



Area of application: basic principles

Check list of requirements for machines according to Annex I, General Principles and Section 1 of EC Machinery Directive 2006/42/EC "Essential health and safety requirements"

Accredited Certification Body SCESp 0008
European notified body,
identification number 1246

Order no. CE08-8.e
Date of issue 15.07.2016

Suva
Swiss National Accident Insurance Fund
Section Technology
Accredited Certification Body SCESp 0008
European notified body, identification number 1246
P. O. Box 4358
CH-6002 Lucerne
Switzerland

Telephone +41 (0) 41 419 61 31

Fax +41 (0) 41 419 58 70

<http://www.suva.ch/certification-e>

**Check list
of requirements for machines according to
Annex I, General Principles and Section 1 of
EC Machinery Directive 2006/42/EC
"Essential health and safety requirements"**

Author : Mauritius Bollier, Guido Schmitter

Issued : 15.07.2016

Order no. : **CE08-8.e (Available only as a pdf file)**

**Check list
of requirements for machines according to Annex I,
General Principles and Section 1 of EC Machinery Directive 2006/42/EC
“Essential health and safety requirements”**

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

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		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					General principles		
					Is the intended use defined?		
					Verification <i>Comment</i>		
					Are a risk assessment and a risk reduction available?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					Are the limits of the machine defined?		
					Have the hazardous situations been identified?		
					Verification <i>Comment</i>		
					Have the risks been estimated?		
					Verification <i>Comment</i>		
					Have the risks been evaluated?		
					Verification <i>Comment</i>		
					Have the risks been reduced taking the state-of-the-art into account?		
					Verification <i>Comment</i>		
					Have the reduced risks been evaluated?		
					Verification <i>Comment</i>		
					Have the applicable health and safety requirements for the machine been established?		
					Verification <i>Comment</i>		
					Machinery for pesticide application: were the risks for the environment taken into account in the risk assessment and risk reduction process?		
					1. Essential health and safety requirements		
					1.1. General		
					1.1.1. Definitions		
					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, maintenance, cleaning, repair or transportation of machines	

Assembly	Operation	Maintenance	Cleaning	Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC		Initialled	
						Fulfilled	Not fulfilled
				Risk	Combination of the likelihood and the severity of an injury or of damage to health that can occur in a hazardous situation		
				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		
				Intended usage	Usage of a machine in line with the information in the operating instructions		
				Reasonable, predictable wrong application	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 of safety integration			
				Is the machine appropriate for its function?			
				Verification <i>Comment</i>			
				Is any reasonable, predictable wrong usage taken into account?			
				Verification <i>Comment</i>			
				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)			
				- Taking the required protective measures against risks that cannot be eradicated			
				- Training users about 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 predictable wrong usage been taken into account in the operating instructions?			
				Verification <i>Comment</i>			

