proteed overteal and is intended to your occusion use Attention language and the reservation language and provided in the reservation language and provided in the reservation of the reservation language and provided in the reservation language and provided in the reservation of the reservation of the reservation language and provided in the reservation of the reservation language and provided in the reservation of the reservation language and provided in the reservation language and provided in the reservation language and provided in the	EFF OFF	 – enclosure equipped with a supply disconnecting device; – operator-machine interface or control station; – a single device with its own enclosure (for example 	CERT OF SE
Control devices, visual indicators, and displays are clearly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	Control devices, visual indicators, and displays are clearly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: — name or trade mark of supplier; — certification mark, when required; — serial number, where applicable; — rated voltage, number of phases and frequency (if a.c.), — full-load current for each supply; — short-circuit rating of the equipment; — main document number (see IEC 62023). All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P1.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including; 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	16.2.2	Hazardous hot surfaces of the electrical equipment,	N/A
clearly and durably marked to their functions. 16.2.4 Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION 17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	clearly and durably marked to their functions. Equipment (e.g. controlgear assemblies) is legibly and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. TECHNICAL DOCUMENTATION P. 17.1 Documentation in agreed language provided. Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; That Teat Report is issued by the Company subgret to its Conditions of Issues for the issue and the winding and shall specifically address the issue volve and in sentence for your exclusive use Attention is deaven to the installace of contamination or insented for volume exclusive use Attention is deaven to the installace of contamination or insented for volume exclusive use Attention is deaven to the install specifically address the issue volve and reference are supply and shall specifically address the issue volve and address the issue volve.	× 5.0		ceri .s.d
and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. P Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	and durably marked. A nameplate is attached to the enclosure adjacent to each incoming supply with: — name or trade mark of supplier; — certification mark, when required; — serial number, where applicable; — rated voltage, number of phases and frequency (if a.c.), — full-load current for each supply; — short-circuit rating of the equipment; — main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P. 17.1 Documentation in agreed language provided. P. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Tem Report is issued by the Company subject to be Concilous of lessance of test Reports proteed overland and is intended for your exclusive use. Afterfion is drawn to the intribution of I liability. This Tem Report is issued by the Company subject to be Concilous of lessance of test Reports proteed overland and is intended for your exclusive use. Afterfion is drawn to the intribution of I liability. This Tem Report is issued by the Company subject to be Concilous of research proteed overland and is intended for your exclusive use. Afterfion is drawn to the intribution of I liability to the original dead for the state of the list and the in writing and thall specifically address the issue you	16.2.3	clearly and durably marked to their functions.	on P
each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. P 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	each incoming supply with: - name or trade mark of supplier; - certification mark, when required; - serial number, where applicable; - rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION 17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; The Tell Report is issued by the Company subject to its Corollars of insulation. Provided noveled and is intended for your exclusive use. Altertion is down to this inflations or in the Britishadous of listable. The Tell Report is issued by the Company subject to its Corollars of insulation. Provided provided in using and shall specifically address the issue you where the subset of the last report in in mining and shall specifically address the issue you where the sub-related to the insulation of the insulation of mining and shall specifically address the issue you where the sub-related in the insulation of the insulation of mining and shall specifically address the issue you where the subset of the last report in in mining and shall specifically address the issue you where the subset of the last report in the insulation of the subset of the user report in the insulation of the subset of the subset report in the insulation of	16.2.4	and durably marked.	CET P
- rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. P 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	- rated voltage, number of phases and frequency (if a.c.), - full-load current for each supply; - short-circuit rating of the equipment; - main document number (see IEC 62023). 16.2.5 All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This feel Report is issuad by the Company subject bits in Conditions of the Steptes granted overlead and is intended for your exclusive use Attention is drawn to the limitations of liability intended policies definition than its inside reportions the policy and the results these of based upon the information the you provided. You have soot date of dissulted to the results these of based upon the information the you provided You have soot date of dissulted for the results these of based upon the information the you provided You have soot date of dissulted for the results these of based upon the information the you provided.	EFF Wis-C	each incoming supply with: – name or trade mark of supplier; – certification mark, when required;	SEEFE ONIS
All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. P 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	All enclosures, assemblies, control devices, and components are plainly identified with the same reference designation as shown in the technical documentation. TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. P Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided, you negligence, Provided, however, such notice shall be in writing and address the issue you was the results there of based upon the information that you provided you have such notice shall be in writing and address the issue you was the results there of based upon the information that you provided to the such who the or shall be in writing and address the issue you	it ovis c	rated voltage, number of phases and frequency (if a.c.),full-load current for each supply;	SCERT ONIS O
components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. P Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	components are plainly identified with the same reference designation as shown in the technical documentation. 17 TECHNICAL DOCUMENTATION P 17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You bave 30 date of its search to be set you for any error or omisson caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you	4005		CENT DE
17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	17.1 Documentation in agreed language provided. 17.2 Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 date of if suctance of this test report to notify us of any error or omission caused by our negligance. Provided, however, that such notice shall be in writing and shall specifically address the issue you were the suse y	10.2,5	components are plainly identified with the same reference designation as shown in the technical	oli S
Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	Information provided with the electrical equipment include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report in ority us of any error or or mission caused by our negligience. Provided, however, that such notice shall be in writing and shall specifically address the issue you we	17 0	TECHNICAL DOCUMENTATION	,CIT
include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	include: a) A main document (parts list or list of documents); b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30.	17.1	Documentation in agreed language provided.	ON P
b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	b) Complementary documents including: 1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests request test by you and the results there of based upon the information that you provided. No wever, that such notice shall be in writing and shall specifically address the issue you we	17.2		CERT P
1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	1) a clear, comprehensive description of the equipment, installation and mounting, and the connection to the electrical supply(ies); 2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have you date of issuance of this test report to notify us of any error or omission caused by your negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you	Office	a) A main document (parts list or list of documents);	Ohio
2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate;	2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 date of issuance of this test report to notify us of any error or ormission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you we	iri ovisci	a clear, comprehensive description of the equipment, installation and mounting, and the	CERT OVISION
Contaminants) where appropriate; This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use Attention is drawn to the limitations of liability.	This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 date of issuance of this test report to notify us of any error or omission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you were	EFF OUTS OF	2) electrical supply(ies) requirements; 3) information on the physical environment (for example lighting, vibration, noise levels, atmospheric	SCEED ONIS O
	indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 date of issuance of this test report to notify us of any error or omission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you w		rt is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to	





	EN 60204-1			01
Clause	Requirement + Test	Result-Remark	Verdict	
.0.0	2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2	, C. C C C C C C C	.5.0	_
01/12	4) overview (block) diagram(s) where appropriate;	01/2 01/2	Olle	0
	5) circuit diagram(s);			
	6) information (as applicable) on:	Chr. Chr. Ch.	. CEL	
	 programming, as necessary for use of the equipment; 	11.5	1,15	-
	sequence of operation(s);	0, 0,	0,	0
	• frequency of inspection;	्रिया हिंदी	. LE	
	 frequency and method of functional testing; 	SV SV SV	. S. CV	
	guidance on the adjustment, maintenance, and	Mis Mis	Olis	ć
	repair, particularly of the protective devices and	A A A		
	circuits;	Chr. Chr. Ch	CER.	
	recommended spare parts list;	1.5	1.5	
	list of tools supplied. The description (including interconnection diagrams).	0,, 0,,	011.	C
	7) a description (including interconnection diagrams) of the safeguards, interlocking functions, and	A A A	i di	
	interlocking of guards against hazards, particularly	Dr. Cop. Cop.	Chr	
	for machines operating in a co-ordinated manner;	Mis Mis	Nis	0
	8) a description of the safeguarding and of the	4		
	means provided where it is necessary to suspend	CE CES CES	. CERI	
	the safeguarding (for example for setting or	S. S. S.	.5.0	
	maintenance), (see 9.2.4);	01/10 01/10	01/10	Ç
	9) instructions on the procedures for securing the	5 5 6	× ×	
	machine for safe maintenance; (see also 17.8);	the offer offer	CEL	
	10) information on handling, transportation and	11.5	11.6	
	storage; 11) information regarding load currents, peak	0, 0,	0,	<
	starting currents and permitted voltage drops, as	(A) (A)	195	
	applicable;	Sr Cich Cich	C.C.	
	12) information on the residual risks due to the	ONIS ONIS	0/10	
	protection measures adopted, indication of whether	A A A		
	any particular training is required and specification	Chr. Chr. Ch	C.E.R.	
1:5	of any necessary personal protective equipment.	5 ,5	1:5	4
17.3	Unless otherwise agreed between manufacturer and	0, 0,	0 P	5
	user: – the documentation is in accordance with relevant		is, a	
	parts of IEC 61082;	in the state of th	CCE	
	- reference designations are in accordance with	Mis Mis	Mis	C
	relevant parts of IEC 61346;	A A A		
	- instructions / manuals are in accordance with IEC	EL ELL EL	CER!	
	62079.	1.5	5	
	– parts lists where provided are in accordance with	0, 0,	0,	<
- 2	IEC 62027, class B.	A A A	- xx	+
17.4	Installation documents giving all information	Dr. Cop. Cop.	R	
	necessary for the preliminary work of setting up the machine (including commissioning) are provided.	Mis Mis	Nis	0
		4 4 4	× ×	
	(In complex cases, it may be necessary to refer to	EL EL EL	CER!	
1.6	the assembly drawings for details.)	(3)	(6)	+
	The recommended position, type, and cross-sectional areas of the supply cables to be	01, 01,	ON P	C
	installed on are clearly indicated.	\$ \$ 6	6	
Car	Data necessary for choosing the type,	Con Con Con	B	+
	characteristics, rated currents, and setting of the	115 115	1,65	
	overcurrent protective device for the supply	0, 0,	0,	(
	conductors to the electrical equipment of the	(A) (A)	195	
C.CV.	machine is stated (see 7.2.2).	St. C.C.	C.CV.	
Mis	The size, purpose, and location of any ducts in the	Mis Mis	ON P	0
	foundation that are to be provided by the user are			





	EN 60204-1		
Clause	Requirement + Test	Result-Remark	Verdict
15.00	detailed (see Annex B).	7.6. 1.6. 1.6. Cr	118
uis-chri	The size, type, and purpose of ducts, cable trays, or cable supports between the machine and the associated equipment that are to be provided by the	ERI JIS-CERI JIS-CERI	P
O. CERI	user are detailed (see Annex B). A diagram indicates where space is required for the removal or servicing of the electrical equipment.		P
Mis.	An interconnection diagram or table is provided, where it is appropriate. They give full information about all external connections.	olis olis	OVÍP
	Where the electrical equipment is intended to be operated from more than one source of electrical supply, the interconnection diagram or table does indicate the modifications or interconnections required for the use of each supply.		P.F.
17.5	Where it is necessary to facilitate the understanding of the principles of operation, an overview diagram is provided.	a distance	OJISP X
7.6	The circuit diagram shows the electrical circuits on the machine and its associated electrical equipment. Any graphical symbol not shown in	045.64	P.F.P
SERI	IEC 60617-DB:2001 are separately described on the diagrams or supporting documents. The symbols and identification of components and	gen general	Str.
011	devices are consistent throughout all documents and on the machine.		01/1
Wis-Chr	Switch symbols on the electromechanical diagrams are shown with all supplies turned off (for example electricity, air, water, lubricant) and with the machine and its electrical equipment ready for a normal start. Conductors are identified in accordance with 13.2.		Pitt
Wis-CERT	Characteristics relating to the function of the control devices and components which are not evident from their symbolic representation are included on the diagrams adjacent to the symbol or referenced to a footnote.	CHÍ NE CHÍ	OVIP OVIP
17.7	An operating manual detailing proper procedures for set-up and use of the electrical equipment is provided.	eti e eti	P
01/10	Particular attention is given to the safety measures.	On One	о Р
	Where the operation of the equipment can be programmed, detailed information on methods of programming, equipment required, program verification, and additional safety procedures (where required) is given.	EFF OUTS CEFF OUTS CEFF	OViS-CERT
17.8	A maintenance manual detailing proper procedures for adjustment, servicing and preventive inspection, and repair is provided.	One of the One of the	Olisbirgh
	Recommendations on maintenance/service intervals and records are part of that manual.	elek irselek irselek	J. 5. CEP
	Where methods for the verification of proper operation are provided (for example software testing programs), the use of those methods is detailed	eki ceki ceki	On CER
17.9	The parts list, where provided, comprises, as a minimum, information necessary for ordering spare or replacement parts (for example components,	di di d	ON'P





