Area of application: basic principles

Check list
of requirements for safety components
according to EC Machinery Directive 2006/42/EC

Accredited Certification Body SCESp 0008
European notified body,
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of requirements for safety components
according to EC Machinery Directive 2006/42/EC

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Customer .....

Order number: .....
(Information in italics will be completed by the certification body)

Product details

Q.v. CE08-7.e

Check list structure

The check list is structured according to section 1 of Annex I of Directive 2006/42/EC. Basically, the demands must be fulfilled. The check-list questions must be understood as a summary; in individual cases, the requirements must be consulted.

In the first 4 columns, an ☒ is used to indicate whether this criterion is relevant. The fifth column is free for individual criteria.

Comments

Directive 2006/42/EC (Machinery Directive) will apply according to its Art. 1 to:
a) Machines
b) Replaceable equipment
c) Safety components
d) Load-carrying equipment
e) Chain, cables and belts
f) Removable universal-joint shafts
g)) Incomplete machinery

According to Art. 2, a distinction is made in the further text of the Machinery Directive between “Machinery” and “Incomplete machinery”. “Machinery” is understood to refer to products in accordance with a) to f). Under a), machinery is to be understood in its more restricted meaning.

In contrast to the previous Directive 98/37/EC, there is therefore no longer any separate treatment of safety components. De facto, the basic requirements of the Machinery Directive must, however, be considered as being adjusted for safety components. This check list takes this circumstance into account and only lists the demands that are relevant for safety components, supplemented by special pointers for verification.

To prevent the check list from becoming excessively long, the space required for completion has deliberately been kept small. A copy template has been appended to the end of the check list. Additional information can be given with reference to the corresponding question.

In order to reduce the work done by both parties for the type-examination test, please complete the “Verification” lines, - i.e. the reference where information on the question asked can be found in the technical documentation.

Assembly	Operation	Maintenance	Cleaning		**Basic safety and health protection requirements for the design and construction of machines** **According to section 1 of Annex I of Directive 2006/42/EC**	*Initialled*	
						Fulfilled	*Not fulfilled*
					General principles		
					Is the intended use defined?		
					Verification *Comment*		
					Are a risk assessment and a risk reduction available? Comment: In the case of safety components, the risk assessment is often carried out by means of a failure mode and effects analysis (FMEA), q.v. e.g. EN 60812.		
					Verification *Comment*		
					Are the limits of the machine defined?		
					Have the hazardous situations been identified?		
					Verification *Comment*		
					Have the risks been estimated?		
					Verification *Comment*		
					Have the risks been evaluated?		
					Verification *Comment*		
					Have the risks been reduced taking the state-of-the-art into account?		
					Verification *Comment*		
					Have the reduced risks been evaluated?		
					Verification *Comment*		
					Have the applicable safety and health protection requirements for the machine been established?		
					Verification *Comment*		

Assembly	Operation	Maintenance	Cleaning		**Basic safety and health protection requirements for the design and construction of machines** **According to section 1 of Annex I of Directive 2006/42/EC**	*Initialled*	
						Fulfilled	*Not fulfilled*
					1. Basic safety and health protection requirements		
					1.1. General		
					1.1.1. Terminology		

Hazard	Potential source of injuries or damage to health
Danger zone	Area in a machine and/or in its vicinity in which the safety or the health of a person is at risk
Person at risk	Person who is completely or partly in a danger zone
Operating personnel	Person or persons who are responsible for the installation, operation, setting up, servicing, cleaning, repair or transportation of machines
Risk	Combination of the likelihood and the severity of an injury or of damage to health that can occur in a hazardous situation
Separating protective barriers	A part of a machine that offers protection in the form of a physical barrier
Non-separating protection device	Device without separating function that minimises risks alone or in combination with a separating protection device
Intended usage	Usage of a machine in line with the information in the operating instructions
Reasonable, predictable wrong usage	Usage of a machine in a way not intended according to the operating instructions, which can, however, arise from easily conceivable human behaviour

					1.1.2 Principles for the integration of safety		
					Is the machine appropriate for its function?		
					Verification *Comment*		
					Is any reasonable, predictable wrong usage taken into account?		
					Verification *Comment*		
					Have the possible approaches to a solution been implemented in the following sequence? - Elimination or minimisation of the risks as far as possible (integration of safety in the design and construction of the machine)		

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					- Taking the required protective measures against risks that cannot be eradicated		
					- Training users about the residual risk based on the incomplete efficacy of the protective measures taken; reference to special training or introduction to work and personal protective equipment that may be required		
					Has the reasonable, predictable wrong usage been taken into account?		
					Verification *Comment*		
					Have the loads that occur been taken into account for the user?		
					Verification *Comment*		
					Is any special equipment required also included in the scope of supply?		
					Verification *Comment*		
					1.1.3. Materials and products		
					Do the materials used stand up to usage?		
					Verification *Comment*		
					1.2. Control systems and devices		
					1.2.1. Safety and reliability of control systems		
					Can the machine be switched on unintentionally?		
					Can the machine start unintentionally?		
					Do the controls satisfy the requirements?		
					Do software or hardware errors result in no hazards? Construction acc. to EN ISO 13849-1, EN 62061, EN 61508-1, …, -7 , etc. serves as a measure to reduce risks with safety components		
					Verification *Comment*		
					1.2.6. Power supply breakdown		
					Are malfunctions in the energy supply recognised?		
					Verification *Comment*		

