CERTIFICO

Machinery Directive & Harmonised Standards

Directive 2006/42/EC

Certifico S.r.l.

Headquarters, Op: Via A. De Curtis 28 - 06135 Perugia - ITALY
Tel.1 +39 075 599 73 63
Tel.2 +39 075 599 73 43

www.certifico.com
info@certifico.com

Machinery Directive & Harmonised Standards

Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) with last comunication references of harmonised standards which have been generated by the HAS (Harmonised standards) database OJ 2018/C 092/01 of 09 March 2018.

Indice

Machinery Directive & Harmonised Standards

Directive 2006/42/EC(*) of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) with last comunication references of harmonised standards(**) which have been generated by the HAS (Harmonised standards) database.

Directive 2006/42/EC is a revised version of the Machinery Directive, the first version of which was adopted in 1989.

The Directive has the dual aim of harmonising the health and safety requirements applicable to machinery on the basis of a high level of protection of health and safety, while ensuring the free circulation of machinery on the EU market.

The machinery sector is an important part of the engineering industry and is one of the industrial mainstays of the Community economy.

Machinery can be described as "an assembly, fitted with or intended to be fitted with a drive system other than directly applied human or animal effort, consisting of linked parts or components, at least one of which moves, and which are joined together for a specific application".

European Commission
Enterprice and Industry

(*)
Amendment:
Directive 2009/127/EC of the European Parliament and of the Council of 21 October 2009 amending Directive 2006/42/EC with regard to machinery for pesticide application.

(**)
Harmonised standards OJ C054 of 13.02.2015
Commission communication in the framework of the implementation of the Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast).
The summary list hereunder is a compilation of the references of harmonised standards which have been generated by the HAS (Harmonised standards) database.
This IT application HAS automates the process of the publication of the references of harmonised standards in the Official Journal of the European Union.
Although the list is updated regularly, it may not be complete and it does not have any legal validity; only publication in the Official Journal gives legal affect.
(Publication of titles and references of harmonised standards under Union harmonisation legislation)

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eng. Marco Maccarelli
Headquarters, Op: Str. del Piano 29 - 06135 Perugia - ITALY
Tel. +39 075 599 73 63
Fax. +39 075 599 73 43

www.certifico.com
info@certifico.com

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Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast)

(Text with EEA relevance)

Introduction

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission [1],

Having regard to the opinion of the European Economic and Social Committee [2],

Acting in accordance with the procedure laid down in Article 251 of the Treaty [3],

Whereas:

(1) Directive 98/37/EC of the European Parliament and of the Council of 22 June 1998 on the approximation of the laws of the Member States relating to machinery [4] codified Directive 89/392/EEC [5]. Now that new substantial amendments are being made to Directive 98/37/EC, it is desirable, in order to clarify matters, that that Directive should be recast.

(2) The machinery sector is an important part of the engineering industry and is one of the industrial mainstays of the Community economy. The social cost of the large number of accidents caused directly by the use of machinery can be reduced by inherently safe design and construction of machinery and by proper installation and maintenance.

(3) Member States are responsible for ensuring the health and safety on their territory of persons, in particular of workers and consumers and, where appropriate, of domestic animals and goods, notably in relation to the risks arising out of the use of machinery.

(4) In order to ensure legal certainty for users, the scope of this Directive and the concepts relating to its application should be defined as precisely as possible.

(5) The Member States' mandatory provisions governing construction site hoists intended for lifting persons or persons and goods, which are often supplemented by de facto compulsory technical specifications and/or by voluntary standards, do not necessarily lead to different levels of health and safety but, because of their disparities, do nevertheless constitute barriers to trade within the Community. Moreover, the national systems for the conformity assessment and certification of these machines diverge considerably. It is therefore desirable not to exclude from the scope of this Directive construction site hoists intended for lifting persons or persons and goods.

(6) It is appropriate to exclude from the scope of this Directive weapons, including firearms, that are subject to Council Directive 91/477/EEC of 18 June 1991 on control of the acquisition and possession of weapons [6]; the exclusion of firearms should not apply to portable cartridge-operated fixing and other impact machinery designed for industrial or technical purposes only. It is necessary to provide for transitional arrangements enabling Member States to authorise the placing on the market and putting into service of such machinery manufactured in accordance with national provisions in force upon adoption of this Directive, including those implementing the Convention of 1 July 1969 on the Reciprocal Recognition of Proofmarks on Small Arms. Such transitional arrangements will also enable the European standardisation organisations to draft standards ensuring the safety level based on the state of the art.

(7) This Directive does not apply to the lifting of persons by means of machines not designed for the lifting of persons. However, this does not affect the right of Member States to take national measures, in accordance with the Treaty, with respect to such machines, with a view to implementing Council Directive 89/655/EEC of 30 November 1989 concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) [7].

(8) In relation to agricultural and forestry tractors, the provisions of this Directive concerning the risks currently not covered by Directive 2003/37/EC of the European Parliament and of the Council of 26 May 2003 on type-approval of agricultural or forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units [8] should no longer apply when such risks are covered by Directive 2003/37/EC.

(9) Market surveillance is an essential instrument inasmuch as it ensures the proper and uniform application of Directives. It is therefore appropriate to put in place the legal framework within which market surveillance can proceed harmoniously.

(10) Member States are responsible for ensuring that this Directive is effectively enforced on their territory and that the safety of the machinery concerned is, as far as possible, improved in accordance with its provisions. Member States should ensure their capacity to carry out effective market surveillance, taking account of guidelines developed by the Commission, in order to achieve the proper and uniform application of this Directive.

(11) In the context of market surveillance, a clear distinction should be established between the disputing of a harmonised standard conferring a presumption of conformity on machinery and the safeguard clause relating to machinery.

(12) The putting into service of machinery within the meaning of this Directive can relate only to the use of the machinery itself for its intended purpose or for a purpose which can reasonably be foreseen. This does not preclude the laying down of conditions of use external to the machinery, provided that it is not thereby modified in a way not specified in this Directive.

(13) It is also necessary to provide for an adequate mechanism allowing for the adoption of specific measures at Community level requiring Member States to prohibit or restrict the placing on the market of certain types of machinery presenting the same risks to the health and safety of persons either due to shortcomings in the relevant harmonised standard(s) or by virtue of their technical characteristics, or to make such machinery subject to special conditions. In order to ensure the appropriate assessment of the need for such measures, they should be taken by the Commission, assisted by a committee, in the light of consultations with the Member States and other interested parties. Since such measures are not directly applicable to economic operators, Member States should take all necessary measures for their implementation.

(14) The essential health and safety requirements should be satisfied in order to ensure that machinery is safe; these requirements should be applied with discernment to take account of the state of the art at the time of construction and of technical and economic requirements.

(15) Where the machinery may be used by a consumer, that is to say, a non-professional operator, the manufacturer should take account of this in the design and construction. The same applies where a machine is normally used to provide a service to a consumer.

(16) Although the requirements of this Directive do not apply to partly completed machinery in their entirety, it is nevertheless important that the free movement of such machinery be guaranteed by means of a specific procedure.

(17) For trade fairs, exhibitions and such like, it should be possible to exhibit machinery which does not satisfy the requirements of this Directive. However, interested parties should be properly informed that the machinery does not conform and cannot be purchased in that condition.

(18) This Directive defines only the essential health and safety requirements of general application, supplemented by a number of more specific requirements for certain categories of machinery. In order to help manufacturers to prove conformity to these essential requirements, and to allow inspection of conformity to the essential requirements, it is desirable to have standards that are harmonised at Community level for the prevention of risks arising out of the design and construction of machinery. These standards are drawn up by private-law bodies and should retain their non-binding status.

(19) In view of the nature of the risks involved in the use of machinery covered by this Directive, procedures for assessing conformity to the essential health and safety requirements should be established. These procedures should be devised in the light of the extent of the danger inherent in such machinery. Consequently, each category of machinery should have its appropriate procedure in conformity with Council Decision 93/465/EEC of 22 July 1993 concerning the modules for the various phases of the conformity assessment procedures and the rules for the affixing and use of the CE conformity marking, which are intended to be used in the technical harmonisation directives [9], taking account of the nature of the verification required for such machinery.

(20) Manufacturers should retain full responsibility for certifying the conformity of their machinery to the provisions of this Directive. Nevertheless, for certain types of machinery having a higher risk factor, a stricter certification procedure is desirable.

(21) The CE marking should be fully recognised as being the only marking which guarantees that machinery conforms to the requirements of this Directive. All other markings which are likely to mislead third parties as to the meaning or the form of the CE marking, or both, should be prohibited.

(22) In order to ensure the same quality for the CE marking and the manufacturer's mark, it is important that they be affixed according to the same techniques. In order to avoid confusion between any CE markings which might appear on certain components and the CE marking corresponding to the machinery, it is important that the latter marking be affixed alongside the name of the person who has taken responsibility for it, namely the manufacturer or his authorised representative.

(23) The manufacturer or his authorised representative should also ensure that a risk assessment is carried out for the machinery which he wishes to place on the market. For this purpose, he should determine which are the essential health and safety requirements applicable to his machinery and in respect of which he must take measures.

(24) It is essential that, before drawing up the EC declaration of conformity, the manufacturer or his authorised representative established in the Community should prepare a technical construction file. However, it is not essential that all documentation should be permanently available in material form, but it must be possible to make it available on request. It need not include detailed plans of subassemblies used for the manufacture of machinery, unless knowledge of such plans is essential in order to ascertain conformity with the essential health and safety requirements.

(25) The addressees of any decision taken under this Directive should be informed of the reasons for such a decision and of the legal remedies open to them.

(26) Member States should provide for penalties applicable to infringements of the provisions of this Directive. Those penalties should be effective, proportionate and dissuasive.

(27) The application of this Directive to a number of machines intended for lifting persons requires a better delimitation of the products covered by this Directive with respect to those covered by Directive 95/16/EC of the European Parliament and of the Council of 29 June 1995 on the approximation of the laws of the Member States relating to lifts [10]. A redefinition of the scope of the latter Directive is thus deemed necessary. Directive 95/16/EC should therefore be amended accordingly.

(28) Since the objective of this Directive, namely, to lay down the essential health and safety requirements in relation to design and manufacture in order to improve the safety of machinery placed on the market, cannot be sufficiently achieved by the Member States and can be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve that objective.

(29) In accordance with point 34 of the Interinstitutional Agreement on better law-making [11], Member States are encouraged to draw up, for themselves and in the interests of the Community, their own tables illustrating, as far as possible, the correlation between this Directive and the transposition measures, and to make them public.

(30) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission [12],

HAS ADOPTED THIS DIRECTIVE:

Article 1 - Scope

1. This Directive applies to the following products:

(a) machinery;

(b) interchangeable equipment;

(c) safety components;

(d) lifting accessories;

(e) chains, ropes and webbing;

(f) removable mechanical transmission devices;

(g) partly completed machinery.

2. The following are excluded from the scope of this Directive:

(a) safety components intended to be used as spare parts to replace identical components and supplied by the manufacturer of the original machinery;

(b) specific equipment for use in fairgrounds and/or amusement parks;

(c) machinery specially designed or put into service for nuclear purposes which, in the event of failure, may result in an emission of radioactivity;

(d) weapons, including firearms;

(e) the following means of transport:

- agricultural and forestry tractors for the risks covered by Directive 2003/37/EC, with the exclusion of machinery mounted on these vehicles,

- motor vehicles and their trailers covered by Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers [13], with the exclusion of machinery mounted on these vehicles,

- vehicles covered by Directive 2002/24/EC of the European Parliament and of the Council of 18 March 2002 relating to the type-approval of two or three-wheel motor vehicles [14], with the exclusion of machinery mounted on these vehicles,

- motor vehicles exclusively intended for competition, and

- means of transport by air, on water and on rail networks with the exclusion of machinery mounted on these means of transport;

(f) seagoing vessels and mobile offshore units and machinery installed on board such vessels and/or units;

(g) machinery specially designed and constructed for military or police purposes;

(h) machinery specially designed and constructed for research purposes for temporary use in laboratories;

(i) mine winding gear;

(j) machinery intended to move performers during artistic performances;

(k) electrical and electronic products falling within the following areas, insofar as they are covered by Council Directive 73/23/EEC of 19 February 1973 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits [15]:

- household appliances intended for domestic use,

- audio and video equipment,

- information technology equipment,

- ordinary office machinery,

- low-voltage switchgear and control gear,

- electric motors;

(l) the following types of high-voltage electrical equipment:

- switch gear and control gear,

- transformers.

Article 3 - Specific Directives

Where, for machinery, the hazards referred to in Annex I are wholly or partly covered more specifically by other Community Directives, this Directive shall not apply, or shall cease to apply, to that machinery in respect of such hazards from the date of implementation of those other Directives.

Article 4 - Market surveillance

1. Member States shall take all appropriate measures to ensure that machinery may be placed on the market and/or put into service only if it satisfies the relevant provisions of this Directive and does not endanger the health and safety of persons and, where appropriate, domestic animals or property, when properly installed and maintained and used for its intended purpose or under conditions which can reasonably be foreseen.

2. Member States shall take all appropriate measures to ensure that partly completed machinery can be placed on the market only if it satisfies the relevant provisions of this Directive.

3. Member States shall institute or appoint the competent authorities to monitor the conformity of machinery and partly completed machinery with the provisions set out in paragraphs 1 and 2.

4. Member States shall define the tasks, organisation and powers of the competent authorities referred to in paragraph 3 and shall notify the Commission and other Member States thereof and also of any subsequent amendment.

Article 5 -Placing on the market and putting into service

1. Before placing machinery on the market and/or putting it into service, the manufacturer or his authorised representative shall:

(a) ensure that it satisfies the relevant essential health and safety requirements set out in Annex I;

(b) ensure that the technical file referred to in Annex VII, part A is available;

(c) provide, in particular, the necessary information, such as instructions;

(d) carry out the appropriate procedures for assessing conformity in accordance with Article 12;

(e) draw up the EC declaration of conformity in accordance with Annex II, part 1, Section A and ensure that it accompanies the machinery;

(f) affix the CE marking in accordance with Article 16.

2. Before placing partly completed machinery on the market, the manufacturer or his authorised representative shall ensure that the procedure referred to in Article 13 has been completed.

3. For the purposes of the procedures referred to in Article 12, the manufacturer or his authorised representative shall have, or shall have access to, the necessary means of ensuring that the machinery satisfies the essential health and safety requirements set out in Annex I.

4. Where machinery is also the subject of other Directives relating to other aspects and providing for the affixing of the CE marking, the marking shall indicate that the machinery also conforms to the provisions of those other Directives.

However, where one or more of those Directives allow the manufacturer or his authorised representative to choose, during a transitional period, the system to be applied, the CE marking shall indicate conformity only to the provisions of those Directives applied by the manufacturer or his authorised representative. Particulars of the Directives applied, as published in the Official Journal of the European Union, shall be given on the EC declaration of conformity.

Article 6 - Freedom of movement

1. Member States shall not prohibit, restrict or impede the placing on the market and/or putting into service in their territory of machinery which complies with this Directive.

2. Member States shall not prohibit, restrict or impede the placing on the market of partly completed machinery where the manufacturer or his authorised representative makes a declaration of incorporation, referred to in Annex II, part 1, Section B, stating that it is to be incorporated into machinery or assembled with other partly completed machinery to form machinery.

3. At trade fairs, exhibitions, demonstrations, and such like, Member States shall not prevent the showing of machinery or partly completed machinery which does not conform to this Directive, provided that a visible sign clearly indicates that it does not conform and that it will not be made available until it has been brought into conformity. Furthermore, during demonstrations of such non-conforming machinery or partly completed machinery, adequate safety measures shall be taken to ensure the protection of persons.

Article 7 - Presumption of conformity and harmonised standards

1. Member States shall regard machinery bearing the CE marking and accompanied by the EC declaration of conformity, the content of which is set out in Annex II, part 1, Section A, as complying with the provisions of this Directive.

2. Machinery manufactured in conformity with a harmonised standard, the references to which have been published in the Official Journal of the European Union, shall be presumed to comply with the essential health and safety requirements covered by such a harmonised standard.

3. The Commission shall publish in the Official Journal of the European Union the references of the harmonised standards.

4. Member States shall take the appropriate measures to enable the social partners to have an influence at national level on the process of preparing and monitoring the harmonised standards.

Article 8 - Specific measures

1. The Commission, acting in accordance with the procedure referred to in Article 22(3), may take any appropriate measure to implement the provisions relating to the following points:

(a) updating of the indicative list of safety components in Annex V referred to in point (c) in Article 2;

(b) restriction of the placing on the market of machinery referred to in Article 9.

2. The Commission, acting in accordance with the procedure referred to in Article 22(2), may take any appropriate measure connected with the implementation and practical application of this Directive, including measures necessary to ensure cooperation of Member States with each other and with the Commission, as provided for in Article 19(1).

Article 9 - Specific measures to deal with potentially hazardous machinery

1. When, in accordance with the procedure referred to in Article 10, the Commission considers that a harmonised standard does not entirely satisfy the essential health and safety requirements which it covers and which are set out in Annex I, the Commission may, in accordance with paragraph 3 of this Article, take measures requiring Member States to prohibit or restrict the placing on the market of machinery with technical characteristics presenting risks due to the shortcomings in the standard or to make such machinery subject to special conditions.

When, in accordance with the procedure referred to in Article 11, the Commission considers that a measure taken by a Member State is justified, the Commission may, in accordance with paragraph 3 of this Article, take measures requiring Member States to prohibit or restrict the placing on the market of machinery presenting the same risk by virtue of its technical characteristics or to make such machinery subject to special conditions.

2. Any Member State may request the Commission to examine the need for the adoption of the measures referred to in paragraph 1.

3. In the cases referred to in paragraph 1, the Commission shall consult the Member States and other interested parties indicating the measures it intends to take, in order to ensure, at Community level, a high level of protection of the health and safety of persons.

Taking due account of the results of this consultation, it shall adopt the necessary measures in accordance with the procedure referred to in Article 22(3).

Article 10 - Procedure for disputing a harmonised standard

Where a Member State or the Commission considers that a harmonised standard does not entirely satisfy the essential health and safety requirements which it covers and which are set out in Annex I, the Commission or the Member State shall bring the matter before the committee set up by Directive 98/34/EC, setting out the reasons therefor. The committee shall deliver an opinion without delay. In the light of the committee's opinion, the Commission shall decide to publish, not to publish, to publish with restriction, to maintain, to maintain with restriction or to withdraw the references to the harmonised standard concerned in the Official Journal of the European Union.

Article 11 Safeguard clause

1. Where a Member State ascertains that machinery covered by this Directive, bearing the CE marking, accompanied by the EC declaration of conformity and used in accordance with its intended purpose or under conditions which can reasonably be foreseen, is liable to compromise the health and safety of persons and, where appropriate, domestic animals or property, it shall take all appropriate measures to withdraw such machinery from the market, to prohibit the placing on the market and/or putting into service of such machinery or to restrict free movement thereof.

2. The Member State shall immediately inform the Commission and the other Member States of any such measure, indicating the reasons for its decision and, in particular, whether the non-conformity is due to:

(a) failure to satisfy the essential requirements referred to in Article 5(1)(a);

(b) incorrect application of the harmonised standards referred to in Article 7(2);

(c) shortcomings in the harmonised standards themselves referred to in Article 7(2).

3. The Commission shall enter into consultation with the parties concerned without delay.

The Commission shall consider, after this consultation, whether or not the measures taken by the Member State are justified, and it shall communicate its decision to the Member State which took the initiative, the other Member States, and the manufacturer or his authorised representative.

4. Where the measures referred to in paragraph 1 are based on a shortcoming in the harmonised standards and if the Member State which instigated the measures maintains its position, the Commission or the Member State shall initiate the procedure referred to in Article 10.

5. Where machinery does not conform and bears the CE marking, the competent Member State shall take appropriate action against whomsoever has affixed the marking and shall so inform the Commission. The Commission shall inform the other Member States.

6. The Commission shall ensure that Member States are kept informed of the progress and outcome of the procedure.

Article 12 - Procedures for assessing the conformity of machinery

1. The manufacturer or his authorised representative shall, in order to certify the conformity of machinery with the provisions of this Directive, apply one of the procedures for assessment of conformity described in paragraphs 2, 3 and 4.

2. Where the machinery is not referred to in Annex IV, the manufacturer or his authorised representative shall apply the procedure for assessment of conformity with internal checks on the manufacture of machinery provided for in Annex VIII.

3. Where the machinery is referred to in Annex IV and manufactured in accordance with the harmonised standards referred to in Article 7(2), and provided that those standards cover all of the relevant essential health and safety requirements, the manufacturer or his authorised representative shall apply one of the following procedures:

(a) the procedure for assessment of conformity with internal checks on the manufacture of machinery, provided for in Annex VIII;

(b) the EC type-examination procedure provided for in Annex IX, plus the internal checks on the manufacture of machinery provided for in Annex VIII, point 3;

(c) the full quality assurance procedure provided for in Annex X.