Chi Onisich		Wisith Wisith Wisith Wisith Wisith	or merce merce	Wis-ch.	OVISCOLI	
CELL ONE CON	ViS-CERT	Page 99 of 104 EN 60204-1	Report No.:OViS202	405009M-F	ONIS CERT	
	Clause	Requirement + Test	Result-Remark	Verdict	L/A	
	OVISION	devices, software, test equipment, technical	01/2/01/2/01	01/5:01	OVIS.CL	
		documentation) required for preventive or corrective maintenance including those that are recommended to be carried in stock by the user of the equipment.	epi stepi	SCH	.S.CERT	
	18	VERFICATION		ON	ON	

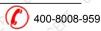
S.CERI	documentation) required for preventive or corrective maintenance including those that are recommended to be carried in stock by the user of the equipment.	, S.CERI
07		0,
18.1	VERFICATION The extent of verification will be given in the dedicated product standard for a particular machine. Where there is no dedicated product standard for the machine, the verifications shall always include the items a), b) and f) and may include one or more of the items c) to e):	
Ovis-CERT	 a) verification that the electrical equipment complies with its technical documentation; b) in case of protection against indirect contact by automatic disconnection, conditions for protection by automatic disconnection shall be verified according to 18.2; c) insulation resistance test (see 18.3); d) voltage test (see 18.4); e) protection against residual voltage (see 18.5); f) functional tests (see 18.6). 	
18.2	Verification of conditions for protection by automatic disconnection of supply	P
18.2.2	Test 1: Verification of the continuity of the protective bonding circuit	_
ON'S CERT	The resistance of each protective bonding circuit between the PE terminal and relevant points that are part of each protective bonding circuit is measured with a current between at least 0,2 A.	OWP OVIS-CERT
OVIS-CERT	And the resistance measured is in the expected range according to the length, the cross sectional area and the material of the related protective bonding conductor.	OViS-CERT
c.E.F.	Test 2: Fault loop impedance verification and suitability of the associated overcurrent protective device.	P
Olis	The connections of the power supply and of the incoming external protective conductor to the PE terminal of the machine are verified by inspection.	OVI ^{SP}
OVIS-CERT	The conditions for the protection by automatic disconnection of supply in accordance with 6.3.3 and Annex A a verified by both: 1) A verification of the fault loop impedance by - calculation, or - measurement in accordance with A.4, and	N/A
ON SIERY	2) A confirmation that the setting and characteristics of the associated overcurrent protective device are in accordance with the requirements of Annex A or table 10	N/A
18.3	Insulation resistance tests (facultative) The insulation resistance measured at 500 V d.c. between the power circuit conductors and the protective bonding circuit are not less than 1 M Ω .	O"P
18.4	Voltage test (facultative) Testing voltage; twice the rated supply voltage of the equipment or 1 000 V whichever is the greater	O P
	With test voltage applied between the power circuit conductors and the protective bonding circuit for a	011,





Page 100 of 104

Clause	EN 60204-1 Requirement + Test	Resu	lt-Remark	Verdict
ONE	period of approximately 1 s. there is no disrudischarge occurred.	uptive	1.8. 01.8. O	01/5:01
18.5	Protection against residual voltages (faculta Compliance with 6.2.4. is ensured	tive)	. S.CEP	Petr
18.6	Functional tests The function of circuits for electrical safety (to example earth fault detection) is insured.	for		ON P
OVISION	Olier Olier Olier Olier	04:5:00	1:5:00 OV:5:00	OViSiO
	or or or or or or		CERT CERT	
	ONISCEEN ONISCEEN ONISCEEN ONISCEEN ONISCEEN			
				ONIS





		EN 60204_1A - ATTACHMENT		
Clause	Requirement + Test		Result-Remark	Verdict

ATTACHMENT TO TEST REPORT EN 60204-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

SAFETY OF MACHINERY - ELECTRICAL EQUIPMENT OF MACHINES

PART 1: GENERAL REQUIREMENTS

Differences according to EN 60204-1:2018

Attachment Form No. EU_GD_IEC60204_1A

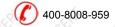
Attachment Originator: Electrosuisse Master Attachment: 2011-12

Copyright © 2009 IEC System for Conformity Testing and Certification of Electrical

Equipment (IECEE), Geneva, Switzerland. All rights reserved.

	CENELEC COMMON MODIFICATIONS (EN)		1,15
1.	Scope	4 4	_
OVIS-CERT	 are sewing machines, units, and systems; NOTE 7 For sewing machines, see EN 60204-31. are hoisting machines. NOTE 8 For hoisting machines, see EN 60204-32. 	is-clift wis-clift	_
3.	Terms and definitions	COLUMN COLUMN	P
3.56	Uncontrolled stop NOTE This definition does not imply any particular state of other (for example, non- electrical) stopping devices, for example mechanical or hydraulic brakes that are outside the scope of this standard.	is out	ON'P
4.2	Section of equipment	á á	P
4.2.2 CERT	The electrical equipment of the machine shall satisfy the safety requirements identified by the risk assessment of the machine. Depending upon the machine, its intended use and its electrical equipment, the designer may select parts of the electrical equipment of the machine that are in compliance with EN 60439-1 and, as necessary, other relevant parts of the EN 60439 series (see also Annex F).	isceri ovisceri isceri ovisceri	ONIS CERT
4.4	Physical environment and operating conditions		WiP
4.4.1	The electrical equipment shall be suitable for the physical environment and operating conditions of its intended use. The requirements of 4.4.2 to 4.4.8 cover the physical environment and operating conditions of the majority of machines covered by this part of EN 60204. When special conditions apply or the limits specified are exceeded, an agreement between user and supplier (see 4.1) is recommended (see Annex B).	isceri ovisceri	P Olis-Celti
4.4.3	Electrical equipment shall be capable of operating correctly in the intended ambient air temperature. The minimum requirement for all electrical equipment is correct operation between air temperatures of +5 °C and +40 °C. For very hot environments (for example hot climates, steel mills, paper mills) and for cold environments, additional measures are recommended (see Annex		Politi olisicelii

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days fro date of issuance of this test report notify us of any error or omission caused by our negligence, Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raises useful to raise such its provided and the correctness of the report protections.





	EN 60204_1A - ATTACHMENT	
Clause	Requirement + Test Result-Remark	Verdic
.5	.5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .	.5
011	(B). 01 01 01 01 01 01	0,11
1.4.7	When equipment is subject to radiation (for example microwave, ultraviolet, lasers, X-rays), additional	N/A
	measures shall be taken to avoid malfunctioning of the equipment and accelerated deterioration of the insulation. A special agreement is recommended between the supplier and the user (see Annex B).	dis eff
1.4.8	Undesirable effects of vibration, shock and bump (including those generated by the machine and its associated equipment and those created by the	N/A
	physical environment) shall be avoided by the selection of suitable equipment, by mounting it away from the machine, or by provision of anti- vibration mountings. A special agreement is recommended	OVIS-CET
- C.C.E.R.	between the supplier and the user (see Annex B). Incoming supply conductor terminations and devices for disconnecting and	
Olip 1 x	switching off Add:	OVITP
5.1 SEEFE	See 17.8 for the provision of instructions for maintenance.	8 -
5.4	NOTE 2	_
	Further information on the location and actuation of devices such as those used for the prevention of unexpected start-up is provided in EN 60447.	8
	After the fifth paragraph, replace note 2 with: NOTE 3 The selection of a device should take into account, for example, information derived from the risk assessment, intended use and foreseeable misuse of the device. For example, the use of disconnectors, withdrawable fuse links	<u>\$</u>
9 5	Control circuits and control functions	.6.0
9.2.6.3	Enabling control (see also 10.9) is a manually activated control function	
- Chr.	interlock that:	5.
Olisi	a) when activated allows a machine operation to be initiated by a separate start control	N/A
	b) when de-activated – initiates a stop function in accordance with 9.2.5.3, and – prevents initiation of machine operation.	N/A
C.CERÍ	Enabling control shall be so arranged as to minimize the possibility of defeating, for example by requiring the de-activation of the enabling control device	N/A
	before machine operation may be reinitiated. It should not be possible to defeat the enabling function by simple means.	E OVIE
9.2.7.3	Stop: S S	
o" CERT	Cableless control stations shall include a separate and clearly identifiable means to initiate the stop function of the machine or of all the operations that can cause a hazardous situation. The actuating	i sich

marked or labelled as an emergency stop device

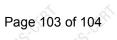
Operator interface and machine-mounted control devices



10

(see10.7).

Replace table 2 with



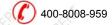


	01/15/01	ONISION	ONISION	ONIS	01/15/01	01.5.0	0415:01	ON'S CO	OVIS,CO		
Vis-cert				Page 10	03 of 104		Report I	No.:OViS20	02405009N	/I-R1	
			EN 6	60204_1A	- ATTACH	IMENT				01/10	
Clause	Requir	ement + T	est			R	Result-Ren	nark	Verdict	- CERT	
016	01.55	0465	01:65	015	01:5	01:51	0465	045	01.5	Oligina	
4	~	Table	2 – Colour co	ding for pus	sh-button act	uators and th	eir meaning	s	· /		

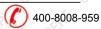
Clause	Requirement + Test		Result-Remark	Verdict			
.5	,5,5,7,5,5,7,5,5,7	.55, .55	(3)	.5			
0,	0, 0, 0,			0,11			
S	Table 2 – Colour c	oding for push-button actuators a	nd their meanings				
, CX	Colour Meaning	Explanation	Examples of application	C'CL.			
i Olis	RED Emergency	Actuate in the event of a hazardous situation or emergency	Emergency stop Initiation of emergency function (see also 10.2.1)	Ollis			
ovis-ce	YELLOW Abnormal	Actuate in the event of an abnormal condition	Intervention to suppress abnormal condition Intervention to restart an interrupted automatic cycle	ON'S CEN			
\$ 25	BLUE Mandatory	Actuate for a condition requiring mandatory action	Reset function	CRÍ			
.5.00	GREEN Normal	Actuate to initiate normal conditions	(See 10.2.1)	.5.0			
0/1/2	WHITE ON ON	011, 011, 011,	START/ON (preferred) STOP/OFF	07/12			
E CE	GREY No specific meaning assigned	For general initiation of functions except for emergency stop	START/ON STOP/OFF	CERT			
11:5	BLACK	115° 115° 115°	START/ON STOP/OFF (preferred)	1:15			
i Olisicki	slip- ring assemblies The protective bonding cir covers or cover plates of r underfloor ducts. Where n the bonding circuit, their c (see Clause 18)	metal enclosures or netal hinges form a part of	SERT OUTS CHERT	PHI			
17.	Technical documentation	CELL CELL	CELL CELL CELL	CETT			
17.2	information on the phys (forexample lighting, vibra	Information to be provided 3) information on the physical environment (forexample lighting, vibration, atmospheric contaminants) where appropriate;					
18	Verification	01/12 01/13 01/13	Ohis Ohis	N/A			
18.1	General (5 th paragraph) For tests in accordance w measuring equipment in a 61557 series is applicable NOTE For other tests as r standard measuring equip	ccordance with the EN	SERÍ DVIS-CERÍ	N/A			