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					Were the loads that occur taken into account for the user?		
					Verification Comment		
					Is any special equipment required included in the scope of supply?		
					Verification Comment		
					1.1.3. Materials and products		
					Do the materials used stand up to usage?		
					Verification Comment		
					1.1.4. Lighting		
					Is any additional lighting required?		
					Is there any dazzle effect?		
					Is a stroboscopic effect to be expected?		
					Verification Comment		
					1.1.5. Design of machinery to facilitate its handling		
					Is the machine sufficiently stable and manageable?		
					Verification Comment		
					Is the required transportation equipment part of the scope of supply?		
					Verification Comment		
					1.1.6. Ergonomics		
					Are the ergonomic principles maintained?		
					Verification Comment		
					1.1.7. Operating positions		
					Do the operating areas correspond to the requirements?		
					Verification Comment		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.1.8 Seating		
					Do the seats correspond to ergonomic requirements?		
					Verification <i>Comment</i>		
					1.2. Control systems		
					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 errors in the hardware or software result in no hazards?		
					Verification <i>Comment</i>		
					1.2.2. Control devices		
					Are the adjustment components designed appropriately for use?		
					Is the marking appropriate for use?		
					Are the adjustment components easy to reach?		
					Are the emergency stop devices easy to reach?		
					Is their unintentional operation prevented?		
					If there are several control points, does any one have priority?		
					Verification <i>Comment</i>		
					1.2.3. Starting		
					Is there an unobstructed view of the danger zone?		
					Verification <i>Comment</i>		
					1.2.4. Stopping		
					1.2.4.1 Normal stop		
					Can stopping be guaranteed in all situations?		
					Is the energy supply disconnected?		
					Verification <i>Comment</i>		
					1.2.4.2 Operational stop		
					Is the shutting-down process monitored?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.2.4.3 Emergency stop		
					Are the required controls fitted?		
					Verification <i>Comment</i>		
					1.2.4.4 Assembly of machinery		
					Do the emergency stop controls affect linked parts of the machine?		
					Verification <i>Comment</i>		
					1.2.5. Selection of control or operating modes		
					Is there an operating mode selector switch?		
					Can the machine be operated with ineffective safety devices?		
					Is any intervention monitored by sensors?		
					Verification <i>Comment</i>		
					1.2.6. Failure of the power supply		
					Are malfunctions in the energy supply recognised?		
					Verification <i>Comment</i>		
					1.3. Protection against mechanical hazards		
					1.3.1 Risk of loss of stability		
					Is the machine sufficiently stable?		
					Verification <i>Comment</i>		
					1.3.2 Risk of break-up during operation		
					Do the materials used hold up to the rigours of commercial usage?		
					Verification <i>Comment</i>		
					1.3.3 Risks due to falling or ejected objects		
					Are objects prevented from being ejected?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.3.4 Risks due to surfaces, edges or angles		
					Have any risks posed by surfaces, edges and corners been eliminated?		
					Verification <i>Comment</i>		
					1.3.5 Risks related to combined machinery		
					Can interlinked machines be operated individually?		
					Verification <i>Comment</i>		
					1.3.6 Risks related to variations in operating conditions		
					Can the types of usage be changed?		
					Verification <i>Comment</i>		
					1.3.7 Risks related to moving parts		
					Are moving parts protected from contact?		
					Is it impossible to block the machine unintentionally?		
					Verification <i>Comment</i>		
					1.3.8 Choice of protection against risks arising from moving parts		
					Are the protective devices adapted to meet the risks?		
					Verification <i>Comment</i>		
					1.3.8.1 Moving transmission parts		
					Do the protective devices correspond to the machine's intended usage?		
					Verification <i>Comment</i>		
					1.3.8.2 Moving parts involved in the process		
					Do the protective devices correspond to the machine's intended usage?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.3.9 Risks of uncontrolled movements		
					Do machine parts that have been stopped remain safely in this position?		
					Verification <i>Comment</i>		
					1.4 Required characteristics of guards and protective devices		
					1.4.1 General requirements		
					Do the protective devices remain in their positions where they do not represent a hazard themselves?		
					Is it impossible to circumvent the protective guards?		
					Is the working process not obstructed by the safety precautions		
					Verification <i>Comment</i>		
					1.4.2 Special requirements for guards		
					1.4.2.1 Fixed guards		
					Can the protective devices only be released with tools?		
					Do the protective devices not remain in the safe position after releasing the attachment devices with the machine, however?		
					Verification <i>Comment</i>		
					1.4.2.2 Interlocking movable guards		
					Are the protection devices linked to the machine and must they be deliberately set?		
					Is starting up the machinery prevented until the protection device is fitted?		
					Is the machine stopped if the protection device is open?		
					Are additional locking devices present?		
					Verification <i>Comment</i>		
					1.4.2.3 Adjustable guards restricting access		
					Are the protective devices easy to adjust?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.4.3 Special requirements for protective devices		
					Are the protection devices correctly integrated in the machines?		