4. Where the machinery is referred to in Annex IV and has not been manufactured in accordance with the harmonised standards referred to in Article 7(2), or only partly in accordance with such standards, or if the harmonised standards do not cover all the relevant essential health and safety requirements or if no harmonised standards exist for the machinery in question, the manufacturer or his authorised representative shall apply one of the following procedures:

(a) the EC type-examination procedure provided for in Annex IX, plus the internal checks on the manufacture of machinery provided for in Annex VIII, point 3;

(b) the full quality assurance procedure provided for in Annex X.

Article 13 - Procedure for partly completed machinery

1. The manufacturer of partly completed machinery or his authorised representative shall, before placing it on the market, ensure that:

(a) the relevant technical documentation described in Annex VII, part B is prepared;

(b) assembly instructions described in Annex VI are prepared;

(c) a declaration of incorporation described in Annex II, part 1, Section B has been drawn up.

2. The assembly instructions and the declaration of incorporation shall accompany the partly completed machinery until it is incorporated into the final machinery and shall then form part of the technical file for that machinery.

Article 14 - Notified bodies

1. Member States shall notify the Commission and the other Member States of the bodies which they have appointed to carry out the assessment of conformity for placing on the market referred to in Article 12(3) and (4), together with the specific conformity assessment procedures and categories of machinery for which these bodies have been appointed and the identification numbers assigned to them beforehand by the Commission. Member States shall notify the Commission and other Member States of any subsequent amendment.

2. The Member States shall ensure that the notified bodies are monitored regularly to check that they comply at all times with the criteria set out in Annex XI. The notified body shall provide all relevant information on request, including budgetary documents, to enable the Member States to ensure that the requirements of Annex XI are met.

3. Member States shall apply the criteria set out in Annex XI in assessing the bodies to be notified and the bodies already notified.

4. The Commission shall publish in the Official Journal of the European Union, for information, a list of the notified bodies and their identification numbers and the tasks for which they have been notified. The Commission shall ensure that this list is kept up to date.

5. Bodies meeting the assessment criteria laid down in the relevant harmonised standards, the references of which shall be published in the Official Journal of the European Union, shall be presumed to fulfil the relevant criteria.

6. If a notified body finds that relevant requirements of this Directive have not been met or are no longer met by the manufacturer or that an EC type-examination certificate or the approval of a quality assurance system should not have been issued, it shall, taking account of the principle of proportionality, suspend or withdraw the certificate or the approval issued or place restrictions on it, giving detailed reasons, unless compliance with such requirements is ensured by the implementation of appropriate corrective measures by the manufacturer. In the event of suspension or withdrawal of the certificate or the approval or of any restriction placed on it, or in cases where intervention by the competent authority may prove necessary, the notified body shall inform the competent authority pursuant to Article 4. The Member State shall inform the other Member States and the Commission without delay. An appeal procedure shall be available.

7. The Commission shall provide for the organisation of an exchange of experience between the authorities responsible for appointment, notification and monitoring of notified bodies in the Member States, and the notified bodies, in order to coordinate the uniform application of this Directive.

8. A Member State which has notified a body shall immediately withdraw its notification if it finds:

(a) that the body no longer meets the criteria set out in Annex XI; or

(b) that the body seriously fails to fulfil its responsibilities.

The Member State shall immediately inform the Commission and the other Member States accordingly.

Article 15 - Installation and use of machinery

This Directive shall not affect Member States' entitlement to lay down, in due observance of Community law, such requirements as they may deem necessary to ensure that persons, and in particular workers, are protected when using machinery, provided that this does not mean that such machinery is modified in a way not specified in this Directive.

Article 16 - CE marking

1. The CE conformity marking shall consist of the initials "CE" as shown in Annex III.

2. The CE marking shall be affixed to the machinery visibly, legibly and indelibly in accordance with Annex III.

3. The affixing on machinery of markings, signs and inscriptions which are likely to mislead third parties as to the meaning or form of the CE marking, or both, shall be prohibited. Any other marking may be affixed to the machinery provided that the visibility, legibility and meaning of the CE marking is not thereby impaired.

Article 17 - Non-conformity of marking

1. Member States shall consider the following marking not to conform:

(a) the affixing of the CE marking pursuant to this Directive on products not covered by this Directive;

(b) the absence of the CE marking and/or the absence of the EC declaration of conformity for machinery;

(c) the affixing on machinery of a marking, other than the CE marking, which is prohibited under Article 16(3).

2. Where a Member State ascertains that marking does not conform to the relevant provisions of this Directive, the manufacturer or his authorised representative shall be obliged to make the product conform and to put an end to the infringement under conditions fixed by that Member State.

3. Where non-conformity persists, the Member State shall take all appropriate measures to restrict or prohibit the placing on the market of the product in question or to ensure that it is withdrawn from the market in accordance with the procedure laid down in Article 11.

Article 18 - Confidentiality

1. Without prejudice to existing national provisions and practices in the area of confidentiality, Members States shall ensure that all parties and persons concerned by the application of this Directive are required to treat as confidential information obtained in the execution of their tasks. More particularly business, professional and trade secrets shall be treated as confidential, unless the divulging of such information is necessary in order to protect the health and safety of persons.

2. The provisions of paragraph 1 shall not affect the obligations of the Member States and the notified bodies with regard to mutual exchange of information and the issuing of warnings.

3. Any decisions taken by the Member States and by the Commission in accordance with Articles 9 and 11 shall be published.

Article 19 - Cooperation between Member States

1. Member States shall take the appropriate measures to ensure that the competent authorities referred to in Article 4(3) cooperate with each other and with the Commission and transmit to each other the information necessary to enable this Directive to be applied uniformly.

2. The Commission shall provide for the organisation of an exchange of experience between the competent authorities responsible for market surveillance in order to coordinate the uniform application of this Directive.

Article 20 - Legal remedies

Any measure taken pursuant to this Directive which restricts the placing on the market and/or putting into service of any machinery covered by this Directive shall state the exact grounds on which it is based. Such a measure shall be notified as soon as possible to the party concerned, who shall at the same time be informed of the legal remedies available to him under the laws in force in the Member State concerned and of the time limits to which such remedies are subject.

Article 21 - Dissemination of information

The Commission shall take the necessary measures for appropriate information concerning the implementation of this Directive to be made available.

Article 22 - Committee

1. The Commission shall be assisted by a committee, hereinafter referred to as the "Committee".

2. Where reference is made to this paragraph, Articles 3 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

3. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

4. The Committee shall adopt its rules of procedure.

Article 23 - Penalties

Member States shall lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by 29 June 2008 and shall notify it without delay of any subsequent amendment affecting them.

Article 24 - Amendment of Directive 95/16/EC

Directive 95/16/EC is hereby amended as follows:

1. in Article 1, paragraphs 2 and 3 shall be replaced by the following:

2. "For the purposes of this Directive, "lift" shall mean a lifting appliance serving specific levels, having a carrier moving along guides which are rigid and inclined at an angle of more than 15 degrees to the horizontal, intended for the transport of:

- persons,

- persons and goods,

- goods alone if the carrier is accessible, that is to say a person may enter it without difficulty, and fitted with controls situated inside the carrier or within reach of a person inside the carrier.

Lifting appliances moving along a fixed course even where they do not move along guides which are rigid shall be considered as lifts falling within the scope of this Directive.

A "carrier" means a part of the lift by which persons and/or goods are supported in order to be lifted or lowered.

3. This Directive shall not apply to:

- lifting appliances whose speed is not greater than 0,15 m/s,

- construction site hoists,

- cableways, including funicular railways,

- lifts specially designed and constructed for military or police purposes,

- lifting appliances from which work can be carried out,

- mine winding gear,

- lifting appliances intended for lifting performers during artistic performances,

- lifting appliances fitted in means of transport,

- lifting appliances connected to machinery and intended exclusively for access to workstations including maintenance and inspection points on the machinery,

- rack and pinion trains,

- escalators and mechanical walkways.";

2. in Annex I, point 1.2 shall be replaced by the following:

1.2. "Carrier

The carrier of each lift must be a car. This car must be designed and constructed to offer the space and strength corresponding to the maximum number of persons and the rated load of the lift set by the installer.

Where the lift is intended for the transport of persons, and where its dimensions permit, the car must be designed and constructed in such a way that its structural features do not obstruct or impede access and use by disabled persons and so as to allow any appropriate adjustments intended to facilitate its use by them."

Article 25 - Repeal

Directive 98/37/EC is hereby repealed.

References made to the repealed Directive shall be construed as being made to this Directive and should be read in accordance with the correlation table in Annex XII.

Article 26 - Transposition

1. Member States shall adopt and publish the provisions necessary to comply with this Directive by 29 June 2008 at the latest. They shall forthwith inform the Commission thereof.

They shall apply those provisions with effect from 29 December 2009.

When Member States adopt those provisions, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field covered by this Directive, together with a table showing how the provisions of this Directive correspond to the national provisions adopted.

Article 27 - Derogation

Until 29 June 2011 Member States may allow the placing on the market and the putting into service of portable cartridge-operated fixing and other impact machinery which are in conformity with the national provisions in force upon adoption of this Directive.

Article 28 - Entry into force

This Directive shall enter into force on the 20th day following its publication in the Official Journal of the European Union.

Article 29 - Addressees

This Directive is addressed to the Member States.
Done at Strasbourg, 17 May 2006.

For the European Parliament
The President
J. Borrell Fontelles

For the Council
The President
H. Winkler

Note

[1] OJ C 154 E, 29.5.2001, p. 164.

[2] OJ C 311, 7.11.2001, p. 1.

[3] Opinion of the European Parliament of 4 July 2002 (OJ C 271 E, 12.11.2003, p. 491), Council Common Position of 18 July 2005 (OJ C 251 E, 11.10.2005, p. 1) and Position of the European Parliament of 15 December 2005 (not yet published in the Official Journal). Council Decision of 25 April 2006.

[4] OJ L 207, 23.7.1998, p. 1. Directive as amended by Directive 98/79/EC (OJ L 331, 7.12.1998, p. 1).

[5] Council Directive 89/392/EEC of 14 June 1989 on the approximation of the laws of the Member States relating to machinery (OJ L 183, 29.6.1989, p. 9).

[6] OJ L 256, 13.9.1991, p. 51.

[7] OJ L 393, 30.12.1989, p. 13. Directive as last amended by Directive 2001/45/EC of the European Parliament and of the Council (OJ L 195, 19.7.2001, p. 46).

[8] OJ L 171, 9.7.2003, p. 1. Directive as last amended by Commission Directive 2005/67/EC (OJ L 273, 19.10.2005, p. 17).

[9] OJ L 220, 30.8.1993, p. 23.

[10] OJ L 213, 7.9.1995, p. 1. Directive as amended by Regulation (EC) No 1882/2003 (OJ L 284, 31.10.2003, p. 1).

[11] OJ C 321, 31.12.2003, p. 1.

[12] OJ L 184, 17.7.1999, p. 23.

[13] OJ L 42, 23.2.1970, p. 1. Directive as last amended by Commission Directive 2006/28/EC (OJ L 65, 7.3.2006, p. 27).

[14] OJ L 124, 9.5.2002, p. 1. Directive as last amended by Commission Directive 2005/30/EC (OJ L 106, 27.4.2005, p. 17).

[15] OJ L 77, 26.3.1973, p. 29. Directive as amended by Directive 93/68/EEC (OJ L 220, 30.8.1993, p. 1).

[16] OJ L 204, 21.7.1998, p. 37. Directive as last amended by the 2003 Act of Accession.

ANNEX I

Essential health and safety requirements relating to the the design and construction of machinery

GENERAL PRINCIPLES

1. The manufacturer of machinery or his authorised representative must ensure that a risk assessment is carried out in order to determine the health and safety requirements which apply to the machinery. The machinery must then be designed and constructed taking into account the results of the risk assessment.

By the iterative process of risk assessment and risk reduction referred to above, the manufacturer or his authorised representative shall:

- determine the limits of the machinery, which include the intended use and any reasonably foreseeable misuse thereof,

- identify the hazards that can be generated by the machinery and the associated hazardous situations,

- estimate the risks, taking into account the severity of the possible injury or damage to health and the probability of its occurrence,

- evaluate the risks, with a view to determining whether risk reduction is required, in accordance with the objective of this Directive,

- eliminate the hazards or reduce the risks associated with these hazards by application of protective measures, in the order of priority established in section 1.1.2(b).

2. The obligations laid down by the essential health and safety requirements only apply when the corresponding hazard exists for the machinery in question when it is used under the conditions foreseen by the manufacturer or his authorised representative or in foreseeable abnormal situations. In any event, the principles of safety integration referred to in section 1.1.2 and the obligations concerning marking of machinery and instructions referred to in sections 1.7.3 and 1.7.4 apply.

3. The essential health and safety requirements laid down in this Annex are mandatory; However, taking into account the state of the art, it may not be possible to meet the objectives set by them. In that event, the machinery must, as far as possible, be designed and constructed with the purpose of approaching these objectives.

4. This Annex is organised in several parts. The first one has a general scope and is applicable to all kinds of machinery. The other parts refer to certain kinds of more specific hazards. Nevertheless, it is essential to examine the whole of this Annex in order to be sure of meeting all the relevant essential requirements. When machinery is being designed, the requirements of the general part and the requirements of one or more of the other parts shall be taken into account, depending on the results of the risk assessment carried out in accordance with point 1 of these General Principles.

1. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

1.1. GENERAL REMARKS

1.1.1. Definitions

For the purpose of this Annex:

(a) "hazard" means a potential source of injury or damage to health;

(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;

(c) "exposed person" means any person wholly or partially in a danger zone;

(d) "operator" means the person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery;

(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;

(f) "guard" means a part of the machinery used specifically to provide protection by means of a physical barrier;

(g) "protective device" means a device (other than a guard) which reduces the risk, either alone or in conjunction with a guard;

(h) "intended use" means the use of machinery in accordance with the information provided in the instructions for use;

(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.

1.1.2. Principles of safety integration

(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 risk when these operations are carried out under the conditions foreseen but also taking into account any reasonably foreseeable misuse thereof.

The aim of measures taken must be to eliminate any risk throughout the foreseeable lifetime of the machinery including the phases of transport, assembly, dismantling, disabling and scrapping.

(b) In selecting the most appropriate methods, the manufacturer or his authorised representative must apply the following principles, in the order given:

- eliminate or reduce risks as far as possible (inherently safe machinery design and construction),

- take the necessary protective measures in relation to risks that cannot be eliminated,

- inform users of the residual risks due to any shortcomings of the protective measures adopted, indicate whether any particular training is required and specify any need to provide personal protective equipment.

(c) When designing and constructing machinery and when drafting the instructions, the manufacturer or his authorised representative must envisage not only the intended use of the machinery but also any reasonably foreseeable misuse thereof.

The machinery must be designed and constructed in such a way as to prevent abnormal use if such use would engender a risk. Where appropriate, the instructions must draw the user's attention to ways — which experience has shown might occur — in which the machinery should not be used.

(d) Machinery must be designed and constructed to take account of the constraints to which the operator is subject as a result of the necessary or foreseeable use of personal protective equipment.

(e) Machinery must be supplied with all the special equipment and accessories essential to enable it to be adjusted, maintained and used safely.

1.1.3. Materials and products

The materials used to construct machinery or products used or created during its use must not endanger persons' safety or health. In particular, where fluids are used, machinery must be designed and constructed to prevent risks due to filling, use, recovery or draining.

1.1.4. Lighting

Machinery must be supplied with integral lighting suitable for the operations concerned where the absence thereof is likely to cause a risk despite ambient lighting of normal intensity.

Machinery must be designed and constructed so that there is no area of shadow likely to cause nuisance, that there is no irritating dazzle and that there are no dangerous stroboscopic effects on moving parts due to the lighting.

Internal parts requiring frequent inspection and adjustment, and maintenance areas must be provided with appropriate lighting.

1.1.5. Design of machinery to facilitate its handling

Machinery, or each component part thereof, must:

- be capable of being handled and transported safely,

- be packaged or designed so that it can be stored safely and without damage.

During the transportation of the machinery and/or its component parts, there must be no possibility of sudden movements or of hazards due to instability as long as the machinery and/or its component parts are handled in accordance with the instructions.

Where the weight, size or shape of machinery or its various component parts prevents them from being moved by hand, the machinery or each component part must:

- either be fitted with attachments for lifting gear, or

- be designed so that it can be fitted with such attachments, or

- be shaped in such a way that standard lifting gear can easily be attached.

Where machinery or one of its component parts is to be moved by hand, it must:

- either be easily moveable, or

- be equipped for picking up and moving safely.

Special arrangements must be made for the handling of tools and/or machinery parts which, even if lightweight, could be hazardous.

1.1.6. Ergonomics

Under the intended conditions of use, the discomfort, fatigue and physical and psychological stress faced by the operator must be reduced to the minimum possible, taking into account ergonomic principles such as:

- allowing for the variability of the operator's physical dimensions, strength and stamina,

- providing enough space for movements of the parts of the operator's body,

- avoiding a machine-determined work rate,

- avoiding monitoring that requires lengthy concentration,

- adapting the man/machinery interface to the foreseeable characteristics of the operators.

1.1.7. Operating positions

The operating position must be designed and constructed in such a way as to avoid any risk due to exhaust gases and/or lack of oxygen.

If the machinery is intended to be used in a hazardous environment presenting risks to the health and safety of the operator or if the machinery itself gives rise to a hazardous environment, adequate means must be provided to ensure that the operator has good working conditions and is protected against any foreseeable hazards.

Where appropriate, the operating position must be fitted with an adequate cabin designed, constructed and/or equipped to fulfil the above requirements. The exit must allow rapid evacuation. Moreover, when applicable, an emergency exit must be provided in a direction which is different from the usual exit.

1.1.8. Seating

Where appropriate and where the working conditions so permit, work stations constituting an integral part of the machinery must be designed for the installation of seats.

If the operator is intended to sit during operation and the operating position is an integral part of the machinery, the seat must be provided with the machinery.

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 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 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 beneath the feet of the operator, footrests covered with a slip-resistant material must be provided.

1.2. CONTROL SYSTEMS

1.2.1. Safety and reliability of control systems

Control systems must be designed and constructed in such a way as to prevent hazardous situations from arising. Above all, they must be designed and constructed in such a way that:

- they can withstand the intended operating stresses and external influences,

- a fault in the hardware or the software of the control system does not lead to hazardous situations,

- errors in the control system logic do not lead to hazardous situations,

- reasonably foreseeable human error during operation does not lead to hazardous situations.

Particular attention must be given to the following points:

- the machinery must not start unexpectedly,

- the parameters of the machinery must not change in an uncontrolled way, where such change may lead to hazardous situations,

- the machinery must not be prevented from stopping if the stop command has already been given,

- no moving part of the machinery or piece held by the machinery must fall or be ejected,

- automatic or manual stopping of the moving parts, whatever they may be, must be unimpeded,

- the protective devices must remain fully effective or give a stop command,

- the safety-related parts of the control system must apply in a coherent way to the whole of an assembly of machinery and/or partly completed machinery.

For cable-less control, an automatic stop must be activated when correct control signals are not received, including loss of communication.

1.2.2. Control devices

Control devices must be:

- clearly visible and identifiable, using pictograms where appropriate,

- positioned in such a way as to be safely operated without hesitation or loss of time and without ambiguity,

- designed in such a way that the movement of the control device is consistent with its effect,

- located outside the danger zones, except where necessary for certain control devices such as an emergency stop or a teach pendant,

- positioned in such a way that their operation cannot cause additional risk,

- designed or protected in such a way that the desired effect, where a hazard is involved, can only be achieved by a deliberate action,

- made in such a way as to withstand foreseeable forces; particular attention must be paid to emergency stop devices liable to be subjected to considerable forces.

Where a control device is designed and constructed to perform several different actions, namely where there is no one-to-one correspondence, the action to be performed must be clearly displayed and subject to confirmation, where necessary.

Control devices must be so arranged that their layout, travel and resistance to operation are compatible with the action to be performed, taking account of ergonomic principles.

Machinery must be fitted with indicators as required for safe operation. The operator must be able to read them from the control position.

From each control position, the operator must be able to ensure that no-one is in the danger zones, or the control system must be designed and constructed in such a way that starting is prevented while someone is in the danger zone.

If neither of these possibilities is applicable, before the machinery starts, an acoustic and/or visual warning signal must be given. The exposed persons must have time to leave the danger zone or prevent the machinery starting up.

If necessary, means must be provided to ensure that the machinery can be controlled only from control positions located in one or more predetermined zones or locations.

Where there is more than one control position, the control system must be designed in such a way that the use of one of them precludes the use of the others, except for stop controls and emergency stops.

When machinery has two or more operating positions, each position must be provided with all the required control devices without the operators hindering or putting each other into a hazardous situation.

1.2.3. Starting

It must be possible to start machinery only by voluntary actuation of a control device provided for the purpose.

The same requirement applies:

- when restarting the machinery after a stoppage, whatever the cause,

- when effecting a significant change in the operating conditions.

However, the restarting of the machinery or a change in operating conditions may be effected by voluntary actuation of a device other than the control device provided for the purpose, on condition that this does not lead to a hazardous situation.

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 not lead to a hazardous situation.

Where machinery has several starting control devices and the operators can therefore put each 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 these operations are performed in the correct order.