SCERT	ON'S CERT	OVISCERT	61557 series is applicable. NOTE For other tests as required by this standard measuring equipment in accordance with relevant IEC or European Standards should be used.	Sight Office	SERT OUIS CE
CRIT	28	ing.		2	critical contractions of the contraction of the con
C.CV	S.C.	ZA	ANNEX ZA, Normative references to IEC standards (normative)	P	30
	ONIS	01/10	Normative references to international publications with their corresponding European publications	- 0413	ONIS
CERT	CERT	CERT	The following referenced documents are indispensable for the application of		ithi ci
5	ON'S	Wis	this document. For dated references, only the edition cited applies. For undated	Nis.	Wis.
CRI	. K		references, the latest edition of the referenced document (including any amendments) applies.		eri e
Sich	Wis-Ct	Wis.Ct	NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.	Nie.	OVIS.CY
6					á .
CELL	Ciclin	ZZ	ANNEX ZZ, Essential requirements EC directives (informative)	P S	SET SE
Š	ONIS	Ollis	Coverage of Essential Requirements of EC Directives This European Standard has been prepared under a mandate given to	- Oliza	ONis
.0.	.0.		CENELEC by the European Commission and the European Free Trade		

ZZ	ANNEX ZZ, Essential requirements EC directives (informative)	P
11/2	Coverage of Essential Requirements of EC Directives	_
	This European Standard has been prepared under a mandate given to	
	CENELEC by the European Commission and the European Free Trade	



Claus	Deguiner		A - ATTACHM		Domesile	Maraliat	0,
Clause	Requirement +	rest	.5	Resul	-Remark	Verdict	
0,1	essential requir	d within its scope the ements out of those					0
· S.CER.	98/37/EC:		A. S.CER.				
	- 1.1.2 - 1.2						0)
	- 1.5.1 - 1.5.4	" " " " CEEE" " " CEEE	Al C.CERI	. C. CERN			
ONIS	- 1.6.4 (for a	olation of electrical ccess to electrical e		nachinery)			0
C.CERI	- 1.7.0 - 1.7.1	, cicky cick				F)	
Ohis	- 1.7.2 (for re - 1.7.4(c)	esidual risks of an e	lectrical natu	(e) (1)			01
C.CERT	Compliance wit	h this standard prov				8	
	91,	itial requirements of ner requirements an					01
CERT		falling within the so			, CE . CE	<u> </u>	





Si	OVISION		ovision ovision	OVISION	01.5.01	04:5:01	ONISICI	OVisiCr	OVisiCi	OVisiCr
SCERI	, O	Vi5-CERT			Page 1	of 28		Report N	o.:OViS20)2405009M-
					2006/42/	EC Annex I	ı			
CERT.		Clause	Requirement +	Test			Re	esult-Rem	ark	Verdict
5		5	.5	.5	.50	5	.5	.5	5	.5
		103	ESSENTIAL HE	EALTH AN	D SAFET	Y REQUIF	REMENTS	3 0 7	011	011

	2006/42/EC Annex I							
	Clause	Requirement + Test	Result-Remark	Verdi				
5	10115	ESSENTIAL HEALTH AND SAFETY REQUIREME	NTS OF THE STATE O	07/2				
-C.P.	1.1	GENERAL REMARKS		_				
,CV	1.1.1.	Definitions	(1,2,0) 1,2,0)	11.6				
SER	Wis-CERT	For the purpose of this Annex: (a) 'hazard' means a potential source of injury or damage to health;	Information only	O"				
o CEPÉ	OVIS-CERT	(b) 'danger zone' means any zone within and/or around machinery in which a person is subject to a risk to his health or safety;	Information only	Olis,				
o CEPA	,:S:(ERI	(c) 'exposed person' means any person wholly or partially in a danger zone;	Information only					
SCER	OV.	(d) 'operator' means the person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery;	Information only	9,5				
SER	O" ON STEELER	(e) 'risk' means a combination of the probability and the degree of an injury or damage to health that can arise in a hazardous situation;	Information only	0,				
CER	OVISCERÍ	(f) 'guard' means a part of the machinery used specifically to provide protection by means of a physical barrier;	Information only	ON'S				
o CEPÉ	OVISCUERT	(g) 'protective device' means a device (other than a guard) which reduces the risk, either alone or in conjunction with a guard;	Information only	ON'S'				
SUR	OVIS-CERT	(h) 'intended use' means the use of machinery in accordance with the information provided in the instructions for use;	Information only	01/13				
o CERT	Olis-Ceffi	(i) 'reasonably foreseeable misuse' means the use of machinery in a way not intended in the instructions for use, but which may result from readily predictable human behaviour.	Information only	OVIS.				
5	1.1.2.	Principles of safety integration	Nig. Nig.	1.5				
SCER	Ovis-cERT	(a) Machinery must be designed and constructed so that it is fitted for its function, and can be operated, adjusted and maintained without putting persons at	The machine has	ON'S				
o CER		risk when these operations are carried out under the conditions foreseen but also taking into account any reasonably foreseeable misuse thereof.	designed and constructed to fit for	ONIGE OF				
o CER	OVISICEER	The aim of measures taken must be to eliminate any risk throughout the foreseeable lifetime of the machinery including the phases of transport,	its function.	olis.				





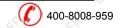
	2006/42/EC Anne	ex I		07,
Claus	Requirement + Test	Result-Remark	Verdict	
.5		.5 .5 .5	5	
011	assembly, dismantling, disabling and scrapp	ping.011 011 011	07	0
. Vis	(b) In selecting the most appropriate method manufacturer or his authorised representative		P	- 1
	apply the following principles, in the order gi	ven: risk assessment.		
	- eliminate or reduce risks as far as possible	Inherently safe	COL	
	(inherently safe machinery design and	machinery design has	s of P	0
	construction),	been considered	is, is	ie.
5		Safety guards used in	1 .5.00	1
	- take the necessary protection measures in	power transmission	ON P	0
	to risks that cannot be eliminated,	parts	in Les	
1.5	- inform users of the residual risks due to an	y , (5)	1.6	
	shortcomings of the protective measures ad	11. 11.	0,,	0
	indicate whether any particular training is re	quired	PUR	6
	and specify any need to provide personal pro-		11:5	
	equipment.	0, 0, 0,	0,	0
((c) When designing and constructing machin	nery,	CERT	7
	and when drafting the instructions, the manu	. 61	N'S'	2
	or his authorised representative must envisa		P	
	only the intended use of the machinery but a	E. SE. SE. SE.	CER	
	reasonably foreseeable misuse thereof.	Wis Wis Wis	Nis	0
~	The machinery must be designed and const	ructed	i .ai	
	in such a way as to prevent abnormal use if		Cotte	
	use would engender a risk. Where appropria	1112	Ohis	0
	instructions must draw the user's attention to		P	
	—which experience has shown might occur		· S. Chi	
	which the machinery should not be used.	One One One	07/10	0
	(d) Machinery must be designed and constru	ucted to	N CR	*
	take account of the constraints to which the		1.5	.,30
	operator is subject as a result of the necess	Fixed guards used	011.b	0
	foreseeable use of personal protective equip	6. 6. 6.	A CERT	i.e.
1.15	(e) Machinery must be supplied with all the	C C C	11:15	-
	equipment and accessories essential to ena		(P	0
	be Adjusted, maintained and used safely.		S. CER	6
1.1.3.	Materials and products	Me Me Me	11.5	-
n.j.J.		Those meterials uses	(A	7
	The materials used to construct machinery of		D. C.	-
	products used and created during its use medanger persons' safety or health	1112	Wig	0
~	endanger persons' safety or health.	person's safety.	5 6	.
	In particular, where fluids are used, machine	(C) (C)	C. Citic	
	be designed and constructed to prevent risks filling, use, recovery or draining.	s due to	ONIT	0





Page 3 of 28

	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
		150	4:5
1.1.4.	Lighting		0 -
	Machinery must be supplied with integral lighting	City, City, City,	CER.
	suitable for the operations concerned where the	No lighting	N/A
	absence thereof is likely to cause a risk despite		· ·
.500	ambient lighting of normal intensity. Machinery must be designed and constructed so	.5 .5	.50
	that there is no area of shadow likely to cause	01, 01,	011.
	nuisance, that there is no irritating dazzle and that	epi epi epi	N/A
	there are no dangerous stroboscopic effects on	115	115
	moving parts due to the lighting.	7 7 7	0.
CER	Internal parts requiring frequent inspection and	CALL TOTAL	C.C.E.
	adjustment, and maintenance areas must be	Ohis Ohis	N/A
	provided with appropriate lighting.	à à à	
1.1,5.	Design of machinery to facilitate its handling	50 .5.50	.500
0110	Machinery or each component part thereof must:	0/10 0/10	0/1
CERT	- be capable of being handled and transported	THE SHE SHE	· CERT
	safely,	See the instruction	11.5
	- be packaged or designed so that it can be stored	manual	0 P
CER.	safely and without damage	City, City, City,	CER.
	During the transportation of the machinery and/or its	Mis Mis	Wis
	component parts, there must be no possibility of	The machine can be	
	sudden movements or of hazards due to instability	handled using	·°P
	as long as the machinery and/or its component	suitable handling	01/10
	parts are handled in accordance with the	equipment.	· · · · · · · · · · · · · · · · · · ·
116:0"	instructions.	15.01	115
	Where the weight, size or shape of machinery or its		0,
	parts prevents them from being moved by hand, the	machinery or each	CER.
01,2	component part must:	11 1 - 0 1	01,2
	- either be fitted with attachments for lifting gear, or	It has been fitted the	P
5	- be designed so that it can be fitted with such	lifting gear	.:5
	attachments or	01, 01,	0), b
- CEPT	- be shaped in such a way that standard lifting gear		C.E.P.
	can easily be attached.	Wish Wish	N. P
0,	Where machinery or one of its component parts is to	be moved by hand its	0.
	must:	J. J. Horod by Harid, it	CER
01/2	- either be easily movable, or	Not this situation	N/A
, d	- be equipped for picking up and moving in		که.
	complete safety.	St. C.St. C.St.	N/A





Clause	Requirement + Test	Result-Remark	Verdict	
0/1/2	Special arrangements must be made for the	01/13	Office	01,12
	handling of tools and/or machinery parts which,		N/A	
	even if lightweight, could be hazardous.		S.C.C.	5
1.1.6.	Ergonomics	04/10	0,7	07/1
CERT	Under the intended conditions of use, the		CERT	
W.S.	discomfort, fatigue and physical and psychological	Considerations based	Wi5'	1,5
0.	stress faced by the operator must be reduced to	on the ergonomic	Р	0
CERT	the minimum possible, taking into account	principles on pendant	CERT	
	ergonomic principles such as:	Ohis Ohis	Olis	01,12
	— allowing for the variability of the operator's		D. RÍ	
	physical dimensions, strength and stamina,		Politic	
011	— providing enough space for movements of the	011 011	011	01/10
· LE	parts of the operator's body,	CHI CHI	- CE	
1.5	avoiding a machine-determined work rate,	1.2	, P	1.5
0,	— avoiding monitoring that requires lengthy	0, 0,	0,	00
CERI	concentration,	CERT CERT CERT	CERT	
Nis	— adapting the man/machinery interface to the	Miz Miz	OVIE	11,5
	foreseeable characteristics of the operators.			
1.1.7.	Operating positions	cer exten exten	C.Stir	C
07/13	The operating position must be designed and	The operating	01/13	0/1/2
	constructed in such a way as to avoid any risk due	position is decided by	N/A	
1,5	to exhaust gases and/or lack of oxygen.	end user	1.5	1.5
0,	If the machinery is intended to be used in a	0, 0,	0,	0,
	hazardous environment presenting risks to the	the the the	CERT	
	health and safety of the operator or if the machinery	Wis Wis	Wisi	11,5
	itself gives rise to a hazardous environment,	See above	N/A	
	adequate means must be provided to ensure that	CELL CELL	. S. CELL	.6
	the operator has good working conditions and is	One One	ONLY	0/1/2
- CR	protected against any foreseeable hazards. Where appropriate, the operating position must be	A	28	
	fitted with an adequate cabin designed, constructed	1,5,0	115	1.5
	and/or equipped to fulfil the above requirements.	0, 0,	0,	0,
	The exit must allow rapid evacuation. Moreover,	See above	N/A	
	when applicable, an emergency exit must be	CCC above	Will A	Nis
, A	provided in a direction which is different from the		1	
C.CER.	usual exit.	CELL CELL	C.CEN.	5
1.1.8.	Seating	0/1/2 0/1/2	0/1/2	01,12
o.	Where appropriate and where the working	(4) (4) (4)	. É	
1.5.00	conditions so permit, work stations constituting an	Not this operating	N/A	5
	integral part of the machinery must be designed for	type	02	01,