					Verification <i>Comment</i>		
					1.5 Risks due to other hazards		
					1.5.1 Electrical supply		
					Are hazards caused by electrical energy prevented?		
					Verification <i>Comment</i>		
					1.5.2 Static electricity		
					Are electrostatic hazards prevented?		
					Verification <i>Comment</i>		
					1.5.3 Energy supply other than electricity		
					Are risks emanating from the source of energy prevented?		
					Verification <i>Comment</i>		
					1.5.4 Errors of fitting		
					Is the information to prevent assembly errors available?		
					Verification <i>Comment</i>		
					1.5.5 Extreme temperatures		
					Have the measures required to prevent burns been taken?		
					Verification <i>Comment</i>		
					1.5.6 Fire		
					Have the measures required to prevent fire been taken?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.5.7 Explosion		
					Have the measures required to prevent explosion been taken?		
					Verification <i>Comment</i>		
					1.5.8 Noise		
					Have the measures required to counteract noise been taken?		
					Verification <i>Comment</i>		
					1.5.9 Vibrations		
					Have the measures required to counteract vibration been taken?		
					Verification <i>Comment</i>		
					1.5.10 Radiation		
					Have the measures required to prevent radiation been taken?		
					Verification <i>Comment</i>		
					1.5.11 External radiation		
					Have the measures required to prevent external radiation been taken?		
					Verification <i>Comment</i>		
					1.5.12 Laser radiation		
					Have the measures required to prevent laser radiation been taken?		
					Verification <i>Comment</i>		
					1.5.13 Emission of hazardous materials and substances		
					Have the measures required to prevent dangerous materials and substances been taken?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.5.14 Risk of being trapped in a machine		
					Have the measures required to prevent the risk of being trapped in a machine been taken?		
					Verification <i>Comment</i>		
					1.5.15 Risk of slipping, tripping or falling		
					Have the measures required to prevent slipping, tripping and falling been taken?		
					Verification <i>Comment</i>		
					1.5.16 Lightning		
					Have the measures required to combat the danger of lightning been taken?		
					Verification <i>Comment</i>		
					1.6 Maintenance		
					1.6.1 Machinery maintenance		
					Can the machine be serviced safely?		
					Can consumables be fitted easily?		
					Verification <i>Comment</i>		
					1.6.2 Access to operating positions and serving points		
					Can maintenance be carried out safely?		
					Verification <i>Comment</i>		
					1.6.3 Isolation of energy sources		
					Are devices fitted to separate the machine from the sources of energy?		
					Is stored energy also separated?		
					Verification <i>Comment</i>		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					1.6.4 Operator intervention		
					Can any necessary interventions be carried out safely?		
					Verification <i>Comment</i>		
					1.6.5 Cleaning of internal parts		
					Can internal machine parts be cleaned safely?		
					Verification <i>Comment</i>		
					1.7 Information		
					1.7.1 Information and warnings on the machine		
					Are the warnings attached to the machine easy to understand?		
					Verification <i>Comment</i>		
					1.7.1.1 Information and information devices		
					Is the information comprehensible and appropriate for the level of knowledge of the personnel?		
					Verification <i>Comment</i>		
					1.7.1.2 Warning devices		
					Are any necessary warning devices fitted?		
					Are the warning signals clearly identifiable?		
					Verification <i>Comment</i>		
					1.7.2 Warning of residual risks		
					Are there any warnings about residual risks?		
					Verification <i>Comment</i>		
					1.7.3 Marking of machinery		
					Is the following information legible on the machine and clearly identifiable?		
					- Company name with the full address of the manufacturer?		
					- Machine designation?		
					- The CE marking?		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					- Designation of series or type?		
					- Serial number?		
					- Year of construction?		
					Verification <i>Comment</i>		
					1.7.4 Instructions		
					Are operating instructions available (original/translation)?		
					Verification <i>Comment</i>		
					1.7.4.1 General principles for the drafting of 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 <i>Comment</i>		
					1.7.4.2 Contents of the 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 of intended usage		
					Workplaces used by the operating personnel		
					Information on 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, 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		

Assembly	Operation	Maintenance	Cleaning		Essential health and safety requirements for the design and construction of machines According to General Principles and section 1 of Annex I of Directive 2006/42/EC	Initialled	
						Fulfilled	Not fulfilled
					Consideration for the user's knowledge (e.g. private users)		
					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 <i>Comment</i>		
					1.7.4.3 Sales literature		
					Are the leaflets in accordance with the operating instructions?		
					Verification <i>Comment</i>		

For supplements to the individual check-list entries

Assembly	Operation	Maintenance	Cleaning		Basic safety and health protection requirements for the design and construction of machines According to General Principles and section 1 of Annex I of directive 2006/42/EC	<i>Initialed</i>	
						<i>Fulfilled</i>	<i>Not fulfilled</i>

Assessment

Requirements fulfilled

Requirements not fulfilled

Comments:

.....

.....

	<i>Place:</i>	<i>Date:</i>	<i>Signature:</i>	<i>Initialed by:</i>
<i>Safety expert :</i>
<i>Experts consulted:</i>
<i>Specialists :</i>
<i>Specialists :</i>