1.2.4. Stopping

1.2.4.1. Normal stop

Machinery must be fitted with a control device whereby the machinery can be brought safely to a complete stop.

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.

The machinery's stop control must have priority over the start controls.

Once the machinery or its hazardous functions have stopped, the energy supply to the actuators concerned must be cut off.

1.2.4.2. Operational stop

Where, for operational reasons, a stop control that does not cut off the energy supply to the actuators is required, the stop condition must be monitored and maintained.

1.2.4.3. Emergency stop

Machinery must be fitted with one or more emergency stop devices to enable actual or impending danger to be averted.

The following exceptions apply:

- machinery in which an emergency stop device would not lessen the risk, either because it would not reduce the stopping time or because it would not enable the special measures required to deal with the risk to be taken,

- portable hand-held and/or hand-guided machinery.

The device must:

- have clearly identifiable, clearly visible and quickly accessible control devices,

- stop the hazardous process as quickly as possible, without creating additional risks,

- where necessary, trigger or permit the triggering of certain safeguard movements.

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 specifically overridden; it must not be possible to engage the device without triggering a stop command; it must be possible to disengage the device only by an appropriate operation, and disengaging the device must not restart the machinery but only permit restarting.

The emergency stop function must be available and operational at all times, regardless of the operating mode.

Emergency stop devices must be a back-up to other safeguarding measures and not a substitute for them.

1.2.4.4. Assembly of machinery

In the case of machinery or parts of machinery designed to work together, the machinery must be designed and constructed in such a way that the stop controls, including the emergency stop devices, can stop not only the machinery itself but also all related equipment, if its continued operation may be dangerous.

1.2.5. Selection of control or operating modes

The control or operating mode selected must override all other control or operating modes, with the exception of the emergency stop.

If machinery has been designed and constructed to allow its use in several control or operating modes requiring different protective measures and/or work procedures, it must be fitted with a mode selector which can be locked in each position. Each position of the selector must be clearly identifiable and must correspond to a single operating or control mode.

The selector may be replaced by another selection method which restricts the use of certain functions of the machinery to certain categories of operator.

If, for certain operations, the machinery must be able to operate with a guard displaced or removed and/or a protective device disabled, the control or operating mode selector must simultaneously:

- disable all other control or operating modes,

- permit operation of hazardous functions only by control devices requiring sustained action,

- permit the operation of hazardous functions only in reduced risk conditions while preventing hazards from linked sequences,

- prevent any operation of hazardous functions by voluntary or involuntary action on the machine's sensors.

If these four conditions cannot be fulfilled simultaneously, the control or operating mode selector must activate other protective measures designed and constructed to ensure a safe intervention zone.

In addition, the operator must be able to control operation of the parts he is working on from the adjustment point.

1.2.6. Failure of the power supply

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.

Particular attention must be given to the following points:

- the machinery must not start unexpectedly,

- the parameters of the machinery must not change in an uncontrolled way when such change can lead to hazardous situations,

- the machinery must not be prevented from stopping if the command has already been given,

- no moving part of the machinery or piece held by the machinery must fall or be ejected,

- automatic or manual stopping of the moving parts, whatever they may be, must be unimpeded,

- the protective devices must remain fully effective or give a stop command.

1.3. PROTECTION AGAINST MECHANICAL HAZARDS

1.3.1. Risk of loss of stability

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.

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.

1.3.2. Risk of break-up during operation

The various parts of machinery and their linkages must be able to withstand the stresses to which they are subject when used.

The durability of the materials used must be adequate for the nature of the working environment foreseen by the manufacturer or his authorised representative, in particular as regards the phenomena of fatigue, ageing, corrosion and abrasion.

The instructions must indicate the type and frequency of inspections and maintenance required for safety reasons. They must, where appropriate, indicate the parts subject to wear and the criteria for replacement.

Where a risk of rupture or disintegration remains despite the measures taken, the parts concerned must be mounted, positioned and/or guarded in such a way that any fragments will be contained, preventing hazardous situations.

Both rigid and flexible pipes carrying fluids, particularly those under high pressure, must be able to withstand the foreseen internal and external stresses and must be firmly attached and/or protected to ensure that no risk is posed by a rupture.

Where the material to be processed is fed to the tool automatically, the following conditions must be fulfilled to avoid risks to persons:

- when the workpiece comes into contact with the tool, the latter must have attained its normal working condition,
- when the tool starts and/or stops (intentionally or accidentally), the feed movement and the tool movement must be coordinated.

1.3.3. Risks due to falling or ejected objects

Precautions must be taken to prevent risks from falling or ejected objects.

1.3.4. Risks due to surfaces, edges or angles

Insofar as their purpose allows, accessible parts of the machinery must have no sharp edges, no sharp angles and no rough surfaces likely to cause injury.

1.3.5. Risks related to combined machinery

Where the machinery is intended to carry out several different operations with manual removal of the piece between each operation (combined machinery), it must be designed and constructed in such a way as to enable each element to be used separately without the other elements constituting a risk for exposed persons.

For this purpose, it must be possible to start and stop separately any elements that are not protected.

1.3.6. Risks related to variations in operating conditions

Where the machinery performs operations under different conditions of use, it must be designed and constructed in such a way that selection and adjustment of these conditions can be carried out safely and reliably.

1.3.7. Risks related to moving parts

The moving parts of machinery must be designed and constructed in such a way as to prevent risks of contact which could lead to accidents or must, where risks persist, be fitted with guards or protective devices.

All necessary steps must be taken to prevent accidental blockage of moving parts involved in the work. In cases where, despite the precautions taken, a blockage is likely to occur, the necessary specific protective devices and tools must, when appropriate, be provided to enable the equipment to be safely unblocked.

The instructions and, where possible, a sign on the machinery shall identify these specific protective devices and how they are to be used.

1.3.8. Choice of protection against risks arising from moving parts

Guards or protective devices designed to protect against risks arising from moving parts must be selected on the basis of the type of risk. The following guidelines must be used to help to make the choice.

1.3.8.1. Moving transmission parts

Guards designed to protect persons against the hazards generated by moving transmission parts must be:

- either fixed guards as referred to in section 1.4.2.1, or

- interlocking movable guards as referred to in section 1.4.2.2.

Interlocking movable guards should be used where frequent access is envisaged.

1.3.8.2. Moving parts involved in the process

Guards or protective devices designed to protect persons against the hazards generated by moving parts involved in the process must be:

- either fixed guards as referred to in section 1.4.2.1, or

- interlocking movable guards as referred to in section 1.4.2.2, or

- protective devices as referred to in section 1.4.3, or

- a combination of the above.

However, when certain moving parts directly involved in the process cannot be made completely inaccessible during operation owing to operations requiring operator intervention, such parts must be fitted with:

- fixed guards or interlocking movable guards preventing access to those sections of the parts that are not used in the work, and

- adjustable guards as referred to in section 1.4.2.3 restricting access to those sections of the moving parts where access is necessary.

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.

1.4. REQUIRED CHARACTERISTICS OF GUARDS AND PROTECTIVE DEVICES

1.4.1. General requirements

Guards and protective devices must:

- be of robust construction,

- be securely held in place,

- not give rise to any additional hazard,

- not be easy to by-pass or render non-operational,

- be located at an adequate distance from the danger zone,

- cause minimum obstruction to the view of the production process, and

- enable essential work to be carried out on the installation and/or replacement of tools and for maintenance purposes by restricting access exclusively to the area where the work has to be done, if possible without the guard having to be removed or the protective device having to be disabled.

In addition, guards must, where possible, protect against the ejection or falling of materials or objects and against emissions generated by the machinery.

1.4.2. Special requirements for guards

1.4.2.1. Fixed guards

Fixed guards must be fixed by systems that can be opened or removed only with tools.

Their fixing systems must remain attached to the guards or to the machinery when the guards are removed.

Where possible, guards must be incapable of remaining in place without their fixings.

1.4.2.2. Interlocking movable guards

Interlocking movable guards must:

- as far as possible remain attached to the machinery when open,

- be designed and constructed in such a way that they can be adjusted only by means of an intentional action.

Interlocking movable guards must be associated with an interlocking device that:

- prevents the start of hazardous machinery functions until they are closed and

- gives a stop command whenever they are no longer closed.

Where it is possible for an operator to reach the danger zone before the risk due to the hazardous machinery functions has ceased, movable guards must be associated with a guard locking device in addition to an interlocking device that:

- prevents the start of hazardous machinery functions until the guard is closed and locked, and

- keeps the guard closed and locked until the risk of injury from the hazardous machinery functions has ceased.

Interlocking movable guards must be designed in such a way that the absence or failure of one of their components prevents starting or stops the hazardous machinery functions.

1.4.2.3. Adjustable guards restricting access

Adjustable guards restricting access to those areas of the moving parts strictly necessary for the work must be:

- adjustable manually or automatically, depending on the type of work involved, and

- readily adjustable without the use of tools.

1.4.3. Special requirements for protective devices

Protective devices must be designed and incorporated into the control system in such a way that:

- moving parts cannot start up while they are within the operator's reach,

- persons cannot reach moving parts while the parts are moving, and

- the absence or failure of one of their components prevents starting or stops the moving parts.

Protective devices must be adjustable only by means of an intentional action.

1.5. RISKS DUE TO OTHER HAZARDS

1.5.1. Electricity supply

Where machinery has an electricity supply, it must be designed, constructed and equipped in such a way that all hazards of an electrical nature are or can be prevented.

The safety objectives set out in Directive 73/23/EEC shall apply to machinery. However, the obligations concerning conformity assessment and the placing on the market and/or putting into service of machinery with regard to electrical hazards are governed solely by this Directive.

1.5.2. Static electricity

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.

1.5.3. Energy supply other than electricity

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.

1.5.4. Errors of fitting

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 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 and/or their housings where the direction of movement needs to be known in order to avoid a risk.

Where necessary, the instructions must give further information on these risks.

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.

1.5.5. Extreme temperatures

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.

The necessary steps must also be taken to avoid or protect against the risk of hot or very cold material being ejected.

1.5.6. Fire

Machinery must be designed and constructed in such a way as to avoid any risk of fire or overheating posed by the machinery itself or by gases, liquids, dust, vapours or other substances produced or used by the machinery.

1.5.7. Explosion

Machinery must be designed and constructed in such a way as to avoid any risk of explosion posed by the machinery itself or by gases, liquids, dust, vapours or other substances produced or used by the machinery.

Machinery must comply, as far as the risk of explosion due to its use in a potentially explosive atmosphere is concerned, with the provisions of the specific Community Directives.

1.5.8. Noise

Machinery must be designed and constructed in such a way that risks resulting from the emission of airborne noise are reduced to the lowest level, taking account of technical progress and the availability of means of reducing noise, in particular at source.

The level of noise emission may be assessed with reference to comparative emission data for similar machinery.

1.5.9. Vibrations

Machinery must be designed and constructed in such a way that risks resulting from vibrations produced by the machinery are reduced to the lowest level, taking account of technical progress and the availability of means of reducing vibration, in particular at source.

The level of vibration emission may be assessed with reference to comparative emission data for similar machinery.

1.5.10. Radiation

Undesirable radiation emissions from the machinery must be eliminated or be reduced to levels that do not have adverse effects on persons.

Any functional ionising radiation emissions must be limited to the lowest level which is sufficient for the proper functioning of the machinery during setting, operation and cleaning. Where a risk exists, the necessary protective measures must be taken.

Any functional non-ionising radiation emissions during setting, operation and cleaning must be limited to levels that do not have adverse effects on persons.

1.5.11. External radiation

Machinery must be designed and constructed in such a way that external radiation does not interfere with its operation.

1.5.12. Laser radiation

Where laser equipment is used, the following should be taken into account:

- laser equipment on machinery must be designed and constructed in such a way as to prevent any accidental radiation,

- 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,

- optical equipment for the observation or adjustment of laser equipment on machinery must be such that no health risk is created by laser radiation.

1.5.13. Emissions of hazardous materials and substances

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.

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.

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.

1.5.14. Risk of being trapped in a machine

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.

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.

Where appropriate, these parts must be fitted with handholds that are fixed relative to the user and that enable them to maintain their stability.

1.5.16. Lightning

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.

1.6. MAINTENANCE

1.6.1. Machinery maintenance

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.

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).

In the case of automated machinery and, where necessary, other machinery, a connecting device for mounting diagnostic fault-finding equipment must be provided.

Automated machinery components which have to be changed frequently must be capable of being removed and replaced easily and safely. Access to the components must enable these tasks to be carried out with the necessary technical means in accordance with a specified operating method.

1.6.2. Access to operating positions and servicing points

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.

1.6.3. Isolation of energy sources

Machinery must be fitted with means to isolate it from all energy sources. Such isolators must be clearly identified. They must be capable of being locked if reconnection could endanger persons. Isolators must also be capable of being locked where an operator is unable, from any of the points to which he has access, to check that the energy is still cut off.

In the case of machinery capable of being plugged 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.

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.

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 be taken to ensure operator safety.

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.

1.6.5. Cleaning of internal parts

The machinery must be designed and constructed in such a way that it is possible to clean internal 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.

1.7. INFORMATION

1.7.1. Information and warnings on the machinery

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 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.

1.7.1.1. Information and information devices

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.

Visual display units or any other interactive means of communication between the operator and the machine must be easily understood and easy to use.

1.7.1.2. Warning devices

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 acoustic or light signal as a warning.

Where machinery is equipped with warning devices these must be unambiguous and easily perceived. The operator must have facilities to check the operation of such warning devices at all times.

The requirements of the specific Community Directives concerning colours and safety signals must be complied with.

1.7.2. Warning of residual risks

Where risks remain despite the inherent safe design measures, safeguarding and complementary protective measures adopted, the necessary warnings, including warning devices, must be provided.

1.7.3. Marking of machinery

All machinery must be marked visibly, legibly and indelibly with the following minimum particulars:

- the business name and full address of the manufacturer and, where applicable, his authorised representative,

- designation of the machinery,

- the CE Marking (see Annex III),

- designation of series or type,

- serial number, if any,

- the year of construction, that is the year in which the manufacturing process is completed.

It is prohibited to pre-date or post-date the machinery when affixing the CE marking.

Furthermore, machinery designed and constructed for use in a potentially explosive atmosphere must be marked accordingly.

Machinery must also bear full information relevant to its type and essential for safe use. Such information is subject to the requirements set out in section 1.7.1.

Where a machine part must be handled during use with lifting equipment, its mass must be indicated legibly, indelibly and unambiguously.

1.7.4. Instructions

All machinery must be accompanied by instructions in the official Community language or languages of the Member State in which it is placed on the market and/or put into service.

The instructions accompanying the machinery must be either "Original instructions" or a "Translation of the original instructions", in which case the translation must be accompanied by the original instructions.

By way of exception, the maintenance instructions intended for use by specialised personnel mandated by the manufacturer or his authorised representative may be supplied in only one Community language which the specialised personnel understand.

The instructions must be drafted in accordance with the principles set out below.

1.7.4.1. General principles for the drafting of instructions

(a) The instructions must be drafted in one or more official Community languages. The words "Original instructions" must appear on the language version(s) verified by the manufacturer or his authorised representative.

(b) Where no "Original instructions" exist in the official language(s) of the country where the machinery is to be used, a translation into that/those language(s) must be provided by the manufacturer or his authorised representative or by the person bringing the machinery into the language area in question. The translations must bear the words "Translation of the original instructions".

(c) The contents of the instructions must cover not only the intended use of the machinery but also take into account any reasonably foreseeable misuse thereof.

(d) In the case of machinery intended for use by non-professional operators, the wording and layout of the instructions for use must take into account the level of general education and acumen that can reasonably be expected from such operators.

1.7.4.2. Contents of the instructions

Each instruction manual must contain, where applicable, at least the following information:

(a) the business name and full address of the manufacturer and of his authorised representative;

(b) the designation of the machinery as marked on the machinery itself, except for the serial number (see section 1.7.3);

(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 number and the signature;

(d) a general description of the machinery;

(e) the drawings, diagrams, descriptions and explanations necessary for the use, maintenance and repair of the machinery and for checking its correct functioning;

(f) a description of the workstation(s) likely to be occupied by operators;

(g) a description of the intended use of the machinery;

(h) warnings concerning ways in which the machinery must not be used that experience has shown might occur;

(i) assembly, installation and connection instructions, including drawings, diagrams and the means of attachment and the designation of the chassis or installation on which the machinery is to be mounted;

(j) instructions relating to installation and assembly for reducing noise or vibration;

(k) instructions for the putting into service and use of the machinery and, if necessary, instructions for the training of operators;

(l) information about the residual risks that remain despite the inherent safe design measures, safeguarding and complementary protective measures adopted;

(m) instructions on the protective measures to be taken by the user, including, where appropriate, the personal protective equipment to be provided;

(n) the essential characteristics of tools which may be fitted to the machinery;

(o) the conditions in which the machinery meets the requirement of stability during use, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns;

(p) instructions with a view to ensuring that transport, handling and storage operations can be made safely, giving the mass of the machinery and of its various parts where these are regularly to be transported separately;

(q) the operating method to be followed in the event of accident or breakdown; if a blockage is likely to occur, the operating method to be followed so as to enable the equipment to be safely unblocked;

(r) the description of the adjustment and maintenance operations that should be carried out by the user and the preventive maintenance measures that should be observed;

(s) instructions designed to enable adjustment and maintenance to be carried out safely, including the protective measures that should be taken during these operations;

(t) the specifications of the spare parts to be used, when these affect the health and safety of operators;

(u) the following information on airborne noise emissions:

- the A-weighted emission sound pressure level at workstations, where this exceeds 70 dB(A); where this level does not exceed 70 dB(A), this fact must be indicated,

- the peak C-weighted instantaneous sound pressure value at workstations, where this exceeds 63 Pa (130 dB in relation to 20 μPa),

- the A-weighted sound power level emitted by the machinery, where the A-weighted emission sound pressure level at workstations exceeds 80 dB(A).

These values must be either those actually measured for the machinery in question or those established on the basis of measurements taken for technically comparable machinery which is representative of the machinery to be produced.

In the case of very large machinery, instead of the A-weighted sound power level, the A-weighted emission sound pressure levels at specified positions around the machinery may be indicated.

Where the harmonised standards are not applied, sound levels must be measured using the most appropriate method for the machinery. Whenever sound emission values are indicated the uncertainties surrounding these values must be specified. The operating conditions of the machinery during measurement and the measuring methods used must be described.

Where the workstation(s) are undefined or cannot be defined, A-weighted sound pressure levels must be measured at a distance of 1 metre from the surface of the machinery and at a height of 1,6 metres from the floor or access platform. The position and value of the maximum sound pressure must be indicated.

Where specific Community Directives lay down other requirements for the measurement of sound pressure levels or sound power levels, those Directives must be applied and the corresponding provisions of this section shall not apply;

(v) where machinery is likely to emit non-ionising radiation which may cause harm to persons, in particular persons with active or non-active implantable medical devices, information concerning the radiation emitted for the operator and exposed persons.

1.7.4.3. Sales literature

Sales literature describing the machinery must not contradict the instructions as regards health and safety aspects. Sales literature describing the performance characteristics of machinery must contain the same information on emissions as is contained in the instructions.

2. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS FOR CERTAIN CATEGORIES OF MACHINERY

Foodstuffs machinery, machinery for cosmetics or pharmaceutical products, hand-held and/or hand-guided machinery, portable fixing and other impact machinery, machinery for working wood and material with similar physical characteristics must meet all the essential health and safety requirements described in this chapter (see General Principles, point 4).

2.1. FOODSTUFFS MACHINERY AND MACHINERY FOR COSMETICS OR PHARMACEUTICAL PRODUCTS

2.1.1. General

Machinery intended for use with foodstuffs or with cosmetics or pharmaceutical products must be designed and constructed in such a way as to avoid any risk of infection, sickness or contagion.

The following requirements must be observed:

(a) materials in contact with, or intended to come into contact with, foodstuffs or cosmetics or pharmaceutical products must satisfy the conditions set down in the relevant Directives. The machinery must be designed and constructed in such a way that these materials can be cleaned before each use. Where this is not possible disposable parts must be used;

(b) all surfaces in contact with foodstuffs or cosmetics or pharmaceutical products, other than surfaces of disposable parts, must:

- be smooth and have neither ridges nor crevices which could harbour organic materials. The same applies to their joinings,

- be designed and constructed in such a way as to reduce the projections, edges and recesses of assemblies to a minimum,

- be easily cleaned and disinfected, where necessary after removing easily dismantled parts; the inside surfaces must have curves with a radius sufficient to allow thorough cleaning;

(c) it must be possible for liquids, gases and aerosols deriving from foodstuffs, cosmetics or pharmaceutical products as well as from cleaning, disinfecting and rinsing fluids to be completely discharged from the machinery (if possible, in a "cleaning" position);

(d) machinery must be designed and constructed in such a way as to prevent any substances or living creatures, in particular insects, from entering, or any organic matter from accumulating in, areas that cannot be cleaned;

(e) machinery must be designed and constructed in such a way that no ancillary substances hazardous to health, including the lubricants used, can come into contact with foodstuffs, cosmetics or pharmaceutical products. Where necessary, machinery must be designed and constructed in such a way that continuing compliance with this requirement can be checked.