	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdi
01:5	the installation of seats.	04'5	0115
, SCERI	If the operator is intended to sit during operation and the operating position is an integral part of the	eth ceth cochh	.5
, cfki	machinery, the seat must be provided with the machinery.	See above	N/A
OVIS	The operator's seat must enable him to maintain a stable position. Furthermore, the seat and its distance from the control devices must be capable	See above	N/A
ONIS CERT	of being adapted to the operator. If the machinery is subject to vibrations, the seat must be designed and constructed in such a way as to reduce the vibrations transmitted to the operator	CERT ONES CERT ONES CERT	OVIE CH
OVIS-CERÍ	to the lowest level that is reasonably possible. The seat mountings must withstand all stresses to which they can be subjected. Where there is no floor	See above	N/A
1 Wis CERT	beneath the feet of the operator, footrests covered with a slip- resistant material must be provided.	SERT OVES CERT OVES CERT	Olisicki
1.2. 1.2.1.	CONTROL SYSTEMS Safety and reliability of control systems		_
71,2	Control systems must be designed and constructed	The following	11,2
Wis-Clair	in such a way as to prevent hazardous situations from arising. Above all, they must be designed and constructed in such a way that:	requirements have been achieved by the control systems.	PE
· S.CEPA	they can withstand the intended operating stresses and external influences,	Considered	P
ONE CERT	— a fault in the hardware or the software of the control system does not lead to hazardous situations,	Fault tolerance structure used	Pr
CERT	errors in the control system logic do not lead to hazardous situations,		P
ovisi	 reasonably foreseeable human error during operation does not lead to hazardous situations. 	of of of	Oli P
. S. Chi	Particular attention must be given to the following po	oints:	-
ONE	— the machinery must not start unexpectedly,	Power isolating device used	P
ONISCIE	— the parameters of the machinery must not change in an uncontrolled way, where such change may lead to hazardous situations,	at at at	ON P
OVIS OFF	the machinery must not be prevented from stopping if the stop command has already been	Oliz CELL Oliz CELL	ovi P





Clause	Requirement + Test	Result-Remark	Verdict
.5	.5' .5' .5' .5' .5'	.55	5
07	given,	0, 0,	07,
E PA	— no moving part of the machinery or piece held by	CRI CRI CRI	- S
	the machinery must fall or be ejected,	(S) (S) (S)	H.S
0,4,	— automatic or manual stopping of the moving	0, 0,	0,,
	parts, whatever they may be, must be unimpeded,	ethi ethi ethi	P
116	— the protective devices must remain fully effective	1.5	1.5
	or give a stop command,	0, 0,	0 P
CERT	— the safety-related parts of the control system	ELFE CELFE	CE!
	must apply in a coherent way to the whole of an	Wisi Wisi	1.15
	assembly of machinery and/or partly completed		O P
	machinery.	CER. CER. CER.	SEL
Ohio	For cable-less control, an automatic stop must be	01/12	01/12
	activated when correct control signals are not	No such case	N/A
	received, including loss of communication.	Cerr Cerr	C.CET
.2.2.	Control devices	ONE ONE	ONIT
(8)	Control devices must be:	(A) (A) (A)	
.S.CV	.S. 23. 25. 25. 25. 25.	Use of word	.5
	— clearly visible and identifiable, using pictograms	description marked	0 ₁₁ , b
	where appropriate,	clearly	25
115	— positioned in such a way as to be safely operated	olourly (1)	1:15
	without hesitation or loss of time and without	0, 0,	Р.
	ambiguity,	EEF EEF	SEP
N.C.	— designed in such a way that the movement of the	1.6	11.6
	control device is consistent with its effect,	A A A	Р
C.C.C.C.	located outside the danger zones, except where	(K) (K) (K)	500
	necessary for certain control devices such as an	Miz Miz	Wig.
	emergency stop or a teach pendant,	6 6 6	ó
- C.O.	— positioned in such a way that their operation	Outside of moving	- 50
	cannot cause additional risk,	parts	ON P
(R)	designed or protected in such a way that the	A CA CA	- 29
	desired effect, where a hazard is involved, can only	(C) (C) (C) (C)	,CV
	be achieved by a deliberate action,	0, 0,	0,,
- CEPA	made in such a way as to withstand foreseeable		- 4
	forces; particular attention must be paid to	118:0	11:5:0.
		0, 0,	P
	emergency stop devices liable to be subjected to	EER CEER CEER	c (c)
V16.0	considerable forces.	15'	115
	Where a control device is designed and constructed	0, 0,	0.
	to perform several different actions, namely where	It has been marked	R
	there is no one-to-one correspondence, the action	clearly	.5

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our regligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





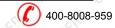
	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
4:5		150	115
0	subject to confirmation, where necessary.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	0
	Control devices must be so arranged that their	CERT CERT CERT	CER
	layout, travel and resistance to operation are	Oliz Oliz	ON'S
	compatible with the action to be performed, taking		
.500	account of ergonomic principles.		.500
	Machinery must be fitted with indicators as required	Fitted with indicator	01/10
	for safe operation. The operator must be able to	on button	P
1,2,0,	read them from the control position.	12 12	1,6
	From each control position, the operator must be	0, 0,	0,,
	able to ensure that no-one is in the danger zones,	Only one control	, cetter
	or the control system must be designed and	position	N/A
	constructed in such a way that starting is prevented	A A A	\ \ \ \ \
	while someone is in the danger zone.	Electric Color	CER.
	If neither of these possibilities is applicable, before	Wis Wis	Olis
	the machinery starts, an acoustic and/or visual	NS	NUAS
	warning signal must be given. The exposed persons	0. 0.	N/A
	must have time to leave the danger zone or prevent	01/13 01/13	ONIS
20	the machinery starting up.	As As As	- 28
	If necessary, means must be provided to ensure	(S) (S) (S)	.5.0
	that the machinery can be controlled only from	Not this situation	N/A
	control positions located in one or more	effi effi effi	· cffi
115,0	predetermined zones or locations.	1/5'	118,0
	Where there is more than one control position, the	04	0,
	control system must be designed in such a way that		, Pritti
	the use of one of them precludes the use of the others, except for stop controls and emergency	both two control	Wis
		position	
	stops. When machinery has two or more operating	St. St. St.	- Collin
	positions, each position must be provided with all	Onis Onis	ONIE
	the required control devices without the operators	See above	DOR
		oce above	5
	hindering or putting each other into a hazardous situation.	0, 0,	011,
1.2.3.		THE SHE	_c;p\(\frac{1}{2}\)
1.2.3.	Starting It must be possible to start machinery only by	Starting is only as to	115
	It must be possible to start machinery only by	Starting is only can be	0
	voluntary actuation of a control device provided for	operated by voluntary	CERT
N'S'	the purpose.	action	11:5
· · · · ·	The same requirement applies:		~ ~
	— when restarting the machinery after a stoppage,	Tested	Pilin
1,12	whatever the cause,	Mis Mis	1,12





	Claves	2006/42/EC Annex I	Docult Domoric	\/a ==!:=!
	Clause	Requirement + Test	Result-Remark	Verdic
S CERT	Olive	when effecting a significant change in the operating conditions.		P
Nis-Cr	OVIS CERT	However, the restarting of the machinery or a change in operating conditions may be effected by voluntary actuation of a device other than the	SERÍ SERÍ SERÍ	ovis-or
yis C.GER	OVIS	control device provided for the purpose, on condition that this does not lead to a hazardous situation.	clej clej clej	ovies creft
yiis chi	OVIS CERT	For machinery functioning in automatic mode, the starting of the machinery, restarting after a stoppage, or a change in operating conditions may be possible without intervention, provided this does	Considered in design	OVIS PSE
Nis-CER	OVISCHEN	not lead to a hazardous situation. Where machinery has several starting control devices and the operators can therefore put each	CER ORISCERI	0115.05
N.S. CER	OVIS-CERI	other in danger, additional devices must be fitted to rule out such risks. If safety requires that starting and/or stopping must be performed in a specific sequence, there must be devices which ensure that		W. P
N.S.CV	1.2.4.	these operations are performed in the correct order. Stopping	or discor discor	0115,01
CER	1.2.4.1.	Normal stop		
Nis Sch	OVIS	Machinery must be fitted with a control device whereby the machinery can be brought safely to a complete stop.	It has been equipment	P
Nis-CER	ONISCERT	Each workstation must be fitted with a control device to stop some or all of the functions of the machinery, depending on the existing hazards, so that the machinery is rendered safe.	Each control station has equipped stop device	PER
Nie CER	Wis CER.	The machinery's stop control must have priority over the start controls.	CER OVIS CER OVIS CERN	W. P. F.
N'S CER	OVIS-CERT	Once the machinery or its hazardous functions have stopped, the energy supply to the actuators concerned must be cut off.	SERÍ OVIS-CERÍ OVIS-CERÍ	ON'S PUE
18	1.2.4.2.	Operational stop	chi chi	
11.5.CV	OVIS.O	Where, for operational reasons, a stop control that does not cut off the energy supply to the actuators is	Oligical Oligical	0115.0
CER	Wis CERT	required, the stop condition must be monitored and maintained.	Provided	JI:E
12				

i.r.t.Hi OVIS-CEFT, This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report in to report includes all of the tests report to remark that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



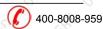


Page 9 of 28

OV	is-cert	.5	.5	5	5	.5' .5'	5
			2006/42/E	C Annex I			
- ER	Clause	Requirement + Tes	st		Resi	ılt-Remark	Verdict
1.5	5	.5	,5, ,5,	,5	.5	,5, ,5,	.5
0,		.0.				7	07
ON'S CE.		.6		ctual or	1112	110	N/A
	ONIS CHE	Olis Time	Machinery must be emergency stop de	Clause Requirement + Test Machinery must be fitted with one or	Clause Requirement + Test Machinery must be fitted with one or more emergency stop devices to enable actual or	Clause Requirement + Test Results Requirement + Test Results Requirement + Test Results Results Requirement + Test Results Res	Clause Requirement + Test Result-Remark Machinery must be fitted with one or more emergency stop devices to enable actual or Low power generating set, not required emergency stop per

9	115 115 115 115 115 115 115	1. 015	1,5	11,5
S.CEFFI ONIS-CEFFI	Machinery must be fitted with one or more emergency stop devices to enable actual or impending danger to be averted.	Low power generating set, not required emergency stop per EN ISO 8528- 13	N/A	OV:S
eth eth	The following exceptions apply:	SERI SERI SERI	- EST	
Si disi	machinery in which an emergency stop device would not lessen the risk, either because it would	a die	ONIE	01:5
5 CERY OVIS CERY	not reduce the stopping time or because it would not enable the special measures required to deal with the risk to be taken,	No such case	N/A	Olis
5.CER OVIS.CER.	— portable hand-held and/or hand-guided machinery.	ovisiothi ovisiothi	N/A	0115
	The device must:		-	
Sich Wisich	have clearly identifiable, clearly visible and quickly accessible control devices,	onie con onie con	N/A	01/5
S-CERT NIS-CERT	stop the hazardous process as quickly as possible, without creating additional risks,	chi nischi nischi	N/A	1.5
CERT CERT	 where necessary, trigger or permit the triggering of certain safeguard movements. 	eki eki eki	N/A	0,
Schi Origination	Once active operation of the emergency stop device has ceased following a stop command, that command must be sustained by engagement of the emergency stop device until that engagement is	ERÍ OVIS-CERÍ OVIS-CERÍ	OVIS-CERT	Olis
SCERT WISCERT	specifically overridden; it must not be possible to engage the device without triggering a stop command; it must be possible to disengage the	ERT WESCHEL	N/A	Nis.
S-CEFF OVIS-CEFFF	device only by an appropriate operation, and disengaging the device must not restart the machinery but only permit restarting.	SERÍ OVIS-CERÍ OVIS-CERÍ	ON'S CERT	Olisi
S-SERI WIS-SERI	The emergency stop function must be available and operational at all times, regardless of the operating mode.	SERT OVIS-CERT OVIS-CERT	N/A	OVis
S-CEPT WIS CEPT	Emergency stop devices must be a back-up to other safeguarding measures and not a substitute for them.	SER OVIS-CERT OVIS-CERT	N/A	OVIS
1.2.4.4.	Assembly of machinery	SELL STELL STELL	-5E.	
S.CERT OVIS CERT	ONISCERT OVISCERT OVISCERT OVISCERT OVISCERT OVISCERT	OHIS CERT OHIS CERT	OVIS-CERT	04,5