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					1.3.9 Risk of uncontrolled movements		
					Do machine parts that have been stopped remain safely in this position?		
					Verification *Comment*		
					1.5 Risks due to other hazards		
					1.5.1 Electrical energy supply		
					Are hazards caused by electrical energy prevented?		
					Verification *Comment*		
					1.5.2 Static electricity		
					Are electrostatic hazards prevented?		
					Verification *Comment*		
					1.5.3 Non-electrical energy supply		
					Are risks emanating from the source of energy prevented?		
					Verification *Comment*		
					1.5.4 Assembly errors		
					Is the information to prevent assembly errors available?		
					Verification *Comment*		
					1.5.5 Extreme temperatures		
					Have the measures required to prevent burns been taken?		
					Verification *Comment*		
					1.5.6 Fire		
					Have the measures required to prevent fire been taken?		
					Verification *Comment*		

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					1.5.7 Explosion		
					Have the measures required to prevent explosion been taken?		
					Verification *Comment*		
					1.5.11 External radiation		
					Have the measures required to prevent external radiation been taken?		
					Verification *Comment*		
					1.5.12 Laser radiation		
					Have the measures required to prevent laser radiation been taken?		
					Verification *Comment*		
					1.5.13 Emission of dangerous materials and substances		
					Have the measures required to prevent dangerous materials and substances been taken?		
					Verification *Comment*		
					1.6 Maintenance		
					1.6.1 Servicing the machine		
					Can the machine be serviced safely?		
					Can consumables be fitted easily?		
					Verification *Comment*		
					1.6.3 Separation from sources of energy		
					Are devices fitted to separate the machine from the sources of energy?		
					Is stored energy also separated?		
					Verification *Comment*		

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					1.7 Information		
					1.7.1 Information and warnings on the machine		
					Are the warnings attached to the machine easy to understand?		
					Verification *Comment*		
					1.7.1.1 Information and information devices		
					Is the information comprehensible and appropriate for the level of knowledge of the personnel?		
					Verification *Comment*		
					1.7.1.2 Warning devices		
					Are any necessary warning devices fitted?		
					Are the warning signals clearly identifiable?		
					Verification *Comment*		
					1.7.2 Warning against residual risks		
					Are there any warnings about residual risks?		
					Verification *Comment*		
					1.7.3 Machine marking		
					Is the following information legible on the machine and clearly identifiable?		
					- Company name with the manufacturer’s address?		
					- Machine designation?		
					- CE mark?		
					- Designation of series or type?		
					- Serial number?		
					- Year of construction?		
					Verification *Comment*		

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					1.7.4 Operating instructions		
					Are operating instructions available (original/translation)?		
					Verification *Comment*		
					1.7.4.1 General principles for compiling the operating instructions		
					Do the operating instructions also contain any references to possible wrong usage?		
					Do the operating instructions correspond to the user's approximate level of knowledge?		
					Verification *Comment*		
					1.7.4.2 Contents of the operating instructions		
					Do the operating instructions contain the following information?		
					Name, address of the manufacturer Designation of the series/type Year of construction Declaration of conformity		
					General description Appropriate usage		
					Workplaces used by the operating personnel		
					Information/setting up/commissioning		
					Usage		
					Handling the weight of the machine		
					Installation		
					Assembly/dismantling		
					Maintenance incl. servicing, correcting blockages, remedying faults		
					Plans, diagrams for commissioning, maintenance, servicing, inspection, checking the machine's functions, repairs		
					Installation and assembly regulations relating to noise and vibration reduction, noise levels		
					Pointers for usage in an explosive atmosphere		
					Consideration given to the user's knowledge (e.g. private users)		

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						Fulfilled	*Not fulfilled*
					Information on residual risk		
					Training required		
					Personal protective equipment		
					Information on stability, weight, transportation, handling, storage, commissioning		
					Important features of the tools		
					Information on radiation		
					Verification *Comment*		
					1.7.4.3 Sales leaflets		
					Are the leaflets in accordance with the operating instructions?		
					Verification *Comment*		

For supplements to the individual check-list entries

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						Fulfilled	*Not fulfilled*

Assessment

☐ Requirements fulfilled *☐ Requirements not fulfilled*

Comments: : .....

.....

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	Place:	*Date:*	*Signature:*	*Initialled by:*
Safety expert :	.....	.....	.....	.....
Experts consulted:	.....	.....	.....	.....
Specialists :	.....	.....	.....	.....
Specialists :	.....	.....	.....	.....