2.1.2. Instructions

The instructions for foodstuffs machinery and machinery for use with cosmetics or pharmaceutical products must indicate recommended products and methods for cleaning, disinfecting and rinsing, not only for easily accessible areas but also for areas to which access is impossible or inadvisable.

2.2. PORTABLE HAND-HELD AND/OR HAND-GUIDED MACHINERY

2.2.1. General

Portable hand-held and/or hand-guided machinery must:

- depending on the type of machinery, have a supporting surface of sufficient size and have a sufficient number of handles and supports of an appropriate size, arranged in such a way as to ensure the stability of the machinery under the intended operating conditions,

- except where technically impossible, or where there is an independent control device, in the case of handles which cannot be released in complete safety, be fitted with manual start and stop control devices arranged in such a way that the operator can operate them without releasing the handles,

- present no risks of accidental starting and/or continued operation after the operator has released the handles. Equivalent steps must be taken if this requirement is not technically feasible,

- permit, where necessary, visual observation of the danger zone and of the action of the tool with the material being processed.

The handles of portable machinery must be designed and constructed in such a way as to make starting and stopping straightforward.

2.2.1.1. Instructions

The instructions must give the following information concerning vibrations transmitted by portable hand-held and hand-guided machinery:

- the vibration total value to which the hand-arm system is subjected, if it exceeds 2,5 m/s2. Where this value does not exceed 2,5 m/s2, this must be mentioned,

- the uncertainty of measurement.

These values must be either those actually measured for the machinery in question or those established on the basis of measurements taken for technically comparable machinery which is representative of the machinery to be produced.

If harmonised standards are not applied, the vibration data must be measured using the most appropriate measurement code for the machinery.

The operating conditions during measurement and the methods used for measurement, or the reference of the harmonised standard applied, must be specified.

2.2.2. Portable fixing and other impact machinery

2.2.2.1. General

Portable fixing and other impact machinery must be designed and constructed in such a way that:

- energy is transmitted to the impacted element by the intermediary component that does not leave the device,

- an enabling device prevents impact unless the machinery is positioned correctly with adequate pressure on the base material,

- involuntary triggering is prevented; where necessary, an appropriate sequence of actions on the enabling device and the control device must be required to trigger an impact,

- accidental triggering is prevented during handling or in case of shock,

- loading and unloading operations can be carried out easily and safely.

Where necessary, it must be possible to fit the device with splinter guard(s) and the appropriate guard(s) must be provided by the manufacturer of the machinery.

2.2.2.2. Instructions

The instructions must give the necessary information regarding:

- the accessories and interchangeable equipment that can be used with the machinery,

- the suitable fixing or other impacted elements to be used with the machinery,

- where appropriate, the suitable cartridges to be used.

2.3. MACHINERY FOR WORKING WOOD AND MATERIAL WITH SIMILAR PHYSICAL CHARACTERISTICS

Machinery for working wood and materials with similar physical characteristics must comply with the following requirements:

(a) the machinery must be designed, constructed or equipped in such a way that the piece being machined can be placed and guided in safety; where the piece is hand-held on a work-bench, the latter must be sufficiently stable during the work and must not impede the movement of the piece;

(b) where the machinery is likely to be used in conditions involving the risk of ejection of workpieces or parts of them, it must be designed, constructed, or equipped in such a way as to prevent such ejection, or, if this is not possible, so that the ejection does not engender risks for the operator and/or exposed persons;

(c) the machinery must be equipped with an automatic brake that stops the tool in a sufficiently short time if there is a risk of contact with the tool whilst it runs down;

(d) where the tool is incorporated into a non-fully automated machine, the latter must be designed and constructed in such a way as to eliminate or reduce the risk of accidental injury.

3. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS TO OFFSET HAZARDS DUE TO THE MOBILITY OF MACHINERY

Machinery presenting hazards due to its mobility must meet all the essential health and safety requirements described in this chapter (see General Principles, point 4).

3.1. GENERAL

3.1.1. Definitions

(a) "Machinery presenting hazards due to its mobility" means

- machinery the operation of which requires either mobility while working, or continuous or semi-continuous movement between a succession of fixed working locations, or

- machinery which is operated without being moved, but which may be equipped in such a way as to enable it to be moved more easily from one place to another.

(b) "Driver" means an operator responsible for the movement of a machine. The driver may be transported by the machinery or may be on foot, accompanying the machinery, or may guide the machinery by remote control.

3.2. WORK POSITIONS

3.2.1. Driving position

Visibility from the driving position must be such that the driver can, in complete safety for himself and the exposed persons, operate the machinery and its tools in their foreseeable conditions of use. Where necessary, appropriate devices must be provided to remedy hazards due to inadequate direct vision.

Machinery on which the driver is transported must be designed and constructed in such a way that, from the driving positions, there is no risk to the driver from inadvertent contact with the wheels and tracks.

The driving position of ride-on drivers must be designed and constructed in such a way that a driver's cab may be fitted, provided this does not increase the risk and there is room for it. The cab must incorporate a place for the instructions needed for the driver.

3.2.2. Seating

Where there is a risk that operators or other persons transported by the machinery may be crushed between parts of the machinery and the ground should the machinery roll or tip over, in particular for machinery equipped with a protective structure referred to in section 3.4.3 or 3.4.4, their seats must be designed or equipped with a restraint system so as to keep the persons in their seats, without restricting movements necessary for operations or movements relative to the structure caused by the suspension of the seats. Such restraint systems should not be fitted if they increase the risk.

3.2.3. Positions for other persons

If the conditions of use provide that persons other than the driver may occasionally or regularly be transported by the machinery or work on it, appropriate positions must be provided which enable them to be transported or to work on it without risk.

The second and third paragraphs of section 3.2.1 also apply to the places provided for persons other than the driver.

3.3. CONTROL SYSTEMS

If necessary, steps must be taken to prevent unauthorised use of controls.

In the case of remote controls, each control unit must clearly identify the machinery to be controlled from that unit.

The remote control system must be designed and constructed in such a way as to affect only:

- the machinery in question,

- the functions in question.

Remote controlled machinery must be designed and constructed in such a way that it will respond only to signals from the intended control units.

3.3.1. Control devices

The driver must be able to actuate all control devices required to operate the machinery from the driving position, except for functions which can be safely actuated only by using control devices located elsewhere. These functions include, in particular, those for which operators other than the driver are responsible or for which the driver has to leave the driving position in order to control them safely.

Where there are pedals, they must be so designed, constructed and fitted as to allow safe operation by the driver with the minimum risk of incorrect operation. They must have a slip-resistant surface and be easy to clean.

Where their operation can lead to hazards, notably dangerous movements, the control devices, except for those with preset positions, must return to the neutral position as soon as they are released by the operator.

In the case of wheeled machinery, the steering system must be designed and constructed in such a way as to reduce the force of sudden movements of the steering wheel or the steering lever caused by shocks to the guide wheels.

Any control that locks the differential must be so designed and arranged that it allows the differential to be unlocked when the machinery is moving.

The sixth paragraph of section 1.2.2, concerning acoustic and/or visual warning signals, applies only in the case of reversing.

3.3.2. Starting/moving

All travel movements of self-propelled machinery with a ride-on driver must be possible only if the driver is at the controls.

Where, for operating purposes, machinery is fitted with devices which exceed its normal clearance zone (e.g. stabilisers, jib, etc.), the driver must be provided with the means of checking easily, before moving the machinery, that such devices are in a particular position which allows safe movement.

This also applies to all other parts which, to allow safe movement, have to be in particular positions, locked if necessary.

Where it does not give rise to other risks, movement of the machinery must depend on safe positioning of the aforementioned parts.

It must not be possible for unintentional movement of the machinery to occur while the engine is being started.

3.3.3. Travelling function

Without prejudice to road traffic regulations, self-propelled machinery and its trailers must meet the requirements for slowing down, stopping, braking and immobilisation so as to ensure safety under all the operating, load, speed, ground and gradient conditions allowed for.

The driver must be able to slow down and stop self-propelled machinery by means of a main device. Where safety so requires, in the event of a failure of the main device, or in the absence of the energy supply needed to actuate the main device, an emergency device with a fully independent and easily accessible control device must be provided for slowing down and stopping.

Where safety so requires, a parking device must be provided to render stationary machinery immobile. This device may be combined with one of the devices referred to in the second paragraph, provided that it is purely mechanical.

Remote-controlled machinery must be equipped with devices for stopping operation automatically and immediately and for preventing potentially dangerous operation in the following situations:

- if the driver loses control,

- if it receives a stop signal,

- if a fault is detected in a safety-related part of the system,

- if no validation signal is detected within a specified time.

Section 1.2.4 does not apply to the travelling function.

3.3.4. Movement of pedestrian-controlled machinery

Movement of pedestrian-controlled self-propelled machinery must be possible only through sustained action on the relevant control device by the driver. In particular, it must not be possible for movement to occur while the engine is being started.

The control systems for pedestrian-controlled machinery must be designed in such a way as to minimise the risks arising from inadvertent movement of the machine towards the driver, in particular:

- crushing,

- injury from rotating tools.

The speed of travel of the machinery must be compatible with the pace of a driver on foot.

In the case of machinery on which a rotary tool may be fitted, it must not be possible to actuate the tool when the reverse control is engaged, except where the movement of the machinery results from movement of the tool. In the latter case, the reversing speed must be such that it does not endanger the driver.

3.3.5. Control circuit failure

A failure in the power supply to the power-assisted steering, where fitted, must not prevent machinery from being steered during the time required to stop it.

3.4. PROTECTION AGAINST MECHANICAL HAZARDS

3.4.1. Uncontrolled movements

Machinery must be designed, constructed and where appropriate placed on its mobile support in such a way as to ensure that, when moved, uncontrolled oscillations of its centre of gravity do not affect its stability or exert excessive strain on its structure.

3.4.2. Moving transmission parts

By way of exception to section 1.3.8.1, in the case of engines, moveable guards preventing access to the moving parts in the engine compartment need not have interlocking devices if they have to be opened either by the use of a tool or key or by a control located in the driving position, providing the latter is in a fully enclosed cab with a lock to prevent unauthorised access.

3.4.3. Roll-over and tip-over

Where, in the case of self-propelled machinery with a ride-on driver, operator(s) or other person(s), there is a risk of rolling or tipping over, the machinery must be fitted with an appropriate protective structure, unless this increases the risk.

This structure must be such that in the event of rolling or tipping over it affords the ride-on person(s) an adequate deflection-limiting volume.

In order to verify that the structure complies with the requirement laid down in the second paragraph, the manufacturer or his authorised representative must, for each type of structure concerned, perform appropriate tests or have such tests performed.

3.4.4. Falling objects

Where, in the case of self-propelled machinery with a ride-on driver, operator(s) or other person(s), there is a risk due to falling objects or material, the machinery must be designed and constructed in such a way as to take account of this risk and fitted, if its size allows, with an appropriate protective structure.

This structure must be such that, in the event of falling objects or material, it guarantees the ride-on person(s) an adequate deflection-limiting volume.

In order to verify that the structure complies with the requirement laid down in the second paragraph, the manufacturer or his authorised representative must, for each type of structure concerned, perform appropriate tests or have such tests performed.

3.4.5. Means of access

Handholds and steps must be designed, constructed and arranged in such a way that the operators use them instinctively and do not use the control devices to assist access.

3.4.6. Towing devices

All machinery used to tow or to be towed must be fitted with towing or coupling devices designed, constructed and arranged in such a way as to ensure easy and secure connection and disconnection and to prevent accidental disconnection during use.

Insofar as the tow bar load so requires, such machinery must be equipped with a support with a bearing surface suited to the load and the ground.

3.4.7. Transmission of power between self-propelled machinery (or tractor) and recipient machinery

Removable mechanical transmission devices linking self-propelled machinery (or a tractor) to the first fixed bearing of recipient machinery must be designed and constructed in such a way that any part that moves during operation is protected over its whole length.

On the side of the self-propelled machinery (or tractor), the power take-off to which the removable mechanical transmission device is attached must be protected either by a guard fixed and linked to the self-propelled machinery (or tractor) or by any other device offering equivalent protection.

It must be possible to open this guard for access to the removable transmission device. Once it is in place, there must be enough room to prevent the drive shaft damaging the guard when the machinery (or the tractor) is moving.

On the recipient machinery side, the input shaft must be enclosed in a protective casing fixed to the machinery.

Torque limiters or freewheels may be fitted to universal joint transmissions only on the side adjoining the driven machinery. The removable mechanical transmission device must be marked accordingly.

All recipient machinery, the operation of which requires a removable mechanical transmission device to connect it to self-propelled machinery (or a tractor), must have a system for attaching the removable mechanical transmission device so that, when the machinery is uncoupled, the removable mechanical transmission device and its guard are not damaged by contact with the ground or part of the machinery.

The outside parts of the guard must be so designed, constructed and arranged that they cannot turn with the removable mechanical transmission device. The guard must cover the transmission to the ends of the inner jaws in the case of simple universal joints and at least to the centre of the outer joint or joints in the case of wide-angle universal joints.

If means of access to working positions are provided near to the removable mechanical transmission device, they must be designed and constructed in such a way that the shaft guards cannot be used as steps, unless designed and constructed for that purpose.

3.5. PROTECTION AGAINST OTHER HAZARDS

3.5.1. Batteries

The battery housing must be designed and constructed in such a way as to prevent the electrolyte being ejected on to the operator in the event of rollover or tipover and to avoid the accumulation of vapours in places occupied by operators.

Machinery must be designed and constructed in such a way that the battery can be disconnected with the aid of an easily accessible device provided for that purpose.

3.5.2. Fire

Depending on the hazards anticipated by the manufacturer, machinery must, where its size permits:

- either allow easily accessible fire extinguishers to be fitted, or

- be provided with built-in extinguisher systems.

3.5.3. Emissions of hazardous substances

The second and third paragraphs of section 1.5.13 do not apply where the main function of the machinery is the spraying of products. However, the operator must be protected against the risk of exposure to such hazardous emissions.

3.6. INFORMATION AND INDICATIONS

3.6.1. Signs, signals and warnings

All machinery must have signs and/or instruction plates concerning use, adjustment and maintenance, wherever necessary, so as to ensure the health and safety of persons. They must be chosen, designed and constructed in such a way as to be clearly visible and indelible.

Without prejudice to the provisions of road traffic regulations, machinery with a ride-on driver must have the following equipment:

- an acoustic warning device to alert persons,

- a system of light signals relevant to the intended conditions of use; the latter requirement does not apply to machinery intended solely for underground working and having no electrical power,

- where necessary, there must be an appropriate connection between a trailer and the machinery for the operation of signals.

Remote-controlled machinery which, under normal conditions of use, exposes persons to the risk of impact or crushing must be fitted with appropriate means to signal its movements or with means to protect persons against such risks. The same applies to machinery which involves, when in use, the constant repetition of a forward and backward movement on a single axis where the area to the rear of the machine is not directly visible to the driver.

Machinery must be constructed in such a way that the warning and signalling devices cannot be disabled unintentionally. Where it is essential for safety, such devices must be provided with the means to check that they are in good working order and their failure must be made apparent to the operator.

Where the movement of machinery or its tools is particularly hazardous, signs on the machinery must be provided to warn against approaching the machinery while it is working; the signs must be legible at a sufficient distance to ensure the safety of persons who have to be in the vicinity.

3.6.2. Marking

The following must be shown legibly and indelibly on all machinery:

- nominal power expressed in kilowatts (kW),

- mass of the most usual configuration, in kilograms (kg);

and, where appropriate:

- maximum drawbar pull provided for at the coupling hook, in Newtons (N),

- maximum vertical load provided for on the coupling hook, in Newtons (N).

3.6.3. Instructions

3.6.3.1. Vibrations

The instructions must give the following information concerning vibrations transmitted by the machinery to the hand-arm system or to the whole body:

- the vibration total value to which the hand-arm system is subjected, if it exceeds 2,5 m/s2. Where this value does not exceed 2,5 m/s2, this must be mentioned,

- the highest root mean square value of weighted acceleration to which the whole body is subjected, if it exceeds 0,5 m/s2. Where this value does not exceed 0,5 m/s2, this must be mentioned,

- the uncertainty of measurement.

These values must be either those actually measured for the machinery in question or those established on the basis of measurements taken for technically comparable machinery which is representative of the machinery to be produced.

Where harmonised standards are not applied, the vibration must be measured using the most appropriate measurement code for the machinery concerned.

The operating conditions during measurement and the measurement codes used must be described.

3.6.3.2. Multiple uses

The instructions for machinery allowing several uses depending on the equipment used and the instructions for the interchangeable equipment must contain the information necessary for safe assembly and use of the basic machinery and the interchangeable equipment that can be fitted.

4. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS TO OFFSET HAZARDS DUE TO LIFTING OPERATIONS

Machinery presenting hazards due to lifting operations must meet all the relevant essential health and safety requirements described in this chapter (see General Principles, point 4).

4.1. GENERAL

4.1.1. Definitions

(a) "Lifting operation" means a movement of unit loads consisting of goods and/or persons necessitating, at a given moment, a change of level.

(b) "Guided load" means a load where the total movement is made along rigid or flexible guides whose position is determined by fixed points.

(c) "Working coefficient" means the arithmetic ratio between the load guaranteed by the manufacturer or his authorised representative up to which a component is able to hold it and the maximum working load marked on the component.

(d) "Test coefficient" means the arithmetic ratio between the load used to carry out the static or dynamic tests on lifting machinery or a lifting accessory and the maximum working load marked on the lifting machinery or lifting accessory.

(e) "Static test" means the test during which lifting machinery or a lifting accessory is first inspected and subjected to a force corresponding to the maximum working load multiplied by the appropriate static test coefficient and then re-inspected once the said load has been released to ensure that no damage has occurred.

(f) "Dynamic test" means the test during which lifting machinery is operated in all its possible configurations at the maximum working load multiplied by the appropriate dynamic test coefficient with account being taken of the dynamic behaviour of the lifting machinery in order to check that it functions properly.

(g) "Carrier" means a part of the machinery on or in which persons and/or goods are supported in order to be lifted.

4.1.2. Protection against mechanical hazards

4.1.2.1. Risks due to lack of stability

Machinery must be designed and constructed in such a way that the stability required by section 1.3.1 is maintained both in service and out of service, including all stages of transportation, assembly and dismantling, during foreseeable component failures and also during the tests carried out in accordance with the instruction handbook. To that end, the manufacturer or his authorised representative must use the appropriate verification methods.

4.1.2.2. Machinery running on guide rails and rail tracks

Machinery must be provided with devices which act on the guide rails or tracks to prevent derailment.

If, despite such devices, there remains a risk of derailment or of failure of a rail or of a running component, devices must be provided which prevent the equipment, component or load from falling or the machinery from overturning.

4.1.2.3. Mechanical strength

Machinery, lifting accessories and their components must be capable of withstanding the stresses to which they are subjected, both in and, where applicable, out of use, under the installation and operating conditions provided for and in all relevant configurations, with due regard, where appropriate, to the effects of atmospheric factors and forces exerted by persons. This requirement must also be satisfied during transport, assembly and dismantling.

Machinery and lifting accessories must be designed and constructed in such a way as to prevent failure from fatigue and wear, taking due account of their intended use.

The materials used must be chosen on the basis of the intended working environments, with particular regard to corrosion, abrasion, impacts, extreme temperatures, fatigue, brittleness and ageing.

Machinery and lifting accessories must be designed and constructed in such a way as to withstand the overload in the static tests without permanent deformation or patent defect. Strength calculations must take account of the value of the static test coefficient chosen to guarantee an adequate level of safety. That coefficient has, as a general rule, the following values:

(a) manually-operated machinery and lifting accessories: 1,5;

(b) other machinery: 1,25.

Machinery must be designed and constructed in such a way as to undergo, without failure, the dynamic tests carried out using the maximum working load multiplied by the dynamic test coefficient. This dynamic test coefficient is chosen so as to guarantee an adequate level of safety: the coefficient is, as a general rule, equal to 1,1. As a general rule, the tests will be performed at the nominal speeds provided for. Should the control circuit of the machinery allow for a number of simultaneous movements, the tests must be carried out under the least favourable conditions, as a general rule by combining the movements concerned.

4.1.2.4. Pulleys, drums, wheels, ropes and chains

Pulleys, drums and wheels must have a diameter commensurate with the size of the ropes or chains with which they can be fitted.

Drums and wheels must be designed, constructed and installed in such a way that the ropes or chains with which they are equipped can be wound without coming off.

Ropes used directly for lifting or supporting the load must not include any splicing other than at their ends. Splicings are, however, tolerated in installations which are intended by design to be modified regularly according to needs of use.

Complete ropes and their endings must have a working coefficient chosen in such a way as to guarantee an adequate level of safety. As a general rule, this coefficient is equal to 5.

Lifting chains must have a working coefficient chosen in such a way as to guarantee an adequate level of safety. As a general rule, this coefficient is equal to 4.

In order to verify that an adequate working coefficient has been attained, the manufacturer or his authorised representative must, for each type of chain and rope used directly for lifting the load and for the rope ends, perform the appropriate tests or have such tests performed.