.r.f.frí ovis-otfrí This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our regligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





2006/42/EC Annex I				
Clause	Requirement + Test	Result-Remark	Verdict	
115	In the case of machinery or parts of machinery	N'S' N'S'	NiS'	
	designed to work together, the machinery must be			
	designed and constructed in such a way that the	Str. Str. Str.	CELL	
	stop controls, including the emergency stop	Considered in design	Ollis	
	devices, can stop not only the machinery itself but	Considered in design		
	also all related equipment, if its continued operation	(C) (C) (C)	.5.00	
	may be dangerous.	0, 0,	0,1,	
2.5.	Selection of control or operating modes	CER CER CER	-EF	
1.12	The control or operating mode selected must	11.5	11.5	
	override all other control or operating modes, with		, A	
	the exception of the emergency stop.	str str str	CEL	
	If machinery has been designed and constructed to	Ohis Ohis	Ollis	
	allow its use in several control or operating modes			
	requiring different protective measures and/or work		S, CX.	
	procedures, it must be fitted with a mode selector	011, 011,	011	
	which can be locked in each position. Each position	eki eki eki		
	of the selector must be clearly identifiable and must	Wist Wist	1.5.0	
	correspond to a single operating or control mode.	V V V	0,	
	The selector may be replaced by another selection	Str. Str. Str.	CER	
	method which restricts the use of certain functions	Wis Wis	Nie.	
	of the machinery to certain categories of operator.		, di	
	If, for certain operations, the machinery must be		·S.Cit.	
	able to operate with a guard displaced or removed	01/10 01/10	01/10	
	and/or a protective device disabled, the control or	Only one operating	N/A	
	operating mode selector must simultaneously:	mode	11:5	
	— disable all other control or operating modes,	0, 0,	0,,	
	— permit operation of hazardous functions only by	Str. Str. Str.	CER	
	control devices requiring sustained action,	Wis Wis	ONIS	
	— permit the operation of hazardous functions only	A . A . A	ó	
	in reduced risk conditions while preventing hazards	St. Sch. Sch.	SOFT	
	from linked sequences,	0/10 0/10	ONIE	
	— prevent any operation of hazardous functions by		,	
	voluntary or involuntary action on the machine's	115	115	
	sensors.	0, 0,	0,	
	If these four conditions cannot be fulfilled	CERT CERT CERT	CE	
	simultaneously, the control or operating mode	Wis Wis	Wis.	
	selector must activate other protective measures			
	designed and constructed to ensure a safe	Str. Sight Sight	, c. CEX	
	intervention zone.	Ohis Ohis	ONIS	
- 6	In addition, the operator must be able to control		X	

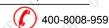




Page 11 of 28

Clause	Requirement + Test	Result-Remark	Verdict
1:5		15'	45
C CERT	operation of the parts he is working on from the adjustment point.		C. CERT
1.2.6.	Failure of the power supply		11/2
OVIS-CERT	The interruption, the re-establishment after an interruption or the fluctuation in whatever manner of the power supply to the machinery must not lead to dangerous situations.	It's a generator	N/A
OVi5-CEIN	Particular attention must be given to the following points:	er ovis er ovis er	N/A
	 the machinery must not start unexpectedly, 		N/A
OVIS-CL	the parameters of the machinery must not change in an uncontrolled way when such change can lead to hazardous situations,	er ovierce ovierce	N/A
OVISION	— the machinery must not be prevented from stopping if the command has already been given,	OVISION OVISION	N/A
WiS-CERI	 no moving part of the machinery or piece held by the machinery must fall or be ejected, 	SERY MESCERY MESCERY	N/A
SERI	 automatic or manual stopping of the moving parts, whatever they may be, must be unimpeded, 	seri seri seri	N/A
OVIS	— the protective devices must remain fully effective or give a stop command.	at at at	N/A
1.3.	PROTECTION AGAINST MECHANICAL HAZARDS		-550
1.3.1.	Risk of loss of stability	01/10 01/10	01/-
OVIS-CERT	Machinery and its components and fittings must be stable enough to avoid overturning, falling or uncontrolled movements during transportation, assembly, dismantling and any other action involving the machinery.	Considered	Olis Cliff
OVIS-CERT	If the shape of the machinery itself or its intended installation does not offer sufficient stability, appropriate means of anchorage must be incorporated and indicated in the instructions.	Not this situation	N/A
1.3.2.	Risk of break-up during operation		-Citi
ONL	The various parts of machinery and their linkages	01111	ONE
NiS-CERT	must be able to withstand the stresses to which they are subject when used.	Considered	Per

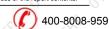
J.F.F.F.T OVIS-CEFFT. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our regligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
11:5	The divisibility of the meatarial wood most be	1.5	215
	The durability of the materials used must be	A A A	
, CER.	adequate for the nature of the working environment	Str. Chr.	
0/1/2	foreseen by the manufacturer or his authorised	Ohis Ohis	N'P
· .	representative, in particular as regards the		
.5,00	phenomena of fatigue, ageing, corrosion and		
0/1/2	abrasion.	9/10 0/10	0/1/2
· CERT	The instructions must indicate the type and		
1.5	frequency of inspections and maintenance required	0, 1,2,0, 1,2,0,	115B
0,	for safety reasons. They must, where appropriate, indicate the parts subject to wear and the criteria for	0, 0,	0, 1
CERI		th the th	
116	replacement. Where a risk of rupture or disintegration remains	16' 16'	NE
	despite the measures taken, the parts concerned	A A A	
, CER.	must be mounted, positioned and/or guarded in	ELE, CELL, CELL,	Pilit
Office	such a way that any fragments will be contained,	Wiz Wiz	Olis
(A)	preventing hazardous situations.	£ 6 &	
.5,6	Both rigid and flexible pipes carrying fluids,		- SCEN
0/1/2	particularly those under high pressure, must be able	Opposition Opposition	
L. R.	to withstand the foreseen internal and external	CAS CAS CAS	
1.5	stresses and must be firmly attached and/or	No such case	N/A
0,1	protected to ensure that no risk is posed by a	9, 9,	
CERN	rupture.		
Nie	Where the material to be processed is fed to the too	l automatically, the	Nie
	following conditions must be fulfilled to avoid risks to	persons:	<u> </u>
C CEN	— when the workpiece comes into contact with the		CEN
Ohis	tool, the latter must have attained its normal working	Manually feed	N/A
(A)	condition,		
	— when the tool starts and/or stops (intentionally or	.50	.50
01,	accidentally), the feed movement and the tool	0, 0,	N/A
· ERI	movement must be coordinated.	eri eri eri	
1.3.3.	Risks due to falling or ejected objects	1/5/0	V.S.
0,	Precautions must be taken to prevent risks from	7 7 7	0,
CERN	falling or ejected objects.	the other	P
1.3.4.	Risks due to surfaces, edges or angles	Wis Wis	1,15
	Insofar as their purpose allows, accessible parts of	A A A	<i>~</i>
C.CER.	the machinery must have no sharp edges, no sharp	Considered in	Pilit
01/12	angles and no rough surfaces likely to cause injury.	construction	
1.3.5.	Risks related to combined machinery	A A A	

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of fissuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
1.5		150	1.5
	Where the machinery is intended to carry out	0, 0,	0,
	several different operations with manual removal of	EFF EFF	CER
	the piece between each operation (combined	Nisit Wisit	Jis"
	machinery), it must be designed and constructed in		P
	such a way as to enable each element to be used	SELF. SELF. SCIEN	CER
	separately without the other elements constituting a	Ohis Ohis	Olis
<u> </u>	risk for exposed persons.	A A A	- A
	For this purpose, it must be possible to start and	St. Sch. Sch.	. P ^{Stri}
0112	stop separately any elements that are not protected.	ONL ONL	01/12
1.3.6.	Risks related to variations in operating conditions		
	Where the machinery performs operations under	1,5°C 1,5°C	115
	different conditions of use, it must be designed and	0, 0,	0,,
	constructed in such a way that selection and	Not this situation	N/A
	adjustment of these conditions can be carried out	Wish Wish	Wis.
0.	safely and reliably.	0. 0.	0.
1.3.7.	Risks related to moving parts	EEL, SELL, SELL,	C. C. C.
	The moving parts of machinery must be designed	Mis Mis	ONIS
	and constructed in such a way as to prevent risks of	All moving parts are	
	contact which could lead to accidents or must,	guarded	P
	where risks persist, be fitted with guards or	Only Only	ONIS
	protective devices.		
	All necessary steps must be taken to prevent	15.0	115
	accidental blockage of moving parts involved in the	0, 0,	0,
	work. In cases where, despite the precautions	EFF EFF	-CEPA
	taken, a blockage is likely to occur, the necessary	Misis Misis	Wig
	specific protective devices and tools must, when		
	appropriate, be provided to enable the equipment to	SET SETT SETTING	CER
01/12	be safely unblocked.	Oliz Oliz	Olis
	The instructions and, where possible, a sign on the		D. R.
	machinery shall identify these specific protective		.55
1 2 0	devices and how they are to be used.	a porto	011,
1.3.8.	Choice of protection against risks arising from moving	ig parts	- CERT
	Guards or protective devices designed to protect	Wision Wision	Vis.
	against risks arising from moving parts must be	0. 0.	0.
	selected on the basis of the type of risk. The	CERT CERT CERT	CERT
	following guidelines must be used to help to make	Wis Wis	Wis.
1201	the choice.		5
1.3.8.1	Moving transmission parts		- Chr
	Guards designed to protect persons against the haz moving transmission parts must be:	ards generated by	01/13

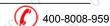


S'CERÍ OVIS

Page 14 of 28

	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
OVIS CERT	3	All moving parts are guarded	P
OVIS	— interlocking movable guards as referred to in section 1.4.2.2.	ovision ovision	N/A
Wis CER	Interlocking movable guards should be used where frequent access is envisaged.	ER WESCHEN WESCHEN	N/A
1.3.8.2	Moving parts involved in the process		
OVi5-CEA	Guards or protective devices designed to protect pers hazards generated by moving parts involved in the pro-		ONIS: CEPT
, S. CERT	— either fixed guards as referred to in section1.4.2.1, or	Fixed guards used	Pith
	— interlocking movable guards as referred to in section 1.4.2.2, or		N/A
OVISIO	— protective devices as referred to in section 1.4.3, or	Wign Oligin	N/A
OVIS-CERT	— a combination of the above. However, when certain moving parts directly involved be made completely inaccessible during operation ow requiring operator intervention, such parts must be fitted.	ing to operations	N/A
ON'S CERT	fixed guards or interlocking movable guards preventing access to those sections of the parts that are not used in the work, and	on on one	P.E.F.
O'S CERT	adjustable guards as referred to in section 1.4.2.3 restricting access to those sections of the moving parts where access is necessary.	et or or	N/A
1.3.9.	Risks of uncontrolled movements		
	When a part of the machinery has been stopped, any drift away from the stopping position, for whatever reason other than action on the control devices, must be prevented or must be such that it does not present a hazard.	Considered	ONIS-CERT
1.4. CERT	REQUIRED CHARACTERISTICS OF GUARDS AND DEVICES	PROTECTIVE	.S. GERT
1.4.1.	General requirements	0, 0,	0,,
Ovis-CERT	Guards and protective devices must:		OVIS-EERI