4.1.2.5. Lifting accessories and their components

Lifting accessories and their components must be sized with due regard to fatigue and ageing processes for a number of operating cycles consistent with their expected life-span as specified in the operating conditions for a given application.

Moreover:

(a) the working coefficient of wire-rope/rope-end combinations must be chosen in such a way as to guarantee an adequate level of safety; this coefficient is, as a general rule, equal to 5. Ropes must not comprise any splices or loops other than at their ends;

(b) where chains with welded links are used, they must be of the short-link type. The working coefficient of chains must be chosen in such a way as to guarantee an adequate level of safety; this coefficient is, as a general rule, equal to 4;

(c) the working coefficient for textile ropes or slings is dependent on the material, method of manufacture, dimensions and use. This coefficient must be chosen in such a way as to guarantee an adequate level of safety; it is, as a general rule, equal to 7, provided the materials used are shown to be of very good quality and the method of manufacture is appropriate to the intended use. Should this not be the case, the coefficient is, as a general rule, set at a higher level in order to secure an equivalent level of safety. Textile ropes and slings must not include any knots, connections or splicing other than at the ends of the sling, except in the case of an endless sling;

(d) all metallic components making up, or used with, a sling must have a working coefficient chosen in such a way as to guarantee an adequate level of safety; this coefficient is, as a general rule, equal to 4;

(e) the maximum working load of a multilegged sling is determined on the basis of the working coefficient of the weakest leg, the number of legs and a reduction factor which depends on the slinging configuration;

(f) in order to verify that an adequate working coefficient has been attained, the manufacturer or his authorised representative must, for each type of component referred to in (a), (b), (c) and (d), perform the appropriate tests or have such tests performed.

4.1.2.6. Control of movements

Devices for controlling movements must act in such a way that the machinery on which they are installed is kept safe.

(a) Machinery must be designed and constructed or fitted with devices in such a way that the amplitude of movement of its components is kept within the specified limits. The operation of such devices must, where appropriate, be preceded by a warning.

(b) Where several fixed or rail-mounted machines can be manoeuvred simultaneously in the same place, with risks of collision, such machinery must be designed and constructed in such a way as to make it possible to fit systems enabling these risks to be avoided.

(c) Machinery must be designed and constructed in such a way that the loads cannot creep dangerously or fall freely and unexpectedly, even in the event of partial or total failure of the power supply or when the operator stops operating the machine.

(d) It must not be possible, under normal operating conditions, to lower the load solely by friction brake, except in the case of machinery whose function requires it to operate in that way.

(e) Holding devices must be designed and constructed in such a way that inadvertent dropping of the loads is avoided.

4.1.2.7. Movements of loads during handling

The operating position of machinery must be located in such a way as to ensure the widest possible view of trajectories of the moving parts, in order to avoid possible collisions with persons, equipment or other machinery which might be manoeuvring at the same time and liable to constitute a hazard.

Machinery with guided loads must be designed and constructed in such a way as to prevent persons from being injured by movement of the load, the carrier or the counterweights, if any.

4.1.2.8. Machinery serving fixed landings

4.1.2.8.1. Movements of the carrier

The movement of the carrier of machinery serving fixed landings must be rigidly guided to and at the landings. Scissor systems are also regarded as rigid guidance.

4.1.2.8.2. Access to the carrier

Where persons have access to the carrier, the machinery must be designed and constructed in such a way as to ensure that the carrier remains stationary during access, in particular while it is being loaded or unloaded.

The machinery must be designed and constructed in such a way as to ensure that the difference in level between the carrier and the landing being served does not create a risk of tripping.

4.1.2.8.3. Risks due to contact with the moving carrier

Where necessary in order to fulfil the requirement expressed in the second paragraph of section 4.1.2.7, the travel zone must be rendered inaccessible during normal operation.

When, during inspection or maintenance, there is a risk that persons situated under or above the carrier may be crushed between the carrier and any fixed parts, sufficient free space must be provided either by means of physical refuges or by means of mechanical devices blocking the movement of the carrier.

4.1.2.8.4. Risk due to the load falling off the carrier

Where there is a risk due to the load falling off the carrier, the machinery must be designed and constructed in such a way as to prevent this risk.

4.1.2.8.5. Landings

Risks due to contact of persons at landings with the moving carrier or other moving parts must be prevented.

Where there is a risk due to persons falling into the travel zone when the carrier is not present at the landings, guards must be fitted in order to prevent this risk. Such guards must not open in the direction of the travel zone. They must be fitted with an interlocking device controlled by the position of the carrier that prevents:

- hazardous movements of the carrier until the guards are closed and locked,

- hazardous opening of a guard until the carrier has stopped at the corresponding landing.

4.1.3. Fitness for purpose

When lifting machinery or lifting accessories are placed on the market or are first put into service, the manufacturer or his authorised representative must ensure, by taking appropriate measures or having them taken, that the machinery or the lifting accessories which are ready for use - whether manually or power-operated - can fulfil their specified functions safely.

The static and dynamic tests referred to in section 4.1.2.3 must be performed on all lifting machinery ready to be put into service.

Where the machinery cannot be assembled in the manufacturer's premises or in the premises of his authorised representative, the appropriate measures must be taken at the place of use. Otherwise, the measures may be taken either in the manufacturer's premises or at the place of use.

4.2. REQUIREMENTS FOR MACHINERY WHOSE POWER SOURCE IS OTHER THAN MANUAL EFFORT

4.2.1. Control of movements

Hold-to-run control devices must be used to control the movements of the machinery or its equipment. However, for partial or complete movements in which there is no risk of the load or the machinery colliding, the said devices may be replaced by control devices authorising automatic stops at pre-selected positions without the operator holding a hold-to-run control device.

4.2.2. Loading control

Machinery with a maximum working load of not less than 1000 kilograms or an overturning moment of not less than 40000 Nm must be fitted with devices to warn the driver and prevent dangerous movements in the event:

- of overloading, either as a result of the maximum working load or the maximum working moment due to the load being exceeded, or

- of the overturning moment being exceeded.

4.2.3. Installations guided by ropes

Rope carriers, tractors or tractor carriers must be held by counterweights or by a device allowing permanent control of the tension.

4.3. INFORMATION AND MARKINGS

4.3.1. Chains, ropes and webbing

Each length of lifting chain, rope or webbing not forming part of an assembly must bear a mark or, where this is not possible, a plate or irremovable ring bearing the name and address of the manufacturer or his authorised representative and the identifying reference of the relevant certificate.

The certificate mentioned above must show at least the following information:

(a) the name and address of the manufacturer and, if appropriate, his authorised representative;

(b) a description of the chain or rope which includes:

- its nominal size,

- its construction,

- the material from which it is made, and

- any special metallurgical treatment applied to the material;

(c) the test method used;

(d) the maximum load to which the chain or rope should be subjected in service. A range of values may be given on the basis of the intended applications.

4.3.2. Lifting accessories

Lifting accessories must show the following particulars:

- identification of the material where this information is needed for safe use,

- the maximum working load.

In the case of lifting accessories on which marking is physically impossible, the particulars referred to in the first paragraph must be displayed on a plate or other equivalent means and securely affixed to the accessory.

The particulars must be legible and located in a place where they are not liable to disappear as a result of wear or jeopardise the strength of the accessory.

4.3.3. Lifting machinery

The maximum working load must be prominently marked on the machinery. This marking must be legible, indelible and in an un-coded form.

Where the maximum working load depends on the configuration of the machinery, each operating position must be provided with a load plate indicating, preferably in diagrammatic form or by means of tables, the working load permitted for each configuration.

Machinery intended for lifting goods only, equipped with a carrier which allows access to persons, must bear a clear and indelible warning prohibiting the lifting of persons. This warning must be visible at each place where access is possible.

4.4. INSTRUCTIONS

4.4.1. Lifting accessories

Each lifting accessory or each commercially indivisible batch of lifting accessories must be accompanied by instructions setting out at least the following particulars:

(a) the intended use;

(b) the limits of use (particularly for lifting accessories such as magnetic or vacuum pads which do not fully comply with section 4.1.2.6(e));

(c) instructions for assembly, use and maintenance;

(d) the static test coefficient used.

4.4.2. Lifting machinery

Lifting machinery must be accompanied by instructions containing information on:

(a) the technical characteristics of the machinery, and in particular:

- the maximum working load and, where appropriate, a copy of the load plate or load table described in the second paragraph of section 4.3.3,

- the reactions at the supports or anchors and, where appropriate, characteristics of the tracks,

- where appropriate, the definition and the means of installation of the ballast;

(b) the contents of the logbook, if the latter is not supplied with the machinery;

(c) advice for use, particularly to offset the lack of direct vision of the load by the operator;

(d) where appropriate, a test report detailing the static and dynamic tests carried out by or for the manufacturer or his authorised representative;

(e) for machinery which is not assembled on the premises of the manufacturer in the form in which it is to be used, the necessary instructions for performing the measures referred to in section 4.1.3 before it is first put into service.

5. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS FOR MACHINERY INTENDED FOR UNDERGROUND WORK

Machinery intended for underground work must meet all the essential health and safety requirements described in this chapter (see General Principles, point 4).

5.1. RISKS DUE TO LACK OF STABILITY

Powered roof supports must be designed and constructed in such a way as to maintain a given direction when moving and not slip before and while they come under load and after the load has been removed. They must be equipped with anchorages for the top plates of the individual hydraulic props.

5.2. MOVEMENT

Powered roof supports must allow for unhindered movement of persons.

5.3. CONTROL DEVICES

The accelerator and brake controls for movement of machinery running on rails must be hand-operated. However, enabling devices may be foot-operated.

The control devices of powered roof supports must be designed and positioned in such a way that, during displacement operations, operators are sheltered by a support in place. The control devices must be protected against any accidental release.

5.4. STOPPING

Self-propelled machinery running on rails for use in underground work must be equipped with an enabling device acting on the circuit controlling the movement of the machinery such that movement is stopped if the driver is no longer in control of the movement.

5.5. FIRE

The second indent of section 3.5.2 is mandatory in respect of machinery which comprises highly flammable parts.

The braking system of machinery intended for use in underground workings must be designed and constructed in such a way that it does not produce sparks or cause fires.

Machinery with internal combustion engines for use in underground workings must be fitted only with engines using fuel with a low vaporising pressure and which exclude any spark of electrical origin.

5.6. EXHAUST EMISSIONS

Exhaust emissions from internal combustion engines must not be discharged upwards.

6. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS FOR MACHINERY PRESENTING PARTICULAR HAZARDS DUE TO THE LIFTING OF PERSONS

Machinery presenting hazards due to the lifting of persons must meet all the relevant essential health and safety requirements described in this chapter (see General Principles, point 4).

6.1. GENERAL

6.1.1. Mechanical strength

The carrier, including any trapdoors, must be designed and constructed in such a way as to offer the space and strength corresponding to the maximum number of persons permitted on the carrier and the maximum working load.

The working coefficients for components set out in sections 4.1.2.4 and 4.1.2.5 are inadequate for machinery intended for the lifting of persons and must, as a general rule, be doubled. Machinery intended for lifting persons or persons and goods must be fitted with a suspension or supporting system for the carrier designed and constructed in such a way as to ensure an adequate overall level of safety and to prevent the risk of the carrier falling.

If ropes or chains are used to suspend the carrier, as a general rule, at least two independent ropes or chains are required, each with its own anchorage.

6.1.2. Loading control for machinery moved by power other than human strength

The requirements of section 4.2.2 apply regardless of the maximum working load and overturning moment, unless the manufacturer can demonstrate that there is no risk of overloading or overturning.

6.2. CONTROL DEVICES

Where safety requirements do not impose other solutions, the carrier must, as a general rule, be designed and constructed in such a way that persons in the carrier have means of controlling upward and downward movements and, if appropriate, other movements of the carrier.

In operation, those control devices must override any other devices controlling the same movement with the exception of emergency stop devices.

The control devices for these movements must be of the hold-to-run type except where the carrier itself is completely enclosed.

6.3. RISKS TO PERSONS IN OR ON THE CARRIER

6.3.1. Risks due to movements of the carrier

Machinery for lifting persons must be designed, constructed or equipped in such a way that the acceleration or deceleration of the carrier does not engender risks for persons.

6.3.2. Risk of persons falling from the carrier

The carrier must not tilt to an extent which creates a risk of the occupants falling, including when the machinery and carrier are moving.

Where the carrier is designed as a work station, provision must be made to ensure stability and to prevent hazardous movements.

If the measures referred to in section 1.5.15 are not adequate, carriers must be fitted with a sufficient number of suitable anchorage points for the number of persons permitted on the carrier. The anchorage points must be strong enough for the use of personal protective equipment against falls from a height.

Any trapdoor in floors or ceilings or side doors must be designed and constructed in such a way as to prevent inadvertent opening and must open in a direction that obviates any risk of falling, should they open unexpectedly.

6.3.3. Risk due to objects falling on the carrier

Where there is a risk of objects falling on the carrier and endangering persons, the carrier must be equipped with a protective roof.

6.4. MACHINERY SERVING FIXED LANDINGS

6.4.1. Risks to persons in or on the carrier

The carrier must be designed and constructed in such a way as to prevent risks due to contact between persons and/or objects in or on the carrier with any fixed or moving elements. Where necessary in order to fulfil this requirement, the carrier itself must be completely enclosed with doors fitted with an interlocking device that prevents hazardous movements of the carrier unless the doors are closed. The doors must remain closed if the carrier stops between landings where there is a risk of falling from the carrier.

The machinery must be designed, constructed and, where necessary, equipped with devices in such a way as to prevent uncontrolled upward or downward movement of the carrier. These devices must be able to stop the carrier at its maximum working load and at the foreseeable maximum speed.

The stopping action must not cause deceleration harmful to the occupants, whatever the load conditions.

6.4.2. Controls at landings

Controls, other than those for emergency use, at landings must not initiate movements of the carrier when:

- the control devices in the carrier are being operated,

- the carrier is not at a landing.

6.4.3. Access to the carrier

The guards at the landings and on the carrier must be designed and constructed in such a way as to ensure safe transfer to and from the carrier, taking into consideration the foreseeable range of goods and persons to be lifted.

6.5. MARKINGS

The carrier must bear the information necessary to ensure safety including:

- the number of persons permitted on the carrier,
- the maximum working load.

ANNEX II

Declarations

1. CONTENT

A. EC DECLARATION OF CONFORMITY OF THE MACHINERY

This declaration and translations thereof must be drawn up under the same conditions as the instructions (see Annex I, section 1.7.4.1(a) and (b)), and must be typewritten or else handwritten in capital letters.

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.

The EC declaration of conformity must contain the following particulars:

1. business name and full address of the manufacturer and, where appropriate, his authorised representative;

2. name and address of the person authorised to compile the technical file, who must be established in the Community;

3. description and identification of the machinery, including generic denomination, function, model, type, serial number and commercial name;

4. a sentence expressly declaring that the machinery fulfils all the relevant provisions of this Directive and where appropriate, a similar sentence declaring the conformity with other Directives and/or relevant provisions with which the machinery complies. These references must be those of the texts published in the Official Journal of the European Union;

5. where appropriate, the name, address and identification number of the notified body which carried out the EC type-examination referred to in Annex IX and the number of the EC type-examination certificate;

6. where appropriate, the name, address and identification number of the notified body which approved the full quality assurance system referred to in Annex X;

7. where appropriate, a reference to the harmonised standards used, as referred to in Article 7(2);

8. where appropriate, the reference to other technical standards and specifications used;

9. the place and date of the declaration;

10. the identity and signature of the person empowered to draw up the declaration on behalf of the manufacturer or his authorised representative.

B. DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

This declaration and translations thereof must be drawn up under the same conditions as the instructions (see Annex 1, section 1.7.4.1(a) and (b)), and must be typewritten or else handwritten in capital letters.

The declaration of incorporation must contain the following particulars:

1. business name and full address of the manufacturer of the partly completed machinery and, where appropriate, his authorised representative;

2. name and address of the person authorised to compile the relevant technical documentation, who must be established in the Community;

3. description and identification of the partly completed machinery including generic denomination, function, model, type, serial number and commercial name;

4. a sentence declaring which essential requirements of this Directive are applied and fulfilled and that the relevant technical documentation is compiled in accordance with part B of Annex VII, and, where appropriate, a sentence declaring the conformity of the partly completed machinery with other relevant Directives. These references must be those of the texts published in the Official Journal of the European Union;

5. an undertaking to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery. This shall include the method of transmission and shall be without prejudice to the intellectual property rights of the manufacturer of the partly completed machinery;

6. a statement that the partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of this Directive, where appropriate;

7. the place and date of the declaration;

8. the identity and signature of the person empowered to draw up the declaration on behalf of the manufacturer or his authorised representative.

2. CUSTODY

The manufacturer of machinery or his authorised representative shall keep the original EC declaration of conformity for a period of at least 10 years from the last date of manufacture of the machinery.

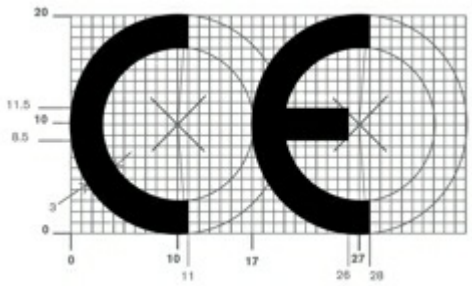
The manufacturer of partly completed machinery or his authorised representative shall keep the original declaration of incorporation for a period

of at least 10 years from the last date of manufacture of the partly completed machinery.

ANNEX III

CE marking

The CE conformity marking shall consist of the initials "CE" taking the following form:



If the CE marking is reduced or enlarged the proportions shown in the above drawing must be respected.

The various components of the CE marking must have substantially the same vertical dimension, which may not be less than 5 mm. The minimum dimension may be waived for small-scale machinery.

The CE marking must be affixed in the immediate vicinity of the name of the manufacturer or his authorised representative, using the same technique.

Where the full quality assurance procedure referred to in Article 12(3)(c) and 12(4)(b) has been applied, the CE marking must be followed by the identification number of the notified body.

ANNEX IV

Categories of machinery to which one of the procedures referred to in Article 12(3) and (4) must be applied

1. Circular saws (single- or multi-blade) for working with wood and material with similar physical characteristics or for working with meat and material with similar physical characteristics, of the following types:

1.1. sawing machinery with fixed blade(s) during cutting, having a fixed bed or support with manual feed of the workpiece or with a demountable power feed;

1.2. sawing machinery with fixed blade(s) during cutting, having a manually operated reciprocating saw-bench or carriage;

1.3 sawing machinery with fixed blade(s) during cutting, having a built-in mechanical feed device for the workpieces, with manual loading and/or unloading;

1.4. sawing machinery with movable blade(s) during cutting, having mechanical movement of the blade, with manual loading and/or unloading.

2. Hand-fed surface planing machinery for woodworking.

3. Thicknessers for one-side dressing having a built-in mechanical feed device, with manual loading and/or unloading for woodworking.

4. Band-saws with manual loading and/or unloading for working with wood and material with similar physical characteristics or for working with meat and material with similar physical characteristics, of the following types:

4.1. sawing machinery with fixed blade(s) during cutting, having a fixed or reciprocating-movement bed or support for the workpiece;

4.2. sawing machinery with blade(s) assembled on a carriage with reciprocating motion.

5. Combined machinery of the types referred to in points 1 to 4 and in point 7 for working with wood and material with similar physical characteristics.

6. Hand-fed tenoning machinery with several tool holders for woodworking.

7. Hand-fed vertical spindle moulding machinery for working with wood and material with similar physical characteristics.

8. Portable chainsaws for woodworking.

9. Presses, including press-brakes, for the cold working of metals, with manual loading and/or unloading, whose movable working parts may have a travel exceeding 6 mm and a speed exceeding 30 mm/s.

10. Injection or compression plastics-moulding machinery with manual loading or unloading.

11. Injection or compression rubber-moulding machinery with manual loading or unloading.

12. Machinery for underground working of the following types:

12.1. locomotives and brake-vans;

12.2. hydraulic-powered roof supports.

13. Manually loaded trucks for the collection of household refuse incorporating a compression mechanism.

14. Removable mechanical transmission devices including their guards.

15. Guards for removable mechanical transmission devices.

16. Vehicle servicing lifts.

17. Devices for the lifting of persons or of persons and goods involving a hazard of falling from a vertical height of more than three metres.

18. Portable cartridge-operated fixing and other impact machinery.

19. Protective devices designed to detect the presence of persons.

20. Power-operated interlocking movable guards designed to be used as safeguards in machinery referred to in points 9, 10 and 11.

21. Logic units to ensure safety functions.

22. Roll-over protective structures (ROPS).

23. Falling-object protective structures (FOPS).

ANNEX V

Indicative list of the safety components referred to in Article 2(c)

1. Guards for removable mechanical transmission devices.

2. Protective devices designed to detect the presence of persons.

3. Power-operated interlocking movable guards designed to be used as safeguards in machinery referred to in items 9, 10 and 11 of Annex IV.

4. Logic units to ensure safety functions.

5. Valves with additional means for failure detection intended for the control of dangerous movements on machinery.

6. Extraction systems for machinery emissions.

7. Guards and protective devices designed to protect persons against moving parts involved in the process on the machinery.

8. Monitoring devices for loading and movement control in lifting machinery.

9. Restraint systems to keep persons on their seats.

10. Emergency stop devices.

11. Discharging systems to prevent the build-up of potentially dangerous electrostatic charges.

12. Energy limiters and relief devices referred to in sections 1.5.7, 3.4.7 and 4.1.2.6 of Annex I.

13. Systems and devices to reduce the emission of noise and vibrations.

14. Roll-over protective structures (ROPS).

15. Falling-object protective structures (FOPS).

16. Two-hand control devices.

17. Components for machinery designed for lifting and/or lowering persons between different landings and included in the following list:

(a) devices for locking landing doors;

(b) devices to prevent the load-carrying unit from falling or unchecked upwards movement;

(c) overspeed limitation devices;

(d) energy-accumulating shock absorbers,

- non-linear, or

- with damping of the return movement;

(e) energy-dissipating shock absorbers;

(f) safety devices fitted to jacks of hydraulic power circuits where these are used as devices to prevent falls;

(g) electric safety devices in the form of safety switches containing electronic components.

ANNEX VI

Assembly instructions for partly completed machinery

The assembly instructions for partly completed machinery must contain a description of the conditions which must be met with a view to correct incorporation in the final machinery, so as not to compromise safety and health.

The assembly instructions must be written in an official Community language acceptable to the manufacturer of the machinery in which the partly completed machinery will be assembled, or to his authorised representative.

ANNEX VII

A. Technical file for machinery

This part describes the procedure for compiling a technical file. The technical file must demonstrate that the machinery complies with the requirements of this Directive. It must cover the design, manufacture and operation of the machinery to the extent necessary for this assessment. The technical file must be compiled in one or more official Community languages, except for the instructions for the machinery, for which the special provisions of Annex I, section 1.7.4.1 apply.

1. The technical file shall comprise the following:

(a) a construction file including:

- a general description of the machinery,

- the overall drawing of the machinery and drawings of the control circuits, as well as the pertinent descriptions and explanations necessary for understanding the operation of the machinery,

- full detailed drawings, accompanied by any calculation notes, test results, certificates, etc., required to check the conformity of the machinery with the essential health and safety requirements,

- the documentation on risk assessment demonstrating the procedure followed, including:

(i) a list of the essential health and safety requirements which apply to the machinery,

(ii) the description of the protective measures implemented to eliminate identified hazards or to reduce risks and, when appropriate, the indication of the residual risks associated with the machinery,

- the standards and other technical specifications used, indicating the essential health and safety requirements covered by these standards,

- any technical report giving the results of the tests carried out either by the manufacturer or by a body chosen by the manufacturer or his authorised representative,

- a copy of the instructions for the machinery,

- where appropriate, the declaration of incorporation for included partly completed machinery and the relevant assembly instructions for such machinery,

- where appropriate, copies of the EC declaration of conformity of machinery or other products incorporated into the machinery,

- a copy of the EC declaration of conformity;

(b) for series manufacture, the internal measures that will be implemented to ensure that the machinery remains in conformity with the provisions of this Directive.

The manufacturer must carry out necessary research and tests on components, fittings or the completed machinery to determine whether by its design or construction it is capable of being assembled and put into service safely. The relevant reports and results shall be included in the technical file.

2. The technical file referred to in point 1 must be made available to the competent authorities of the Member States for at least 10 years following the date of manufacture of the machinery or, in the case of series manufacture, of the last unit produced.

The technical file does not have to be located in the territory of the Community, nor does it have to be permanently available in material form. However, it must be capable of being assembled and made available within a period of time commensurate with its complexity by the person designated in the EC declaration of conformity.

The technical file does not have to include detailed plans or any other specific information as regards the sub-assemblies used for the manufacture of the machinery unless a knowledge of them is essential for verification of conformity with the essential health and safety requirements.

3. Failure to present the technical file in response to a duly reasoned request by the competent national authorities may constitute sufficient grounds for doubting the conformity of the machinery in question with the essential health and safety requirements.

B. Relevant technical documentation for partly completed machinery

This part describes the procedure for compiling relevant technical documentation. The documentation must show which requirements of this Directive are applied and fulfilled. It must cover the design, manufacture and operation of the partly completed machinery to the extent necessary for the assessment of conformity with the essential health and safety requirements applied. The documentation must be compiled in one or more official Community languages.

It shall comprise the following:

(a) a construction file including:

- the overall drawing of the partly completed machinery and drawings of the control circuits,

- full detailed drawings, accompanied by any calculation notes, test results, certificates, etc., required to check the conformity of the partly completed machinery with the applied essential health and safety requirements,

- the risk assessment documentation showing the procedure followed, including:

(i) a list of the essential health and safety requirements applied and fulfilled,

(ii) the description of the protective measures implemented to eliminate identified hazards or to reduce risks and, where appropriate, the indication of the residual risks,

(iii) the standards and other technical specifications used, indicating the essential health and safety requirements covered by these standards,

(iv) any technical report giving the results of the tests carried out either by the manufacturer or by a body chosen by the manufacturer or his authorised representative,

(v) a copy of the assembly instructions for the partly completed machinery;

(b) for series manufacture, the internal measures that will be implemented to ensure that the partly completed machinery remains in conformity with the essential health and safety requirements applied.

The manufacturer must carry out necessary research and tests on components, fittings or the partly completed machinery to determine whether by its design or construction it is capable of being assembled and used safely. The relevant reports and results shall be included in the technical file.

The relevant technical documentation must be available for at least 10 years following the date of manufacture of the partly completed machinery or, in the case of series manufacture, of the last unit produced, and on request presented to the competent authorities of the Member States. It does not have to be located in the territory of the Community, nor does it have to be permanently available in material form. It must be capable of being assembled and presented to the relevant authority by the person designated in the declaration for incorporation.

Failure to present the relevant technical documentation in response to a duly reasoned request by the competent national authorities may constitute sufficient grounds for doubting the conformity of the partly completed machinery with the essential health and safety requirements applied and attested.

ANNEX VIII

Assessment of conformity with internal checks on the manufacture of machinery

1. This Annex describes the procedure by which the manufacturer or his authorised representative, who carries out the obligations laid down in points 2 and 3, ensures and declares that the machinery concerned satisfies the relevant requirements of this Directive.

2. For each representative type of the series in question, the manufacturer or his authorised representative shall draw up the technical file referred to in Annex VII, part A.

3. The manufacturer must take all measures necessary in order that the manufacturing process ensures compliance of the manufactured machinery with the technical file referred to in Annex VII, part A, and with the requirements of this Directive.

ANNEX IX

EC type-examination

EC type-examination is the procedure whereby a notified body ascertains and certifies that a representative model of machinery referred to in Annex IV (hereafter named the type) satisfies the provisions of this Directive.

1. The manufacturer or his authorised representative must, for each type, draw up the technical file referred to in Annex VII, part A.

2. For each type, the application for an EC type-examination shall be submitted by the manufacturer or his authorised representative to a notified body of his choice.

The application shall include:

- the name and address of the manufacturer and, where appropriate, his authorised representative,

- a written declaration that the application has not been submitted to another notified body,

- the technical file.

Moreover, the applicant shall place at the disposal of the notified body a sample of the type. The notified body may ask for further samples if the test programme so requires.

3. The notified body shall:

3.1. examine the technical file, check that the type was manufactured in accordance with it and establish which elements have been designed in accordance with the relevant provisions of the standards referred to in Article 7(2), and those elements whose design is not based on the relevant provisions of those standards;

3.2. carry out or have carried out appropriate inspections, measurements and tests to ascertain whether the solutions adopted satisfy the essential health and safety requirements of this Directive, where the standards referred to in Article 7(2) were not applied;

3.3. where harmonised standards referred to in Article 7(2) were used, carry out or have carried out appropriate inspections, measurements and tests to verify that those standards were actually applied;

3.4. agree with the applicant as to the place where the check that the type was manufactured in accordance with the examined technical file and the necessary inspections, measurements and tests will be carried out.

4. If the type satisfies the provisions of this Directive, the notified body shall issue the applicant with an EC type-examination certificate. The certificate shall include the name and address of the manufacturer and his authorised representative, the data necessary for identifying the approved type, the conclusions of the examination and the conditions to which its issue may be subject.

The manufacturer and the notified body shall retain a copy of this certificate, the technical file and all relevant documents for a period of 15 years from the date of issue of the certificate.

5. If the type does not satisfy the provisions of this Directive, the notified body shall refuse to issue the applicant with an EC type-examination certificate, giving detailed reasons for its refusal. It shall inform the applicant, the other notified bodies and the Member State which notified it. An appeal procedure must be available.

6. The applicant shall inform the notified body which retains the technical file relating to the EC type-examination certificate of all modifications to the approved type. The notified body shall examine these modifications and shall then either confirm the validity of the existing EC type-examination certificate or issue a new one if the modifications are liable to compromise conformity with the essential health and safety requirements or the intended working conditions of the type.

7. The Commission, the Member States and the other notified bodies may, on request, obtain a copy of the EC type-examination certificates. On reasoned request, the Commission and the Member States may obtain a copy of the technical file and the results of the examinations carried out by the notified body.

8. Files and correspondence referring to the EC type-examination procedures shall be written in the official Community language(s) of the Member State where the notified body is established or in any other official Community language acceptable to the notified body.

9. Validity of the EC type-examination certificate

9.1. The notified body has the ongoing responsibility of ensuring that the EC type-examination certificate remains valid. It shall inform the manufacturer of any major changes which would have an implication on the validity of the certificate. The notified body shall withdraw certificates which are no longer valid.

9.2. The manufacturer of the machinery concerned has the ongoing responsibility of ensuring that the said machinery meets the corresponding state of the art.

9.3. The manufacturer shall request from the notified body the review of the validity of the EC type-examination certificate every five years.

If the notified body finds that the certificate remains valid, taking into account the state of the art, it shall renew the certificate for a further five years.

The manufacturer and the notified body shall retain a copy of this certificate, of the technical file and of all the relevant documents for a period of 15 years from the date of issue of the certificate.

9.4. In the event that the validity of the EC-type examination certificate is not renewed, the manufacturer shall cease the placing on the market of the machinery concerned.

ANNEX X

Full quality assurance

This Annex describes the conformity assessment of machinery referred to in Annex IV, manufactured using a full quality assurance system, and the procedure whereby a notified body assesses and approves the quality system and monitors its application.

1. The manufacturer must operate an approved quality system for design, manufacture, final inspection and testing, as specified in point 2, and shall be subject to the surveillance referred to in point 3.

2. Quality system

2.1. The manufacturer or his authorised representative shall lodge an application for assessment of his quality system to a notified body of his choice.

The application shall contain:

- the name and address of the manufacturer and, where appropriate, his authorised representative,

- the places of design, manufacture, inspection, testing and storage of the machinery,

- the technical file described in Annex VII, Part A, for one model of each category of machinery referred to in Annex IV which he intends to manufacture,

- the documentation on the quality system,

- a written declaration that the application has not been submitted to another notified body.

2.2. The quality system must ensure conformity of the machinery with the provisions of this Directive. All the elements, requirements and provisions adopted by the manufacturer must be documented in a systematic and orderly manner, in the form of measures, procedures and written instructions. The documentation on the quality system must permit a uniform interpretation of the procedural and quality measures, such as quality programmes, plans, manuals and records.

It must contain, in particular, an adequate description of:

- the quality objectives, the organisational structure, and the responsibilities and powers of the management with regard to the design and quality of the machinery,

- the technical design specifications, including standards that will be applied and, where the standards referred to in Article 7(2) are not applied in full, the means that will be used to ensure that the essential health and safety requirements of this Directive are fulfilled,

- the design inspection and design verification techniques, processes and systematic actions that will be used when designing machinery covered by this Directive,

- the corresponding manufacturing, quality control and quality assurance techniques, processes and systematic actions that will be used,

- the inspections and tests that will be carried out before, during and after manufacture, and the frequency with which they will be carried out,

- the quality records, such as inspection reports and test data, calibration data, and reports on the qualifications of the personnel concerned,

- the means of monitoring the achievement of the required design and quality of the machinery, as well as the effective operation of the quality system.

2.3. The notified body shall assess the quality system to determine whether it satisfies the requirements of point 2.2.

The elements of the quality system which conform to the relevant harmonised standard shall be presumed to conform to the corresponding requirements referred to in point 2.2.

The team of auditors must have at least one member who is experienced in the assessment of the technology of the machinery. The assessment procedure shall include an inspection to be carried out at the manufacturer's premises. During the assessment, the team of auditors shall carry out a review of the technical files referred to in point 2.1, second paragraph, third indent to ensure their compliance with the relevant health and safety requirements.

The manufacturer or his authorised representative shall be notified of the decision. The notification shall contain the conclusions of the examination and the reasoned assessment decision. An appeal procedure must be available.

2.4. The manufacturer shall undertake to fulfil the obligations arising from the quality system as approved and to ensure that it remains appropriate and effective.

The manufacturer or his authorised representative shall inform the notified body which approved the quality system of any planned change to it.

The notified body shall evaluate the proposed changes and decide whether the modified quality assurance system will continue to satisfy the requirements referred to in point 2.2, or whether a re-assessment is necessary.

It shall notify the manufacturer of its decision. The notification shall contain the conclusions of the examination and the reasoned assessment decision.

3. Surveillance under the responsibility of the notified body

3.1. The purpose of surveillance is to make sure that the manufacturer duly fulfils the obligations arising out of the approved quality system.

3.2. The manufacturer shall, for inspection purposes, allow the notified body access to the places of design, manufacture, inspection, testing and storage, and shall provide it with all necessary information, such as:

- the documentation concerning the quality system,

- the quality records provided for in that part of the quality system concerned with design, such as the results of analyses, calculations, tests, etc.,

- the quality records provided for in that part of the quality system concerned with manufacture, such as inspection reports and test data, calibration data, reports on the qualifications of the personnel concerned, etc.

3.3. The notified body shall conduct periodic audits to make sure that the manufacturer is maintaining and applying the quality system; it shall provide the manufacturer with an audit report. The frequency of the periodic audits shall be such that a full reassessment is carried out every three years.

3.4. Moreover, the notified body may pay the manufacturer unannounced visits. The need for these additional visits and their frequency will be determined on the basis of a visit monitoring system managed by the notified body. In particular, the following factors will be taken into account in the visits monitoring system:

- the results of previous surveillance visits,

- the need to monitor remedial measures,

- where appropriate, special conditions attaching to approval of the system,

- significant modifications in the organisation of the manufacturing process, measures or techniques.

On the occasion of such visits, the notified body may, if necessary, carry out tests or have them carried out in order to check the proper functioning of the quality system. It shall provide the manufacturer with a visit report and, if a test was carried out, with a test report.

4. The manufacturer or his authorised representative shall keep available for the national authorities, for a period of ten years from the last date of manufacture:

- the documentation referred to in point 2.1,

- the decisions and reports of the notified body referred to in point 2.4, third and fourth subparagraphs, and in points 3.3 and 3.4.

ANNEX XI

Minimum criteria to be taken into account by Member States for the notification of bodies

1. The body, its director and the staff responsible for carrying out the verification tests shall not be the designer, manufacturer, supplier or installer of machines which they inspect, nor the authorised representative of any of these parties. They shall not become involved, either directly or as authorised representatives, in the design, construction, marketing or maintenance of the machines. This does not preclude the possibility of exchanges of technical information between the manufacturer and the body.

2. The body and its staff shall carry out the verification tests with the highest degree of professional integrity and technical competence and shall be free from all pressures and inducements, particularly financial, which might influence their judgement or the results of the inspection, especially from persons or groups of persons with an interest in the result of verifications.

3. For each category of machinery for which it is notified, the body must possess personnel with technical knowledge and sufficient and appropriate experience to perform a conformity assessment. It must have the means necessary to complete the technical and administrative tasks connected with implementation of the checks in an appropriate manner; it must also have access to the equipment necessary for the exceptional checks.

4. The staff responsible for inspection shall have:

- sound technical and vocational training,

- satisfactory knowledge of the requirements of the tests they carry out and adequate experience of such tests,

- the ability to draw up the certificates, records and reports required to authenticate the performance of the tests.

5. The impartiality of inspection staff shall be guaranteed. Their remuneration shall not depend on the number of tests carried out or on the results of such tests.

6. The body shall take out liability insurance unless its liability is assumed by the State in accordance with national law, or the Member State itself is directly responsible for the tests.

7. The staff of the body shall be bound to observe professional secrecy with regard to all information obtained in carrying out its tasks (except vis-à-vis the competent administrative authorities of the State in which its activities are carried out) under this Directive or any provision of national law giving effect to it.

8. Notified bodies shall participate in coordination activities. They shall also take part directly or be represented in European standardisation, or ensure that they know the situation in respect of relevant standards.

9. Member States may take all necessary measures they regard as necessary in order to ensure that, in the event of cessation of the activities of a notified body, the files of its customers are sent to another body or are made available to the Member State which has notified it.

ANNEX XII

Correlation table [1]

Directive 98/37/EC	This Directive
Article 1(1)	Article 1(1)
Article 1(2)(a)	Article 2(a) and (b)
Article 1(2)(b)	Article 2(c)
Article 1(3)	Article 1(2)
Article 1(4)	Article 3
Article 1(5)	—
Article 2(1)	Article 4(1)
Article 2(2)	Article 15
Article 2(3)	Article 6(3)
Article 3	Article 5(1)(a)
Article 4(1)	Article 6(1)
Article 4(2), first subparagraph	Article 6(2)
Article 4(2), second subparagraph	—
Article 4(3)	—
Article 5(1), first subparagraph	Article 7(1)
Article 5(1), second subparagraph	—
Article 5(2), first subparagraph	Article 7(2) and (3)
Article 5(2), last subparagraph	—
Article 5(3)	Article 7(4)
Article 6(1)	Article 10
Article 6(2)	Article 22
Article 7(1)	Article 11(1) and (2)
Article 7(2)	Article 11(3) and (4)
Article 7(3)	Article 11(4)
Article 7(4)	Article 11(5)
Article 8(1), first subparagraph	Article 5(1)(e) and Article 12(1)
Article 8(1), second subparagraph	Article 5(1)(f)
Article 8(2)(a)	Article 12(2)
Article 8(2)(b)	Article 12(4)
Article 8(2)(c)	Article 12(3)
Article 8(3)	—
Article 8(4)	—
Article 8(5)	—
Article 8(6)	Article 5(4)
Article 8(7)	—
Article 8(8)	—
Article 9(1), first subparagraph	Article 14(1)

Article 9(1), second subparagraph | Article 14(4) |

Article 9(2) | Article 14(3) and (5) |

Article 9(3) | Article 14(8) |

Article 10(1 to 3) | Article 16(1) to (3) |

Article 10(4) | Article 17 |

Article 11 | Article 20 |

Article 12 | Article 21 |

Article 13(1) | Article 26(2) |

Article 13(2) | — |

Article 14 | — |

Article 15 | Article 28 |

Article 16 | Article 29 |

Annex I — Preliminary observation 1 | Annex I — General Principles point 2 |

Annex I — Preliminary observation 2 | Annex I — General Principles point 3 |

Annex I — Preliminary observation 3 | Annex I — General Principles point 4 |

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Annex I, Section 1.2.4., paragraphs 1 to 3 | Annex I, Section 1.2.4.1. |

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[1] This table indicates the relation between parts of Directive 98/37/EC and the parts of this Directive that deal with the same subject. However, the content of the correlated parts is not necessarily identical.

Harmonised standards March 2018 (OJ 2018/C 092/01 of 09 March 2018)

Harmonised standards March 2018 (OJ 2018/C 092/01 of 09 March 2018)

Commission communication in the framework of the implementation of the Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast).

The summary list hereunder is a compilation of the references of harmonised standards which have been generated by the HAS (Harmonised standards) database.

This IT application HAS automates the process of the publication of the references of harmonised standards in the Official Journal of the European Union.

Although the list is updated regularly, it may not be complete and it does not have any legal validity; only publication in the Official Journal gives legal affect.