Oviscepti Oviscepti J.C.E.F.T. OVIS.CE.F.T. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our regligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
1:5		1.50	15
	— be of robust construction,	0, 0,	0,,
	— be securely held in place,		CER
	not give rise to any additional hazard,	V:5:0 V:5:0	115
	— not be easy to by-pass or render	0, 0,	0,
	non-operational, — be located at an adequate	EER CERT	(ER)
	distance from the danger zone,	Wis Wis	N'S'
	 cause minimum obstruction to the view of the 		0
	production process, and	tele, "celes, "celes,	CER
	— enable essential work to be carried out on the	Satisfy the	Nie.
	installation and/or replacement of tools and for	requirements	P
	maintenance purposes by restricting access	oth other other	CEL
	exclusively to the area where the work has to be	Mis Mis	01,12
	£	A A A	
	done, if possible without the guard having to be	Str. Ster. Ster.	CER
	removed or the protective device having to be	Mis Mis	die
	disabled.		
	In addition, guards must, where possible, protect	Str. Str. Str.	CEN
	against the ejection or falling of materials or objects	Mis Mis	Office
	and against emissions generated by the machinery.		
.4.2.1.	Fixed guards	CEL CELL CELL	- CET
Ohis	Fixed guards must be fixed by systems that can be	Only can be moved	0/1/2
	opened or removed only with tools.	by tools	P
C.C(C)	Their fixing systems must remain attached to the		6,00
	guards or to the machinery when the guards are	Ohis Ohis	ONE
	removed.	A A A	
- C(C)	Where possible, guards must be incapable of	37	. 5,00
	remaining in place without their fixings.	ONIS ONIS	ONE
.4.2.2.		(4) (4) (4)	
1.4.2.2.	Interlocking movable guards		5
01/12	Interlocking movable guards must:	0/1, 0/1,	01/2
	as far as possible remain attached to the	क्षे क्षे	N/A
S,CV	machinery when open,		S,GV
	— be designed and constructed in such a way that	011, 011,	011
	they can be adjusted only by means of an	THE THE THE	N/A
	intentional action.	· · · · · · · · · · · · · · · · · · ·	.5
0,	Interlocking movable guards must be associated with	n an interlocking device	0,
	that:		- LPN
1.5	— prevents the start of hazardous machinery	1.6,0	,5
	functions until they are closed and	0, 0,	N/A
al Ph	— gives a stop command whenever they are no	CA CAS CAS	- 48
	longer closed.	· · · · · · · · · · · · · · · · · · ·	N/A





2006/42/EC Annex I						
Clause	Requirement + Test	Result-Remark	Verdict			
.5	.5' .5' .5' .5' .5'	.50 .50	.5			
0,1	Where it is possible for an operator to reach the	011, 011,	07,			
	danger zone before the risk due to the hazardous	eki eki eki	. LEKT			
	machinery functions has ceased, movable guards	, S	N/A			
	must be associated with a guard locking device in	0, 0,	011.			
	addition to an interlocking device that:	ethi ethi ethi	CERT			
1,5	keeps the guard closed and locked until the risk	115'S 115'S	1.6			
	of injury from the hazardous machinery functions	7 7 X	N/A			
	has ceased.	EEE, CEEE, CEEE,	CERT			
Nie	Interlocking movable guards must be designed in	Nis Nis	Nie			
	such a way that the absence or failure of one of their					
	components prevents starting or stops the	Str. Str. Str.	N/A			
	hazardous machinery functions.	Onis Onis	01/12			
1.4.2.3.	Adjustable guards restricting access	(A) (A) (A)	<u> </u>			
.500	Adjustable guards restricting access to those areas	of the moving parts	.5.00			
	strictly necessary for the work must be:	OALS OALS	01/10			
C.P.	adjustable manually or automatically, depending	CH CH CH	- CR			
	on the type of work involved, and	No such case	N/A			
-0,	readily adjustable without the use of tools.	0, 0,	N/A			
1.4.3.	Special requirements for protective devices	CERT CERT				
1.4.3.		and into the control	J.S.			
	Protective devices must be designed and incorporate system in such a way that:	ed into the control				
C. C. C.	moving parts cannot start up while they are	the case of the	C. C. C.			
	within the operator's reach,	Wis Wis	W P			
	persons cannot reach moving parts while the					
	parts are moving, and	CELL CIELL CIELL	P			
0413	— the absence or failure of one of their components	0/13 0/13	01/13			
	prevents starting or stops the moving parts.	油 油 油	P			
,:S	Protective devices must be adjustable only by	(S) (S)	,5			
	means of an intentional action.	0, 0,	O _N P			
1.5.	RISKS DUE TO OTHER HAZARDS					
	상, 상, 상, 상, 상, 상,	, J.S.O. J.S.O.	1,5.0			
1.5.1.	Electricity supply	0, 0,	0			
	Where machinery has an electricity supply, it must	D. FN 0000	CERN			
	be designed, constructed and equipped in such a	See EN 60204- 1 test	N'P			
	way that all hazards of an electrical nature are or	report				
Str.	can be prevented.	ELL. CELL. CELL.	Set.			
	The safety objectives set out in Directive	Onis Onis	01/12			
	73/23/EEC shall apply to machinery. However, the	A A A				
	obligations concerning conformity assessment and	CE CELL COLL	P			
	the placing on the market and/or putting into service	Ohis Ohis	ONIS			
_	of machinery with regard to electrical hazards are	d d d	<u> </u>			

i.r.t.Hi dyis olifi This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





Page 17 of 28

	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
04:5	governed solely by this Directive.	015	0115
1.5.2.	Static electricity	(A) (A) (A)	%
OVIS-CERT	Machinery must be designed and constructed to prevent or limit the build-up of potentially dangerous electrostatic charges and/or be fitted with a discharging system.	Machinery has been grounded	P
1.5.3.	Energy supply other than electricity	V V V	
ON'S CERT	Where machinery is powered by source of energy other than electricity, it must be so designed, constructed and equipped as to avoid all potential risks associated with such sources of energy.	CERT ONES CERT ONES CERT	OVIE CERT
1.5.4.	Errors of fitting	0, 0,	0,,-
Olisciphi	Errors likely to be made when fitting or refitting certain parts which could be a source of risk must be made impossible by the design and construction	CERT ONIS-CERT	
ONIS CERT	of such parts or, failing this, by information given on the parts themselves and/or their housings. The same information must be given on moving parts	Specified in installation manual	Oli P
OVISCELL	and/or their housings where the direction of movement needs to be known in order to avoid a risk.	CET OVIS-CET OVIS-CET	
OVIS-CEL	Where necessary, the instructions must give further information on these risks.	Str Olie City Olie City	ON'P
Ovis-CERI S	Where a faulty connection can be the source of risk, incorrect connections must be made impossible by design or, failing this, by information given on the elements to be connected and, where appropriate, on the means of connection.	CERT ONIS-CERT ONIS-CERT	OWIS CERT
1.5.5.	Extreme temperatures	0, 0,	011,
ovis-clip	Steps must be taken to eliminate any risk of injury arising from contact with or proximity to machinery parts or materials at high or very low temperatures.	Protected	oli P
olizioni	The necessary steps must also be taken to avoid or protect against the risk of hot or very cold material being ejected.	CH ONES CH	Oli P
1.5.6.	Fire	Chr. Chr. Chr.	
OTO CERT	Machinery must be designed and constructed in such a way as to avoid any risk of fire or	EKI EKI EKI	ONTO SER

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our regligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
01:5	produced or used by the machinery.	15 15	die
1.5.7.	Explosion		
1.5.71	Machinery must be designed and constructed in		.5,6
	such a way as to avoid any risk of explosion posed	This machine is not	ONIS
	by the machinery itself or by gases, liquids, dust,	intended for use in	N/A
	vapours or other substances produced or used by	potential explosive	115
	the machinery.	atmospheres	0,
CER	Machinery must comply, as far as the risk of	CERT CERT	CER
	explosion due to its use in a potentially explosive	Wig Mig	ONIS.
	atmosphere is concerned, with the provisions of the	A A A	N/A
.S.CEI	specific Community Directives.	cti	S.CE.
1.5.8.	Noise		0/1/2
	Machinery must be designed and constructed in	the the the	- CERT
	such a way that risks resulting from the emission of	115.01	115
	airborne noise are reduced to the lowest level,	Con instruction	0
	taking account of technical progress and the	See instruction	CERI
	availability of means of reducing noise, in particular	Wis Wis	Nie
	at source.	<i>a a a</i>	
. S. CET	The level of noise emission may be assessed with	CET LOCK	S.C.C.
	reference to comparative emission data for similar	01/13 01/13	ON P
	machinery.	eri eri eri	
1.5.9.	Vibrations	1,5,0	11.2
	Machinery must be designed and constructed in	0, 0,	0,
	such a way that risks resulting from vibrations	CERT CERT CERT	CER.
	produced by the machinery are reduced to the	See installation	N'S
	lowest level, taking account of technical progress	manual	
	and the availability of means of reducing vibration,	CELL COLL	SCEN
01/12	in particular at source.	ONLY ONLY	ONL
	The level of vibration emission may be assessed with reference to comparative emission data for	chi chi	DER
	similar machinery.	115,01	11:5
1.5.10.	Radiation	7 7 7 V	0,
1.0.10.	Undesirable radiation emissions from the machinery	Carrier Carrier	, C(R)
	must be eliminated or be reduced to levels that do	Not produce ionising	N/A
	not have adverse effects on persons.	radiation	10/4
·S.CETT	Any functional ionising radiation emissions must be	St. St. St.	.5
	limited to the lowest level which is sufficient for the	01/12 01/12	ONIE
	proper functioning of the machinery during setting,	the the the	N/A
	operation and cleaning. Where a risk exists, the	1,5,0, 1,5,0	115,01
	necessary protective measures must be taken.	0, 0,	0,,

i.r.f.hf ovi 5.cl.fr This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report in to report includes all of the tests report to remark that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

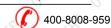




Page 19 of 28

2006/42/EC Annex I					
Clause	Requirement + Test	Result-Remark	Verdict		
N'S'	Any functional non-ionising radiation emissions	Wi5 Wi5	115		
OViS-CERT	during setting, operation and cleaning must be limited to levels that do not have adverse effects on persons.	CERT ON'S CERT ON'S CERT	N/A		
1.5.11.	External radiation Machinery must be designed and constructed in such a way that external radiation does not interfere with its operation.	CERT CERT CERT	P		
1.5.12.	Laser radiation	Onis Onis	01/1/2		
is CERT	Where laser equipment is used, the following should be taken into account:	No laser source	N/A		
Nis-CERT	 laser equipment on machinery must be designed and constructed in such a way as to prevent any accidental radiation, 	CERT NESCERT NESCERT	N/A		
OVIES CHERT	 laser equipment on machinery must be protected in such a way that effective radiation, radiation produced by reflection or diffusion and secondary radiation do not damage health, 	CERT ON'S CERT ON'S CERT	N/A		
ovis cert	 optical equipment for the observation or adjustment of laser equipment on machinery must be such that no health risk is created by laser radiation. 		N/A		
1.5.13.	Emissions of hazardous materials and substances		01/1		
OVIS-CERT	Machinery must be designed and constructed in such a way that risks of inhalation, ingestion, contact with the skin, eyes and mucous membranes and penetration through the skin of hazardous materials and substances which it produces can be avoided.	Residual risk assessment see risk assessment report performed by manufacture	OVIS-CERT		
	Where a hazard cannot be eliminated, the machinery must be so equipped that hazardous materials and substances can be contained, evacuated, precipitated by water spraying, filtered or treated by another equally effective method.	Not this situation	N/A		
1.5.14.	Where the process is not totally enclosed during normal operation of the machinery, the devices for containment and/or evacuation must be situated in such a way as to have the maximum effect. Risk of being trapped in a machine	Not this situation	N/A		