(Publication of titles and references of harmonised standards under Union harmonisation legislation)

ESO(1)	Reference and title of the standard (and reference document)	First publication OJ	Reference of superseded standard	Date of cessation of presumption of conformity of superseded standard Note 1
A-type standards A-type standards specify basic concepts, terminology and design principles applicable to all categories of machinery. Application of such standards alone, although providing an essential framework for the correct application of the Machinery Directive, is not sufficient to ensure conformity with the relevant essential health and safety requirements of the Directive and therefore does not give a full presumption of conformity.				
CEN	EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)	08/04/2011	EN ISO 12100-1:2003 EN ISO 12100-2:2003 EN ISO 14121-1:2007 Note 2.1	30/11/2013
B-type standards B-type standards deal with specific aspects of machinery safety or specific types of safeguard that can be used across a wide range of categories of machinery. Application of the specifications of B-type standards confers a presumption of conformity with the essential health and safety requirements of the Machinery Directive that they cover when a C-type standard or the manufacturer's risk assessment shows that a technical solution specified by the B-type standard is adequate for the particular category or model of machinery concerned. Application of B-type standards that give specifications for safety components that are independently placed on the market confers a presumption of conformity for the safety components concerned and for the essential health and safety requirements covered by the standards.				
CEN	EN 349:1993+A1:2008 Safety of machinery - Minimum gaps to avoid crushing of parts of the human body	08/09/2009		
CEN	EN 547-1:1996+A1:2008 Safety of machinery - Human body measurements - Part 1: Principles for determining the dimensions required for openings for whole body access into machinery	08/09/2009		

CEN	EN 547-2:1996+A1:2008 Safety of machinery - Human body measurements - Part 2: Principles for determining the dimensions required for access openings	08/09/2009		
CEN	EN 547-3:1996+A1:2008 Safety of machinery - Human body measurements - Part 3: Anthropometric data	08/09/2009		
CEN	EN 574:1996+A1:2008 Safety of machinery - Two-hand control devices - Functional aspects - Principles for design	08/09/2009		
CEN	EN 614-1:2006+A1:2009 Safety of machinery - Ergonomic design principles - Part 1: Terminology and general principles	08/09/2009		
CEN	EN 614-2:2000+A1:2008 Safety of machinery - Ergonomic design principles - Part 2: Interactions between the design of machinery and work tasks	08/09/2009		
CEN	EN 842:1996+A1:2008 Safety of machinery - Visual danger signals - General requirements, design and testing	08/09/2009		
CEN	EN 894-1:1997+A1:2008 Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 1: General principles for human interactions with displays and control actuators	08/09/2009		
CEN	EN 894-2:1997+A1:2008 Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 2: Displays	08/09/2009		
CEN	EN 894-3:2000+A1:2008 Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 3: Control actuators	08/09/2009		
CEN	EN 894-4:2010 Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 4: Location and arrangement of displays and control actuators	20/10/2010		
CEN	EN 981:1996+A1:2008 Safety of machinery - System of auditory and visual danger and information signals	08/09/2009		

CEN	EN 1005-1:2001+A1:2008 Safety of machinery - Human physical performance - Part 1: Terms and definitions	08/09/2009		
CEN	EN 1005-2:2003+A1:2008 Safety of machinery - Human physical performance - Part 2: Manual handling of machinery and component parts of machinery	08/09/2009		
CEN	EN 1005-3:2002+A1:2008 Safety of machinery - Human physical performance - Part 3: Recommended force limits for machinery operation	08/09/2009		
CEN	EN 1005-4:2005+A1:2008 Safety of machinery - Human physical performance - Part 4: Evaluation of working postures and movements in relation to machinery	08/09/2009		
CEN	EN 1032:2003+A1:2008 Mechanical vibration - Testing of mobile machinery in order to determine the vibration emission value	08/09/2009		
CEN	EN 1037:1995+A1:2008 Safety of machinery - Prevention of unexpected start-up	08/09/2009		
CEN	EN 1093-1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 1: Selection of test methods	08/09/2009		
CEN	EN 1093-2:2006+A1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 2: Tracer gas method for the measurement of the emission rate of a given pollutant	08/09/2009		
CEN	EN 1093-3:2006+A1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 3: Test bench method for the measurement of the emission rate of a given pollutant	08/09/2009		
CEN	EN 1093-4:1996+A1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 4: Capture efficiency of an exhaust system - Tracer method	08/09/2009		
	EN 1093-6:1998+A1:2008			

CEN	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 6: Separation efficiency by mass, unducted outlet	08/09/2009		
CEN	EN 1093-7:1998+A1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 7: Separation efficiency by mass, ducted outlet	08/09/2009		
CEN	EN 1093-8:1998+A1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 8: Pollutant concentration parameter, test bench method	08/09/2009		
CEN	EN 1093-9:1998+A1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 9: Pollutant concentration parameter, room method	08/09/2009		
CEN	EN 1093-11:2001+A1:2008 Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 11: Decontamination index	08/09/2009		
CEN	EN 1127-1:2011 Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology	18/11/2011	EN 1127-1:2007 Note 2.1	31/07/2014
CEN	EN 1127-2:2014 Explosive atmospheres - Explosion prevention and protection - Part 2: Basic concepts and methodology for mining	13/02/2015	EN 1127-2:2002+A1:2008 Note 2.1	13/02/2015
CEN	EN 1299:1997+A1:2008 Mechanical vibration and shock - Vibration isolation of machines - Information for the application of source isolation	08/09/2009		
CEN	EN 1837:1999+A1:2009 Safety of machinery - Integral lighting of machines	18/12/2009		
CEN	EN ISO 3741:2010 Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Precision methods for reverberation test rooms (ISO 3741:2010)	08/04/2011	EN ISO 3741:2009 Note 2.1	30/04/2011
	EN ISO 3743-1:2010 Acoustics - Determination of sound power levels and sound energy levels of noise sources using		EN ISO 3743-1:2009	

CEN	sound pressure - Engineering methods for small movable sources in reverberant fields - Part 1: Comparison method for a hard-walled test room (ISO 3743-1:2010)	08/04/2011	Note 2.1	30/04/2011
CEN	EN ISO 3743-2:2009 Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering methods for small, movable sources in reverberant fields - Part 2: Methods for special reverberation test rooms (ISO 3743-2:1994)	18/12/2009		
CEN	EN ISO 3744:2010 Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane (ISO 3744:2010)	08/04/2011	EN ISO 3744:2009 Note 2.1	30/04/2011
CEN	EN ISO 3745:2012 Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Precision methods for anechoic rooms and hemi-anechoic rooms (ISO 3745:2012)	05/06/2012	EN ISO 3745:2009 Note 2.1	30/09/2012
	EN ISO 3745:2012/A1:2017 **(new)**	This is the first publication	Note 3	30/06/2018
CEN	EN ISO 3746:2010 Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:2010)	08/04/2011	EN ISO 3746:2009 Note 2.1	30/06/2011
CEN	EN ISO 3747:2010 Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering/survey methods for use in situ in a reverberant environment (ISO 3747:2010)	08/04/2011	EN ISO 3747:2009 Note 2.1	30/06/2011
CEN	EN ISO 4413:2010 Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413:2010)	08/04/2011	EN 982:1996+A1:2008 Note 2.1	30/11/2011
CEN	EN ISO 4414:2010 Pneumatic fluid power - General rules and safety requirements for systems and their components (ISO 4414:2010)	08/04/2011	EN 983:1996+A1:2008 Note 2.1	30/11/2011
	EN ISO 4871:2009			

CEN	Acoustics - Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)	18/12/2009		
CEN	EN ISO 5136:2009 Acoustics - Determination of sound power radiated into a duct by fans and other air-moving devices - In-duct method (ISO 5136:2003)	18/12/2009		
CEN	EN ISO 7235:2009 Acoustics - Laboratory measurement procedures for ducted silencers and air-terminal units - Insertion loss, flow noise and total pressure loss (ISO 7235:2003)	18/12/2009		
CEN	EN ISO 7731:2008 Ergonomics - Danger signals for public and work areas - Auditory danger signals (ISO 7731:2003)	08/09/2009		
CEN	EN ISO 9614-1:2009 Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1: Measurement at discrete points (ISO 9614-1:1993)	18/12/2009		
CEN	EN ISO 9614-3:2009 Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 3: Precision method for measurement by scanning (ISO 9614-3:2002)	18/12/2009		
CEN	EN ISO 10326-1:2016 Mechanical vibration - Laboratory method for evaluating vehicle seat vibration - Part 1: Basic requirements (ISO 10326-1:2016, Corrected version 2017-02)	09/06/2017	EN 30326-1:1994 Note 2.1	30/11/2017
CEN	EN ISO 11161:2007 Safety of machinery - Integrated manufacturing systems - Basic requirements (ISO 11161:2007)	26/05/2010		
	EN ISO 11161:2007/A1:2010	26/05/2010	Note 3	30/09/2010
CEN	EN ISO 11200:2014 Acoustics - Noise emitted by machinery and equipment - Guidelines for the use of basic standards for the determination of emission sound pressure levels at a work station and at other specified positions (ISO 11200:2014)	13/02/2015	EN ISO 11200:2009 Note 2.1	13/02/2015
	EN ISO 11201:2010 Acoustics - Noise emitted by machinery and equipment - Determination of emission sound		EN ISO 11201:2009	

CEN	pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)	20/10/2010	Note 2.1	30/11/2010
CEN	EN ISO 11202:2010 Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202:2010)	20/10/2010	EN ISO 11202:2009 Note 2.1	30/11/2010
CEN	EN ISO 11203:2009 Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level (ISO 11203:1995)	18/12/2009		
CEN	EN ISO 11204:2010 Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions applying accurate environmental corrections (ISO 11204:2010)	20/10/2010	EN ISO 11204:2009 Note 2.1	30/11/2010
CEN	EN ISO 11205:2009 Acoustics - Noise emitted by machinery and equipment - Engineering method for the determination of emission sound pressure levels in situ at the work station and at other specified positions using sound intensity (ISO 11205:2003)	18/12/2009		
CEN	EN ISO 11546-1:2009 Acoustics - Determination of sound insulation performances of enclosures - Part 1: Measurements under laboratory conditions (for declaration purposes) (ISO 11546-1:1995)	18/12/2009		
CEN	EN ISO 11546-2:2009 Acoustics - Determination of sound insulation performances of enclosures - Part 2: Measurements in situ (for acceptance and verification purposes) (ISO 11546-2:1995)	18/12/2009		
CEN	EN ISO 11688-1:2009 Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1: Planning (ISO/TR 11688-1:1995)	18/12/2009		
CEN	EN ISO 11691:2009 Acoustics - Measurement of insertion loss of ducted silencers without flow - Laboratory survey	18/12/2009		

	method (ISO 11691:1995)			
CEN	EN ISO 11957:2009 Acoustics - Determination of sound insulation performance of cabins - Laboratory and in situ measurements (ISO 11957:1996)	18/12/2009		
CEN	EN 12198-1:2000+A1:2008 Safety of machinery - Assessment and reduction of risks arising from radiation emitted by machinery - Part 1: General principles	08/09/2009		
CEN	EN 12198-2:2002+A1:2008 Safety of machinery - Assessment and reduction of risks arising from radiation emitted by machinery - Part 2: Radiation emission measurement procedure	08/09/2009		
CEN	EN 12198-3:2002+A1:2008 Safety of machinery - Assessment and reduction of risks arising from radiation emitted by machinery - Part 3: Reduction of radiation by attenuation or screening	08/09/2009		
CEN	EN 12254:2010 Screens for laser working places - Safety requirements and testing	26/05/2010	EN 12254:1998+A2:2008 Note 2.1	30/09/2010
	EN 12254:2010/AC:2011			
CEN	EN 12786:2013 Safety of machinery - Requirements for the drafting of the vibration clauses of safety standards	28/11/2013		
CEN	EN 13490:2001+A1:2008 Mechanical vibration - Industrial trucks - Laboratory evaluation and specification of operator seat vibration	08/09/2009		
CEN	EN ISO 13732-1:2008 Ergonomics of the thermal environment - Methods for the assessment of human responses to contact with surfaces - Part 1: Hot surfaces (ISO 13732-1:2006)	08/09/2009		
CEN	EN ISO 13732-3:2008 Ergonomics of the thermal environment - Methods for the assessment of human responses to contact with surfaces - Part 3: Cold surfaces (ISO 13732-3:2005)	08/09/2009		
	EN ISO 13753:2008			

CEN	Mechanical vibration and shock - Hand-arm vibration - Method for measuring the vibration transmissibility of resilient materials when loaded by the hand-arm system (ISO 13753:1998)	08/09/2009		
CEN	EN ISO 13849-1:2015 Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)	13/05/2016	EN ISO 13849-1:2008 Note 2.1	30/06/2016
CEN	EN ISO 13849-2:2012 Safety of machinery - Safety-related parts of control systems - Part 2: Validation (ISO 13849-2:2012)	05/04/2013	EN ISO 13849-2:2008 Note 2.1	30/04/2013
CEN	EN ISO 13850:2015 Safety of machinery - Emergency stop function - Principles for design (ISO 13850:2015)	13/05/2016	EN ISO 13850:2008 Note 2.1	31/05/2016
CEN	EN ISO 13855:2010 Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body (ISO 13855:2010)	20/10/2010	EN 999:1998+A1:2008 Note 2.1	30/11/2010
CEN	EN ISO 13856-1:2013 Safety of machinery - Pressure-sensitive protective devices - Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors (ISO 13856-1:2013)	28/11/2013	EN 1760-1:1997+A1:2009 Note 2.1	28/11/2013
CEN	EN ISO 13856-2:2013 Safety of machinery - Pressure-sensitive protective devices - Part 2: General principles for design and testing of pressure-sensitive edges and pressure-sensitive bars (ISO 13856-2:2013)	28/11/2013	EN 1760-2:2001+A1:2009 Note 2.1	28/11/2013
CEN	EN ISO 13856-3:2013 Safety of machinery - Pressure-sensitive protective devices - Part 3: General principles for design and testing of pressure-sensitive bumpers, plates, wires and similar devices (ISO 13856-3:2013)	28/11/2013	EN 1760-3:2004+A1:2009 Note 2.1	31/01/2014
CEN	EN ISO 13857:2008 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)	08/09/2009		
CEN	EN ISO 14119:2013 Safety of machinery - Interlocking devices associated with guards - Principles for design and selection (ISO 14119:2013)	11/04/2014	EN 1088:1995+A2:2008 Note 2.1	30/04/2015

CEN	EN ISO 14120:2015 Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards (ISO 14120:2015)	13/05/2016	EN 953:1997+A1:2009 Note 2.1	31/05/2016
CEN	EN ISO 14122-1:2016 Safety of machinery - Permanent means of access to machinery - Part 1: Choice of fixed means and general requirements of access (ISO 14122-1:2016)	09/09/2016	EN ISO 14122-1:2001 Note 2.1	31/12/2016
CEN	EN ISO 14122-2:2016 Safety of machinery - Permanent means of access to machinery - Part 2: Working platforms and walkways (ISO 14122-2:2016)	09/09/2016	EN ISO 14122-2:2001 Note 2.1	31/12/2016
CEN	EN ISO 14122-3:2016 Safety of machinery - Permanent means of access to machinery - Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2016)	09/09/2016	EN ISO 14122-3:2001 Note 2.1	31/12/2016
CEN	EN ISO 14122-4:2016 Safety of machinery - Permanent means of access to machinery - Part 4: Fixed ladders (ISO 14122-4:2016)	09/09/2016	EN ISO 14122-4:2004 Note 2.1	31/12/2016
CEN	EN ISO 14123-1:2015 Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 1: Principles and specifications for machinery manufacturers (ISO 14123-1:2015)	13/05/2016	EN 626-1:1994+A1:2008 Note 2.1	31/05/2016
CEN	EN ISO 14123-2:2015 Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 2: Methodology leading to verification procedures (ISO 14123-2:2015)	13/05/2016	EN 626-2:1996+A1:2008 Note 2.1	30/06/2016
CEN	EN ISO 14159:2008 Safety of machinery - Hygiene requirements for the design of machinery (ISO 14159:2002)	08/09/2009		
CEN	EN ISO 14738:2008 Safety of machinery - Anthropometric requirements for the design of workstations at machinery (ISO 14738:2002, including Cor 1:2003 and Cor 2:2005)	08/09/2009		
CEN	EN ISO 15536-1:2008 Ergonomics - Computer manikins and body templates - Part 1: General requirements (ISO 15536-1:2005)	08/09/2009		

CEN	EN 15967:2011 Determination of maximum explosion pressure and the maximum rate of pressure rise of gases and vapours	18/11/2011		
CEN	EN 16590-1:2014 Tractors and machinery for agriculture and forestry - Safety-related parts of control systems - Part 1: General principles for design and development (ISO 25119-1:2010 modified)	13/02/2015		
CEN	EN 16590-2:2014 Tractors and machinery for agriculture and forestry - Safety-related parts of control systems - Part 2: Concept phase (ISO 25119-2:2010 modified)	13/02/2015		
CEN	EN ISO 19353:2016 Safety of machinery - Fire prevention and fire protection (ISO 19353:2015)	09/09/2016	EN 13478:2001+A1:2008 Note 2.1	31/07/2016
CEN	EN ISO 20643:2008 Mechanical vibration - Hand-held and hand-guided machinery - Principles for evaluation of vibration emission (ISO 20643:2005)	08/09/2009		
	EN ISO 20643:2008/A1:2012	15/11/2012	Note 3	31/01/2013

C-type standards
C-type standards provide specifications for a given category of machinery. The different types of machinery belonging to the category covered by a C-type standard have a similar intended use and present similar hazards. C-type standards may refer to A or B-type standards, indicating which of the specifications of the A or B-type standard are applicable to the category of machinery concerned. When, for a given aspect of machinery safety, a C-type standard deviates from the specifications of an A or B-type standard, the specifications of the C-type standard take precedence over the specifications of the A or B-type standard. Application of the specifications of a C-type standard on the basis of the manufacturerÂ¿s risk assessment confers a presumption of conformity with the essential health and safety requirements of the Machinery Directive covered by the standard. Certain C-type standards are organised as a series of several parts, Part 1 of the standard giving general specifications applicable to a family of machinery and other parts of the standard giving specifications for specific categories of machinery belonging to the family, supplementing or modifying the general specifications of Part 1. For C-type standards organised in this way, the presumption of conformity with the essential health and safety requirements of the Machinery Directive is conferred by application of the general Part 1 of the standard together with the relevant specific part of the standard.

CEN	EN 81-3:2000+A1:2008 Safety rules for the construction and installation of lifts - Part 3: Electric and hydraulic service lifts	08/09/2009		
	EN 81-3:2000+A1:2008/AC:2009			
CEN	EN 81-31:2010 Safety rules for the construction and installation of lifts - Lifts for the transport of goods only - Part 31: Accessible goods only lifts	20/10/2010		

CEN	EN 81-40:2008 Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 40: Stairlifts and inclined lifting platforms intended for persons with impaired mobility	08/09/2009		
CEN	EN 81-41:2010 Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 41: Vertical lifting platforms intended for use by persons with impaired mobility	08/04/2011		
CEN	EN 81-43:2009 Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 43: Lifts for cranes	08/09/2009		
CEN	EN 115-1:2017 **(new)** Safety of escalators and moving walks - Part 1: Construction and installation	This is the first publication	EN 115-1:2008+A1:2010 Note 2.1	31/01/2019
CEN	EN 201:2009 Plastics and rubber machines - Injection moulding machines - Safety requirements	18/12/2009		
CEN	EN 267:2009+A1:2011 Automatic forced draught burners for liquid fuels	18/11/2011	EN 267:2009 Note 2.1	29/02/2012
CEN	EN 280:2013+A1:2015 Mobile elevating work platforms - Design calculations - Stability criteria - Construction - Safety - Examinations and tests	15/01/2016	EN 280:2013 Note 2.1	28/02/2017
CEN	EN 289:2014 Plastics and rubber machines - Compression moulding machines and transfer moulding machines - Safety requirements	13/02/2015	EN 289:2004+A1:2008 Note 2.1	13/02/2015
CEN	EN 303-5:2012 Heating boilers - Part 5: Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW - Terminology, requirements, testing and marking	24/08/2012		
CEN	EN 378-2:2016 Refrigerating systems and heat pumps - Safety and environmental requirements - Part 2: Design, construction, testing, marking and documentation	09/06/2017	EN 378-2:2008+A2:2012 Note 2.1	30/11/2017
	EN 415-1:2014		EN 415-1:2000+A1:2009	

CEN	Safety of packaging machines - Part 1: Terminology and classification of packaging machines and associated equipment	15/01/2016	Note 2.1	29/02/2016
CEN	EN 415-3:1999+A1:2009 Safety of packaging machines - Part 3: Form, fill and seal machines	18/12/2009		
CEN	EN 415-5:2006+A1:2009 Safety of packaging machines - Part 5: Wrapping machines	18/12/2009		
CEN	EN 415-6:2013 Safety of packaging machines - Part 6: Pallet wrapping machines	28/11/2013	EN 415-6:2006+A1:2009 Note 2.1	30/11/2013
CEN	EN 415-7:2006+A1:2008 Safety of packaging machines - Part 7: Group and secondary packaging machines	08/09/2009		
CEN	EN 415-8:2008 Safety of packaging machines - Part 8: Strapping machines	08/09/2009		
CEN	EN 415-9:2009 Safety of packaging machines - Part 9: Noise measurement methods for packaging machines, packaging lines and associated equipment, grade of accuracy 2 and 3	18/12/2009		
CEN	EN 415-10:2014 Safety of packaging machines - Part 10: General Requirements	11/07/2014		
CEN	EN 422:2009 Plastics and rubber machines - Blow moulding machines - Safety requirements	08/09/2009		
CEN	EN 453:2014 Food processing machinery - Dough mixers - Safety and hygiene requirements	15/01/2016	EN 453:2000+A1:2009 Note 2.1	29/02/2016
CEN	EN 454:2014 Food processing machinery - Planetary mixers - Safety and hygiene requirements	15/01/2016	EN 454:2000+A1:2009 Note 2.1	29/02/2016
CEN	EN 474-1:2006+A4:2013 Earth-moving machinery - Safety - Part 1: General requirements	28/11/2013	EN 474-1:2006+A3:2013 Note 2.1	28/11/2013
	EN 474-1:2006+A4:2013/AC:2014			

Warning: This publication does not concern clause 5.8.1 Visibility — Operator's field of view of this standard, the application of which does not confer a presumption of conformity to the essential health and safety requirements 1.2.2 and 3.2.1 of Annex I to Directive 2006/42/EC.