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



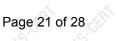


Page 20 of 28

		2006/42/EC Annex I		
	Clause	Requirement + Test	Result-Remark	Verdict
		.es	.5,5	.5
	Pi Onis CERT	Machinery must be designed, constructed or fitted with a means of preventing a person from being enclosed within it or, if that is impossible, with a means of summoning help.	Not this situation	N/A
	1.5.15.	Risk of slipping, tripping or falling Parts of the machinery where persons are liable to move about or stand must be designed and constructed in such a way as to prevent persons slipping, tripping or falling on or off these parts.	Not this situation	N/A
	OViS-CERT	Where appropriate, these parts must be fitted with handholds that are fixed relative to the user and that enable them to maintain their stability.	CERT OVIS-CERT OVIS-CERT	N/A
	1.5.16.	Lightning		—, p
	Nis-Clark	Machinery in need of protection against the effects of lightning while being used must be fitted with a system for conducting the resultant electrical charge to earth.	CERT ONIS-CERT ONIS-CERT	N/A
<	1.6.	MAINTENANCE		- ~
	1.6.1.	Machinery maintenance	CEEP CEEP	COLLEGE
	OHIS-CLERY	Adjustment and maintenance points must be located outside danger zones. It must be possible to carry out adjustment, maintenance, repair, cleaning and servicing operations while machinery is at a standstill.	See manual	ON CHAIN
5	ovis clai	If one or more of the above conditions cannot be satisfied for technical reasons, measures must be taken to ensure that these operations can be carried out safely (see section 1.2.5).	CERT OVES-CERT OVES-CERT	N/A
	OVIS-CEPT	In the case of automated machinery and, where necessary, other machinery, a connecting device for mounting diagnostic fault-finding equipment must be provided.	CERT ON'S CERT ON'S CERT	N/A
	Olis-Cita	Automated machinery components which have to be changed frequently must be capable of being removed and replaced easily and safely. Access to		N/A
	Nis Stri	the components must enable these tasks to be carried out with the necessary technical means in accordance with a specified operating method.		ONIST
	1.6.2.	Access to operating positions and servicing points	Mis Mis	1,13

This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of itsuance of this test report to notify us of any error or omission caused by our negligence. Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



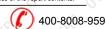




1		2.0	200	111			11.0			
					2006/42/E	C Annex I				
1	Clause	Requiren	nent + Tes	st				Result-Rema	ark	Verdict

	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
,5	,5 ,5 ,5 ,5 ,5	.5	.5
ON'S CERT	Machinery must be designed and constructed in such a way as to allow access in safety to all areas where intervention is necessary during operation, adjustment and maintenance of the machinery.	Operating interface is outside of machine	N/A
1.6.3.	Isolation of energy sources	CERT CERT CERT	
Ollis	Machinery must be fitted with means to isolate it from all energy sources. Such isolators must be clearly identified.	CERT CERT OVISION	Olis
01/12	They must be capable of being locked if	Energy isolating	Ollis
OVIS-CERT	reconnection could endanger persons. Isolators must also be capable of being locked where an operator is unable, from any of the points to which	devices equipped on electrical source	P CERT
ON'S CERT	he has access, to check that the energy is still cut off. In the case of machinery capable of being plugged	CERT OVES CERT OVES CERT	ON'S CEPT
ONIS CERT	into an electricity supply, removal of the plug is sufficient, provided that the operator can check from any of the points to which he has access that the plug remains removed.		ON'S PERFE
OVIS-CERT	After the energy is cut off, it must be possible to dissipate normally any energy remaining or stored in the circuits of the machinery without risk to persons.	CEFT NISCEFT NISCEFT	OVIS CERT
OVIS-CERT	As an exception to the requirement laid down in the previous paragraphs, certain circuits may remain connected to their energy sources in order, for example, to hold parts, to protect information, to light interiors, etc. In this case, special steps must	ceri ovis-ceri ovis-ceri	N/A
0 4	be taken to ensure operator safety.	0, 0,	0,
1.6.4.	Operator intervention Machinery must be so designed, constructed and equipped that the need for operator intervention is limited. If operator intervention cannot be avoided, it must be possible to carry it out easily and safely.	CERT OVIS-CERT OVIS-CERT	P.E.F.

S.CERT ON'S CERT .r.thí ovis-ceirí This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our regligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
OVIS-CERT	The machinery must be designed and constructed in such a way that it is possible to clean internal north which have contained depressions authorized	CEÉT CEÉT CUET	ON'S'
	parts which have contained dangerous substances or preparations without entering them; any necessary unblocking must also be possible from the outside. If it is impossible to avoid entering the machinery, it must be designed and constructed in such a way as to allow cleaning to take place safely.	See manual	P P P P P P P P P P P P P P P P P P P
1.7.	INFORMATION	Nig. Nig.	1,5
1.7.1.	Information and warnings on the machinery		
ON'S CEFF	Information and warnings on the machinery should preferably be provided in the form of readily understandable symbols or pictograms. Any written or verbal information and warnings must be expressed in an official Community language or	These information and warning labels	OVIS CERT
	languages, which may be determined in accordance with the Treaty by the Member State in which the machinery is placed on the market and/or put into service and may be accompanied, on request, by versions in any other official Community language or languages understood by the operators.	standards.	P. E.
1.7.1.1.	Information and information devices	Mis Mis	11/2
ONE-CERT	The information needed to control machinery must be provided in a form that is unambiguous and easily understood. It must not be excessive to the extent of overloading the operator.	Indicator has been fitted	N P
OVIS-CERT	Visual display units or any other interactive means of communication between the operator and the machine must be easily understood and easy to use.	CERT ONIS-CERT ONIS-CERT	N/A
1.7.1.2.	Warning devices	<u> </u>	- A
OVIS-CERT	Where the health and safety of persons may be endangered by a fault in the operation of unsupervised machinery, the machinery must be equipped in such a way as to give an appropriate	Warning labels are checked	P
OVi5	acoustic or light signal as a warning. Where machinery is equipped with warning devices these must be unambiguous and easily perceived.	CERT ISCERT ISCERT	Olive Pillin
	The operator must have facilities to check the	0,, 0,,	011.





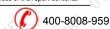
01	2006/42/EC Annex I	.	
Clause	Requirement + Test	Result-Remark	Verdict
0/1/2	operation of such warning devices at all times.	Olis Olis	Office
OVISCERT	The requirements of the specific Community Directives concerning colours and safety signals must be complied with.	SERT OVES-CERT OVES-CERT	oli P
1.7.2.	Warning of residual risks Where risks remain despite the inherent safe design measures, safeguarding and complementary	Con rick apparament	OVIS CELL
	protective measures adopted, the necessary warnings, including warning devices, must be provided.	See risk assessment report	Olis Piti
1.7.3.	Marking of machinery	· · · · · · · · · · · · · · · · · · ·	.5
OH CERT	All machinery must be marked visibly, legibly and ind minimum particulars:	lelibly with the following	
	— the business name and full address of the manufacturer and, where applicable, his authorised representative,	See the nameplate	Olife P
Nis	— designation of the machinery,	Wig Mig	WiP.
.á.	— the CE Marking (see Annex III),	A A A	P
.5.00	— designation of series or type,	.S.CS.C.	. P
011	— serial number, if any,	041 041	ОПР
Nis Cliff	— the year of construction, that is the year in which the manufacturing process is completed,	epi alis cepi	PER
,:5 CERT	It is prohibited to pre-date or post-date the machinery when affixing the CE marking. Furthermore, machinery designed and constructed		P
On. CERT	for use in a potentially explosive atmosphere must be marked accordingly.	Not for such intended use	N/A
	Machinery must also bear full information relevant	Only Only	ONIS
OVIS-CERT	to its type and essential for safe use. Such information is subject to the requirements set out in section 1.7.1.	CERT ON'S CERT ON'S CERT	P.E.F.
	Where a machine part must be handled during use with lifting equipment, its mass must be indicated legibly, indelibly and unambiguously.	CERT OVIS-CERT OVIS-CERT	N/A
1.7.4.	Instructions	CERT CERT	
0415.0	All machinery must be accompanied by instructions	Olie Olie Olie	0115,0
	in the official Community language or languages of the Member State in which it is placed on the market and/or put into service.	elet wis citet	PIFF





2006/42/EC Annex I					
Clause	Requirement + Test	Result-Remark	Verdict		
1165	15 15 15 15 15	1.50	1,5		
	The instructions accompanying the machinery must	0, 0,	0,		
	be either 'Original instructions' or a 'Translation of	EEF CEFF	CER		
	the original instructions', in which case the	Translated manual	Wich.		
	translation must be accompanied by the original		0		
, CER.	instructions.	CELL CELL	CER		
	By way of exception, the maintenance instructions	Mis Mis	Office		
	intended for use by specialised personnel	\$ \$ \$			
	mandated by the manufacturer or his authorised	CELL CELL CELL	P		
	representative may be supplied in only one	Ohis Ohis	ONIES		
	Community language which the specialised				
S.C.C.	personnel understand.		5,00		
	The instructions must be drafted in accordance with	01/10 01/10	O _M		
a si	the principles set out below.	(A) (A) (A)	(8)		
.7.4.1.	General principles for the drafting of instructions	CV .5.CV .5.CV	.5		
0,1	(a) The instructions must be drafted in one or more	01, 01,	0,1		
	official Community languages. The words 'Original	eki seki seki	· CERT		
	instructions' must appear on the language	115,0	N/A		
	version(s) verified by the manufacturer or his	0, 0,	0,		
	authorised representative.		CERI		
Vi5'	(b) Where no 'Original instructions' exist in the	J'5' J'5'	115		
	official language(s) of the country where the	4 4 4	0		
	machinery is to be used, a translation into that/those	EER, CEER, CEER,	CER.		
	language(s) must be provided by the manufacturer	Translated version	Nie.		
	or his authorised representative or by the person	provided (English)	Р		
	bringing the machinery into the language area in	CELL CELL CELL	CEL		
	question. The translations must bear the words	Mis Mis	0/11/2		
	'Translation of the original instructions'.				
.5.00	(c) The contents of the instructions must cover not	(C)	.5.00		
	only the intended use of the machinery but also take	Only Only	0/1/2		
	into account any reasonably foreseeable misuse	(A) (A) (A)	P		
	thereof.	.55.	S.S.CV		
01,	(d) In the case of machinery intended for use by	011, 01,	01/		
	non- professional operators, the wording and layout	eri seri seri	· CERT		
	of the instructions for use must take into account the	15.0	N/A		
	level of general education and acumen that can	0, 0,	01111		
	reasonably be expected from such operators.	eki eki eki	CERT		
1.7.4.2.	Contents of the instructions	1,6,0	1.15		
1-6-4-2.			0,,		
	Each instruction manual must contain, where applications informations	able, at least the	-CERI		
115	following information:	1.5	1.5		

J.F.F.F.T OVIS-CEFFT. This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





OVIS-CERT 2006/42/EC Annex I						
Clause	Requirement + Test	Result-Remark	Verdict			
Clause	requirement rest	Nesult-Nemark	verdict			
0/112	(a) the business name and full address of the	0113 0113	01/13			
CERÍ .	manufacturer and of his authorised representative;	See the manual	P			
	(b) the designation of the machinery as marked on the machinery itself, except for the serial number		Oli P			
- CE	(see section 1.7.3);		CEL			
	(c) the EC declaration of conformity, or a document setting out the contents of the EC declaration of conformity, showing the particulars of the machinery, not necessarily including the serial	SERÍ NIS-SERÍ	PER			
	number and the signature;	4 4 4	0.			
CER	(d) a general description of the machinery;	SELL, CELL, CELL,	P			
01/5	(e) the drawings, diagrams, descriptions and	01/5° 01/5°	01/2			
	explanations necessary for the use, maintenance and repair of the machinery and for checking its	ethi vis-ethi vis-ethi	PERI			
0,	correct functioning;	0, 0,	0,			
Olis CERI	(f) a description of the workstation(s) likely to be occupied by operators;(g) a description of the intended use of the	CERT OUTS CERT OUTS CERT	N/A			
	machinery;	点 点 点	P			
-500	(h) warnings concerning ways in which the	500000000000000000000000000000000000000	.5,00			
	machinery must not be used that experience has shown might occur;		OW P			
OVIST	(i) assembly, installation and connection instructions, including drawings, diagrams and the	ONIS ONIS	Olis			
	means of attachment and the designation of the chassis or installation on which the machinery is to	CERT ON SCEEL ON SCEEL	ON'S PER			
C.E.P.	be mounted; (i) instructions relating to installation and assembly	EET CEET CEET	· ce			
	(j) instructions relating to installation and assembly for reducing noise or vibration;	Wist Olisia	Oliga			
CERT	(k) instructions for the putting into service and use	EFF CEFF	- CERT			
	of the machinery and, if necessary, instructions for	Wist Wist	Vis			
0	the training of operators;	V V V	0			
	(I) information about the residual risks that remain despite the inherent safe design measures, safeguarding and complementary protective	Str. Olis Cry. Olis Cry.	ON'S CEEP!			
	measures adopted;	CHI CHI	· CERT			
Nie Cr	(m) instructions on the protective measures to be	N.S.C. 118.C.	11:5:01			
	taken by the user, including, where appropriate, the personal protective equipment to be provided;	ERI SERI SERI	P			
ONIS	(n) the essential characteristics of tools which may be fitted to the machinery;	Olisio Olisio	ONIS			

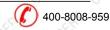
i.r.t.Hi OVIS-CEFT This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence Provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

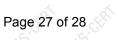






	2006/42/EC Annex I		
Clause	Requirement + Test	Result-Remark	Verdict
01.2	(o) the conditions in which the machinery meets the	01/2 01/2	01,2
	requirement of stability during use, transportation,	A A A	
	assembly, dismantling when out of service, testing	Str. Sight, Sight,	R
	or foreseeable breakdowns;	Ohis Ohis	01/13
18		A A A	
	(p) instructions with a view to ensuring that		.5.00
	transport, handling and storage operations can be	ONLY ONLY	01/10
	made safely, giving the mass of the machinery and	A A A	
	of its various parts where these are regularly to be	.5.0	5
2/1/2	transported separately;	011, 011,	01/1
	(q) the operating method to be followed in the event	CHI SCHI SCHI	-CR
	of accident or breakdown; if a blockage is likely to	1,5,0	J.SP
	occur, the operating method to be followed so as to	0, 0,	0,,
(8)	enable the equipment to be safely unblocked;	ari ari ari	48
	(r) the description of the adjustment and	1,5,0	1.5
	maintenance operations that should be carried out	0, 0,	07.
	by the user and the preventive maintenance	eki eki eki	CEP?
	measures that should be observed;	1.5.	11.5
2,	(s) instructions designed to enable adjustment and	0, 0,	0,
	maintenance to be carried out safely, including the		E LE
	protective measures that should be taken during	Vi5.0 Vi5.0	415
	these operations;	\(\lambda\)	0.
CER	(t) the specifications of the spare parts to be used,		CER
	when these affect the health and safety of	Wis Wis	N/A
	operators;		
CEL	(u) the following information on airborne noise	Str. Cert. Cert	CEN
	emissions:	Ohio Ohio	Olis
, 0	— the A-weighted emission sound pressure level at		
	workstations, where this exceeds 70 dB(A); where	it citt	. C. CETT
	this level does not exceed 70 dB(A), this fact must	Office Office	ONE
	be indicated,	放 放 放	
	— the peak C-weighted instantaneous sound	.5	5
	pressure value at workstations, where this exceeds	011. 011.	N/A
	63 Pa(130 dB in relation to 20 pPa),	THE THE THE	IN/A
1.5		(5) (5)	1.5
	— the A-weighted sound power level emitted by the	0, 0,	ON.
	machinery, where the A-weighted emission sound	CHI SCHI SCHI	N/A
1.5,01	pressure level at workstations exceeds 80 dB(A).	0, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12	1.5,0
	These values must be either those actually	0, 0,	01.
	measured for the machinery in question or those	eri reri reri	Per
	established on the basis of measurements taken for	1:5:0	1.5
0,	technically comparable machinery which is	0, 0,	0,







	Clause	Requirement + Test	Result-Remark	Verdic	
115,01	1:5	1.51 1.51 1.51 1.51 1.51	1,5	115	
	0,,	representative of the machinery to be produced.	0, 0,	0,,	
C. L. P.	CER	In the case of very large machinery, instead of the	EEF CEFF	· K	
,5	V.15.	A- weighted sound power level, the A-weighted	Nis's Nis's	Wisp.	
	0	emission sound pressure levels at specified	4 4 4	0.	
CER	, ctt.	positions around the machinery may be indicated.	Str. Str. Str.	Š	
1,5	N.i.S.	Where the harmonised standards are not applied,	Wis Wis	Nie.	
~	, ,	sound levels must be measured using the most	A A A		
Citie	CEL	appropriate method for the machinery. Whenever	ten Ten Ten	.,5	
1/2	01/13	sound emission values are indicated the	Onis Onis	Olis	
		uncertainties surrounding these values must be			
Sich	· S. Citi	specified. The operating conditions of the		.5.0	
110	07/10	machinery during measurement and the measuring	01/10 01/10	0/1/2	
. R	· A	methods used must be described.	(A) (A) (A)		
.S.CX	5,00	Where the workstation(s) are undefined or cannot	S' .S' .S'	.5	
1,	01/1	be defined, A-weighted sound pressure levels must	01, 01,	01/1	
6	CLR!	be measured at a distance of 1 metre from the	eri ceri ceri		
5	1.5.01	surface of the machinery and at a height of 1,6	1150	· P	
7	0,,	metres from the floor or access platform. The	0, 0,	011.	
CER.	CER	position and value of the maximum sound pressure	ERI SERI SERI	c.s	
1,5,0	115.0	must be indicated.	Wis Tis Tis	11:5.0	
	-0°	Where specific Community Directives lay down	7 7 7	0,	
CER	CER	other requirements for the measurement of sound	eth, eth, eth		
9	Nis.	pressure levels or sound power levels, those	Wis Wis	N/A	
_<		Directives must be applied and the corresponding	A A A		
Cith	CELL	provisions of this section shall not apply;	SEL CRIP. CRIP	, 5	
12	01/12	(v) Where machinery is likely to emit non-ionising	01/13 01/13	01/12	
, Ó	· A	radiation which may cause harm to persons, in	A A A		
Sick	.S.Chi	particular persons with active or non-active	St. Sign. Sign.	. 5.	
10	07/12	implantable medical devices, information	ONLY ONLY	N/A	
c Ri	. 28	concerning the radiation emitted for the operator	क्षे क्षे		
,S,CV	1.5	and exposed persons.	15,00	5	
	04.	SUPPLEMENTARY ESSENTIAL HEALTH AND	0,, 0,,	0,,	
C.E.P.	2.	SAFETY REQUIREMENTS FOR CERTAIN	Not this type	N/A	
5	Nis.	CATEGORIES OF MACHINERY	Wist Wist	Wis.	
_	Α.	SUPPLEMENTARY ESSENTIAL HEALTH AND	A A A	0	
CER	CER	SAFETY REQUIREMENTS TO OFFSET	EER, CEER, CEER,	, c	
5	3. 1.5	HAZARDS DUE TO THE MOBILITY OF	Not this type	N/A	
5	· 4	MACHINERY	\$ \$ \$,	
Ciction	C.CH	SUPPLEMENTARY ESSENTIAL HEALTH AND	the contraction of		
9	4.1113	SAFETY REQUIREMENTS TO OFFSET	Not this type	N/A	





Clause	Requirement +		42/EC Annex		sult-Remar	k	Verdict	
N'S'	,5	,5	EDATIONS	1:5	NiS'	11:5	NiS'	
ري الله	A A	TO LIFTING OP		D sá	V Co.	ں کئی۔	0	-
5. 11 ^{.5} CET	.00	RY ESSENTIAL IREMENTS FOR			this type	N.S.CER	N/A	
0"	0,	INTENDED FOR UNDERGROUND WORK			0"	0"	0,1	0,
	.5	RY ESSENTIAL		.5		1.5°CETT	1.5 CET	
3.0 ¹	~	IREMENTS FOR PARTICULAR HA		Not	this type	00,	N/A	<
S.CER.	THE LIFTING C		<u></u>	S SERV	S.CER.	S. C. E. R.	S.CER	*
011	011 011	011 011	0/1/2	ON	011	011.	On	(
			01/13					
		ovisi ovisi						
			Wiscon					

Appendix I Photo documentation Circulation Pump XR-PRO 32-80-180

Detail of: XR-PRO 32-80-180

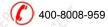


Page 1 of 5

Detail of: XR-PRO 32-80-180



This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



Page 2 of 5

Appendix I

Circulation Pump XR-PRO 32-80-180

Photo documentation

Detail of: XR-PRO 32-80-180



Detail of: XR-PRO 32-80-180



This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



Appendix I Photo documentation Circulation Pump

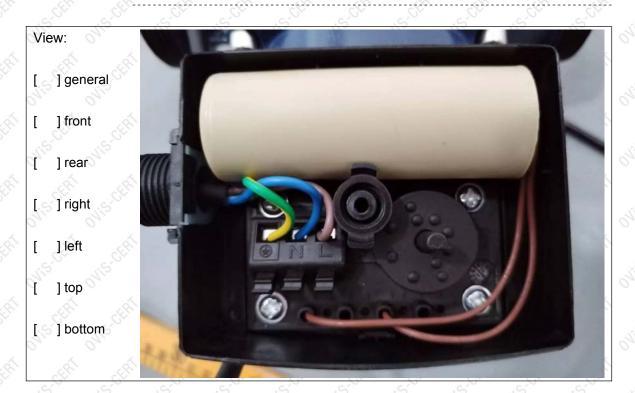
XR-PRO 32-80-180

Detail of: XR-PRO 32-80-180

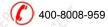


Page 3 of 5

Detail of: Internal view for XR-PRO 32-80-180



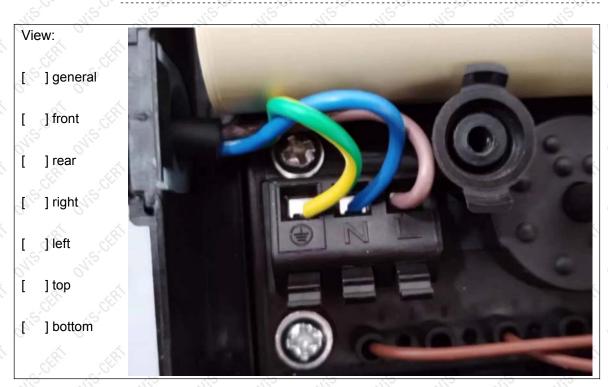
This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





Appendix I Photo documentation Circulation Pump XR-PRO 32-80-180

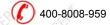
Detail of: Earthing for XR-PRO 32-80-180



Detail of: Capacitor for XR-PRO 32-80-180



This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of fissuance of this test report to notify us of any error or or mission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



Appendix I Photo documentation Circulation Pump XR-PRO 32-80-180

Detail of: Power cord for XR-PRO 32-80-180



Page 5 of 5

Detail of: Plug for XR-PRO 32-80-180



This Test Report is issued by the Company subject to its Conditions of issuance of Test Reports printed overleaf and is intended for your exclusive use. Attention is drawn to the limitations of liability, indemnification and jurisdictional policies defined therein. This test report includes all of the tests requested by you and the results there of based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.





REMARKS

1. This report is invalid without the seal of special stamp for OViS test report and invalid if

altered.

2. The copy of this report is invalid without a new seal of special stamp for OViS test report

and invalid if altered.

3. This report is invalid without seals or signatures of Tester, Checker and Approval.

4. If there is no special announcement in this report, the informat ion of producer and samples

is not identified by OViS, the customer is responsible for truth of the samples.

5. Objections to the test report must be submitted to OViS within 15 days.

6. The test results shown in this report is only applicable for the samples supplied directly by

the customer and accepted by the test organization, the customer shall not propagandize

improperly without permission by OViS.

7. "P" means "pass", "F" means "fail", "N/A" or "—" means "not applicable" and " / "means

"not test".

Address: Building 31, Feiyue Park, Xiachen Street, Jiaojiang District, Taizhou City,

Zhejiang Province, China

Tel: 400-8008-959

Post Code: 318000

E-mail:info@ovis-lab.com

http://www.ovis-lab.com

400-8008-959