	EN 474-2:2006+A1:2008			
CEN	Earth-moving machinery - Safety - Part 2: Requirements for tractor-dozers	08/09/2009		
CEN	EN 474-3:2006+A1:2009 Earth-moving machinery - Safety - Part 3: Requirements for loaders	08/09/2009		
CEN	EN 474-4:2006+A2:2012 Earth-moving machinery - Safety - Part 4: Requirements for backhoe loaders	23/03/2012		
CEN	EN 474-5:2006+A3:2013 Earth-moving machinery - Safety - Part 5: Requirements for hydraulic excavators	28/11/2013	EN 474-5:2006+A1:2009+A2:2012 Note 2.1	31/01/2014
CEN	EN 474-6:2006+A1:2009 Earth-moving machinery - Safety - Part 6: Requirements for dumpers	08/09/2009		
CEN	EN 474-7:2006+A1:2009 Earth-moving machinery - Safety - Part 7: Requirements for scrapers	08/09/2009		
CEN	EN 474-8:2006+A1:2009 Earth-moving machinery - Safety - Part 8: Requirements for graders	08/09/2009		
CEN	EN 474-9:2006+A1:2009 Earth-moving machinery - Safety - Part 9: Requirements for pipelayers	08/09/2009		
CEN	EN 474-10:2006+A1:2009 Earth-moving machinery - Safety - Part 10: Requirements for trenchers	08/09/2009		
CEN	EN 474-11:2006+A1:2008 Earth-moving machinery - Safety - Part 11: Requirements for earth and landfill compactors	08/09/2009		
CEN	EN 474-12:2006+A1:2008 Earth-moving machinery - Safety - Part 12: Requirements for cable excavators	08/09/2009		
CEN	EN 500-1:2006+A1:2009 Mobile road construction machinery - Safety - Part 1: Common requirements	26/05/2010		

CEN	EN 500-2:2006+A1:2008 Mobile road construction machinery - Safety - Part 2: Specific requirements for road-milling machines	08/09/2009		
CEN	EN 500-3:2006+A1:2008 Mobile road construction machinery - Safety - Part 3: Specific requirements for soil-stabilising machines and recycling machines	08/09/2009		
CEN	EN 500-4:2011 Mobile road construction machinery - Safety - Part 4: Specific requirements for compaction machines	20/07/2011	EN 500-4:2006+A1:2009 Note 2.1	31/08/2011
CEN	EN 500-6:2006+A1:2008 Mobile road construction machinery - Safety - Part 6: Specific requirements for paver-finishers	08/09/2009		
CEN	EN 528:2008 Rail dependent storage and retrieval equipment - Safety requirements	08/09/2009		
CEN	EN 536:2015 Road construction machines - Mixing plants for road construction materials - Safety requirements	15/01/2016		
CEN	EN 609-1:2017 Agricultural and forestry machinery - Safety of log splitters - Part 1: Wedge splitters	09/06/2017	EN 609-1:1999+A2:2009 Note 2.1	30/06/2018
CEN	EN 609-2:1999+A1:2009 Agricultural and forestry machinery - Safety of log splitters - Part 2: Screw splitters	18/12/2009		
CEN	EN 617:2001+A1:2010 Continuous handling equipment and systems - Safety and EMC requirements for the equipment for the storage of bulk materials in silos, bunkers, bins and hoppers	08/04/2011		
CEN	EN 618:2002+A1:2010 Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors	08/04/2011		
CEN	EN 619:2002+A1:2010 Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of unit loads	08/04/2011		

CEN	EN 620:2002+A1:2010 Continuous handling equipment and systems - Safety and EMC requirements for fixed belt conveyors for bulk materials	08/04/2011		
CEN	EN 676:2003+A2:2008 Automatic forced draught burners for gaseous fuels	08/09/2009		
	EN 676:2003+A2:2008/AC:2008			
CEN	EN 690:2013 Agricultural machinery - Manure spreaders - Safety	11/04/2014	EN 690:1994+A1:2009 Note 2.1	30/04/2014
CEN	EN 692:2005+A1:2009 Machine tools - Mechanical presses - Safety	08/09/2009		
CEN	EN 693:2001+A2:2011 Machine tools - Safety - Hydraulic presses	18/11/2011	EN 693:2001+A1:2009 Note 2.1	31/03/2012
CEN	EN 703:2004+A1:2009 Agricultural machinery - Silage loading, mixing and/or chopping and distributing machines - Safety	18/12/2009		
CEN	EN 706:1996+A1:2009 Agricultural machinery - Vine shoot tipping machines - Safety	18/12/2009		
CEN	EN 707:1999+A1:2009 Agricultural machinery - Slurry tankers - Safety	18/12/2009		
CEN	EN 709:1997+A4:2009 Agricultural and forestry machinery - Pedestrian controlled tractors with mounted rotary cultivators, motor hoes, motor hoes with drive wheel(s) - Safety	26/05/2010	EN 709:1997+A2:2009 Note 2.1	31/12/2010
	EN 709:1997+A4:2009/AC:2012			
CEN	EN 710:1997+A1:2010 Safety requirements for foundry moulding and coremaking machinery and plant associated equipment	20/10/2010		
	EN 710:1997+A1:2010/AC:2012			
CEN	EN 741:2000+A1:2010 Continuous handling equipment and systems - Safety requirements for systems and their components for pneumatic handling of bulk	08/04/2011		

	materials			
CEN	EN 746-1:1997+A1:2009 Industrial thermoprocessing equipment - Part 1: Common safety requirements for industrial thermoprocessing equipment	18/12/2009		
CEN	EN 746-2:2010 Industrial thermoprocessing equipment - Part 2: Safety requirements for combustion and fuel handling systems	20/10/2010		
CEN	EN 746-3:1997+A1:2009 Industrial thermoprocessing equipment - Part 3: Safety requirements for the generation and use of atmosphere gases	08/09/2009		
CEN	EN 786:1996+A2:2009 Garden equipment - Electrically powered walk-behind and hand-held lawn trimmers and lawn edge trimmers - Mechanical safety	18/12/2009		
CEN	EN 792-13:2000+A1:2008 Hand-held non-electric power tools - Safety requirements - Part 13: Fastener driving tools	08/09/2009		
CEN	EN 809:1998+A1:2009 Pumps and pump units for liquids - Common safety requirements	18/12/2009		
	EN 809:1998+A1:2009/AC:2010			
CEN	EN 818-1:1996+A1:2008 Short link chain for lifting purposes - Safety - Part 1: General conditions of acceptance	08/09/2009		
CEN	EN 818-2:1996+A1:2008 Short link chain for lifting purposes - Safety - Part 2: Medium tolerance chain for chain slings - Grade 8	08/09/2009		
CEN	EN 818-3:1999+A1:2008 Short link chain for lifting purposes - Safety - Part 3: Medium tolerance chain for chain slings - Grade 4	08/09/2009		
CEN	EN 818-4:1996+A1:2008 Short link chain for lifting purposes - Safety - Part 4: Chain slings - Grade 8	08/09/2009		
CEN	EN 818-5:1999+A1:2008 Short link chain for lifting purposes - Safety - Part	08/09/2009		

	5: Chain slings - Grade 4			
CEN	EN 818-6:2000+A1:2008 Short link chain for lifting purposes - Safety - Part 6: Chain slings - Specification for information for use and maintenance to be provided by the manufacturer	08/09/2009		
CEN	EN 818-7:2002+A1:2008 Short link chain for lifting purposes - Safety - Part 7: Fine tolerance hoist chain, Grade T (Types T, DAT and DT)	08/09/2009		
CEN	EN 848-1:2007+A2:2012 Safety of woodworking machines - One side moulding machines with rotating tool - Part 1: Single spindle vertical moulding machines	15/11/2012	EN 848-1:2007+A1:2009 Note 2.1	31/03/2013
CEN	EN 848-2:2007+A2:2012 Safety of woodworking machines - One side moulding machines with rotating tool - Part 2: Single spindle hand fed/integrated fed routing machines	15/11/2012	EN 848-2:2007+A1:2009 Note 2.1	31/03/2013
CEN	EN 848-3:2012 Safety of woodworking machines - One side moulding machines with rotating tool - Part 3: Numerically controlled (NC) boring and routing machines	05/04/2013	EN 848-3:2007+A2:2009 Note 2.1	30/04/2013
CEN	EN 859:2007+A2:2012 Safety of woodworking machines - Hand fed surface planing machines	24/08/2012	EN 859:2007+A1:2009 Note 2.1	31/12/2012
CEN	EN 860:2007+A2:2012 Safety of woodworking machines - One side thickness planing machines	24/08/2012	EN 860:2007+A1:2009 Note 2.1	31/12/2012
CEN	EN 861:2007+A2:2012 Safety of woodworking machines - Surface planing and thicknessing machines	24/08/2012	EN 861:2007+A1:2009 Note 2.1	31/12/2012
CEN	EN 869:2006+A1:2009 Safety of machinery - Safety requirements for pressure metal diecasting units	08/09/2009		
CEN	EN 908:1999+A1:2009 Agricultural and forestry machinery - Reel machines for irrigation - Safety	18/12/2009		
CEN	EN 909:1998+A1:2009 Agricultural and forestry machinery - Centre pivot	18/12/2009		

	and moving lateral types irrigation machines - Safety			
CEN	EN 930:1997+A2:2009 Footwear, leather and imitation leather goods manufacturing machines - Roughing, scouring, polishing and trimming machines - Safety requirements	18/12/2009		
CEN	EN 931:1997+A2:2009 Footwear manufacturing machines - Lasting machines - Safety requirements	18/12/2009		
CEN	EN 940:2009+A1:2012 Safety of woodworking machines - Combined woodworking machines	05/06/2012	EN 940:2009 Note 2.1	31/08/2012
CEN	EN 957-6:2010+A1:2014 Stationary training equipment - Part 6: Treadmills, additional specific safety requirements and test methods	13/02/2015		
CEN	EN 972:1998+A1:2010 Tannery machines - Reciprocating roller machines - Safety requirements	08/04/2011		
	EN 972:1998+A1:2010/AC:2011			
CEN	EN 1010-1:2004+A1:2010 Safety of machinery - Safety requirements for the design and construction of printing and paper converting machines - Part 1: Common requirements	08/04/2011		
CEN	EN 1010-2:2006+A1:2010 Safety of machinery - Safety requirements for the design and construction of printing and paper converting machines - Part 2: Printing and varnishing machines including pre-press machinery	08/04/2011		
CEN	EN 1010-3:2002+A1:2009 Safety of machinery - Safety requirements for the design and construction of printing and paper converting machines - Part 3: Cutting machines	18/12/2009		
CEN	EN 1010-4:2004+A1:2009 Safety of machinery - Safety requirements for the design and construction of printing and paper converting machines - Part 4: Bookbinding, paper converting and finishing machines	18/12/2009		
	EN 1012-1:2010			

CEN	Compressors and vacuum pumps - Safety requirements - Part 1: Air compressors	08/04/2011		
CEN	EN 1012-2:1996+A1:2009 Compressors and vacuum pumps - Safety requirements - Part 2: Vacuum pumps	18/12/2009		
CEN	EN 1012-3:2013 Compressors and vacuum pumps - Safety requirements - Part 3: Process compressors	11/04/2014		
CEN	EN 1028-1:2002+A1:2008 Fire-fighting pumps - Fire-fighting centrifugal pumps with primer - Part 1: Classification - General and safety requirements	08/09/2009		
CEN	EN 1028-2:2002+A1:2008 Fire-fighting pumps - Fire-fighting centrifugal pumps with primer - Part 2: Verification of general and safety requirements	08/09/2009		
CEN	EN 1034-1:2000+A1:2010 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 1: Common requirements	26/05/2010		
CEN	EN 1034-2:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 2: Barking drums	26/05/2010		
CEN	EN 1034-3:2011 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 3: Rereelers and winders	29/02/2012	EN 1034-3:1999+A1:2009 Note 2.1	30/06/2012
CEN	EN 1034-4:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 4: Pulpers and their loading facilities	26/05/2010		
CEN	EN 1034-5:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 5: Sheeters	26/05/2010		
CEN	EN 1034-6:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and	26/05/2010		

	finishing machines - Part 6: Calender			
CEN	EN 1034-7:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 7: Chests	26/05/2010		
CEN	EN 1034-8:2012 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 8: Refining plants	05/06/2012		
CEN	EN 1034-13:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 13: Machines for de-wiring bales and units	26/05/2010		
CEN	EN 1034-14:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 14: Reel splitter	26/05/2010		
CEN	EN 1034-16:2012 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 16: Paper and board making machines	05/06/2012		
CEN	EN 1034-17:2012 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 17: Tissue making machines	15/11/2012		
CEN	EN 1034-21:2012 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 21: Coating machines	15/11/2012		
CEN	EN 1034-22:2005+A1:2009 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 22: Wood Grinders	26/05/2010		
CEN	EN 1034-26:2012 Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 26: Roll packaging machines	24/08/2012		
	EN 1034-27:2012			

CEN	Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 27: Roll handling systems	15/11/2012		
CEN	EN 1114-1:2011 Plastics and rubber machines - Extruders and extrusion lines - Part 1: Safety requirements for extruders	29/02/2012		
CEN	EN 1114-3:2001+A1:2008 Plastics and rubber machines - Extruders and extrusion lines - Part 3: Safety requirements for haul-offs	08/09/2009		
CEN	EN 1175-1:1998+A1:2010 Safety of industrial trucks - Electrical requirements - Part 1: General requirements for battery powered trucks	08/04/2011		
CEN	EN 1175-2:1998+A1:2010 Safety of industrial trucks - Electrical requirements - Part 2: General requirements of internal combustion engine powered trucks	08/04/2011		
CEN	EN 1175-3:1998+A1:2010 Safety of industrial trucks - Electrical requirements - Part 3: Specific requirements for the electric power transmission systems of internal combustion engine powered trucks	08/04/2011		
CEN	EN 1218-1:1999+A1:2009 Safety of woodworking machines - Tenoning machines - Part 1: Single end tenoning machines with sliding table	18/12/2009		
CEN	EN 1218-2:2004+A1:2009 Safety of woodworking machines - Tenoning machines - Part 2: Double end tenoning and/or profiling machines fed by chain or chains	08/09/2009		
CEN	EN 1218-3:2001+A1:2009 Safety of woodworking machines - Tenoning machines - Part 3: Hand fed tenoning machines with sliding table for cutting structural timbers	08/09/2009		
CEN	EN 1218-5:2004+A1:2009 Safety of woodworking machines - Tenoning machines - Part 5: One side profiling machines with fixed table and feed rollers or feed chain	18/12/2009		
	EN 1247:2004+A1:2010 Foundry machinery - Safety requirements for			

CEN	ladles, pouring equipment, centrifugal casting machines, continuous and semi continuous casting machines	08/04/2011		
CEN	EN 1248:2001+A1:2009 Foundry machinery - Safety requirements for abrasive blasting equipment	08/09/2009		
CEN	EN 1265:1999+A1:2008 Safety of machinery - Noise test code for foundry machines and equipment	08/09/2009		
CEN	EN 1374:2000+A1:2010 Agricultural machinery - Silos stationary unloaders for round silos - Safety	20/10/2010		
CEN	EN 1398:2009 Dock levellers - Safety requirements	08/09/2009		
CEN	EN 1417:2014 Plastics and rubber machines - Two-roll mills - Safety requirements	15/01/2016	EN 1417:1996+A1:2008 Note 2.1	31/12/2016
CEN	EN 1459-1:2017 **(new)** Rough-terrain trucks - Safety requirements and verification - Part 1: Variable-reach trucks	This is the first publication	EN 1459:1998+A3:2012 Note 2.1	30/09/2018
CEN	EN 1459-2:2015 Rough-terrain trucks - Safety requirements and verification - Part 2: Slewing variable-reach trucks	15/01/2016		
CEN	EN 1492-1:2000+A1:2008 Textile slings - Safety - Part 1: Flat woven webbing slings made of man-made fibres for general purpose use	08/09/2009		
CEN	EN 1492-2:2000+A1:2008 Textile slings - Safety - Part 2: Roundslings made of man-made fibres for general purpose use	08/09/2009		
CEN	EN 1492-4:2004+A1:2008 Textile slings - Safety - Part 4: Lifting slings for general service made from natural and man-made fibre ropes	08/09/2009		
CEN	EN 1493:2010 Vehicle lifts	08/04/2011	EN 1493:1998+A1:2008 Note 2.1	04/08/2011
CEN	EN 1494:2000+A1:2008 Mobile or movable jacks and associated lifting equipment	08/09/2009		

CEN	EN 1495:1997+A2:2009 Lifting platforms - Mast climbing work platforms	18/12/2009		
	EN 1495:1997+A2:2009/AC:2010			
Warning: This publication does not concern paragraph 5.3.2.4, the last subparagraph of 7.1.2.12, table 8 and figure 9 of standard EN 1495:1997, in respect of which it grants no presumption of conformity to the provisions of Directive 2006/42/EC.				
CEN	EN 1501-1:2011+A1:2015 Refuse collection vehicles - General requirements and safety requirements - Part 1: Rear loaded refuse collection vehicles	15/01/2016	EN 1501-1:2011 Note 2.1	29/02/2016
CEN	EN 1501-2:2005+A1:2009 Refuse collection vehicles and associated lifting devices - General requirements and safety requirements - Part 2: Side loaded refuse collection vehicles	29/12/2009		
CEN	EN 1501-3:2008 Refuse collection vehicles and their associated lifting devices - General requirements and safety requirements - Part 3: Front loaded refuse collection vehicles	08/09/2009		
CEN	EN 1501-4:2007 Refuse collection vehicles and their associated lifting devices - General requirements and safety requirements - Part 4: Noise test code for refuse collection vehicles	08/09/2009		
CEN	EN 1501-5:2011 Refuse collection vehicles - General requirements and safety requirements - Part 5: Lifting devices for refuse collection vehicles	18/11/2011	EN 1501-1:1998+A2:2009 Note 2.1	29/02/2012
CEN	EN 1526:1997+A1:2008 Safety of industrial trucks - Additional requirements for automated functions on trucks	08/09/2009		
CEN	EN 1539:2015 Dryers and ovens, in which flammable substances are released - Safety requirements	13/05/2016	EN 1539:2009 Note 2.1	30/04/2016
CEN	EN 1547:2001+A1:2009 Industrial thermoprocessing equipment - Noise test code for industrial thermoprocessing equipment including its ancillary handling equipment	08/09/2009		
	EN 1550:1997+A1:2008			

CEN	Machine-tools safety - Safety requirements for the design and construction of work holding chucks	08/09/2009		
CEN	EN 1554:2012 Conveyor belts - Drum friction testing	24/08/2012		
CEN	EN 1570-1:2011+A1:2014 Safety requirements for lifting tables - Part 1: Lifting tables serving up to two fixed landings	13/05/2016	EN 1570-1:2011 Note 2.1	The date of this publication ()
CEN	EN 1570-2:2016 Safety requirements for lifting tables - Part 2: Lifting tables serving more than 2 fixed landings of a building, for lifting goods with a vertical travel speed not exceeding 0,15 m/s	09/06/2017		
CEN	EN 1612-1:1997+A1:2008 Plastics and rubber machines - Reaction moulding machines - Part 1: Safety requirements for metering and mixing units	08/09/2009		
CEN	EN 1672-2:2005+A1:2009 Food processing machinery - Basic concepts - Part 2: Hygiene requirements	08/09/2009		
CEN	EN 1673:2000+A1:2009 Food processing machinery - Rotary rack ovens - Safety and hygiene requirements	26/05/2010		
CEN	EN 1674:2015 Food processing machinery - Dough sheeters - Safety and hygiene requirements	15/01/2016	EN 1674:2000+A1:2009 Note 2.1	31/03/2016
CEN	EN 1677-1:2000+A1:2008 Components for slings - Safety - Part 1: Forged steel components, Grade 8	08/09/2009		
CEN	EN 1677-2:2000+A1:2008 Components for slings - Safety - Part 2: Forged steel lifting hooks with latch, Grade 8	08/09/2009		
CEN	EN 1677-3:2001+A1:2008 Components for slings - Safety - Part 3: Forged steel self-locking hooks - Grade 8	08/09/2009		
CEN	EN 1677-4:2000+A1:2008 Components for slings - Safety - Part 4: Links, Grade 8	08/09/2009		
CEN	EN 1677-5:2001+A1:2008	08/09/2009		

	Components for slings - Safety - Part 5: Forged steel lifting hooks with latch - Grade 4			
CEN	EN 1677-6:2001+A1:2008 Components for slings - Safety - Part 6: Links - Grade 4	08/09/2009		
CEN	EN 1678:1998+A1:2010 Food processing machinery - Vegetable cutting machines - Safety and hygiene requirements	20/10/2010		
CEN	EN 1679-1:1998+A1:2011 Reciprocating internal combustion engines - Safety - Part 1: Compression ignition engines	20/07/2011		
CEN	EN 1710:2005+A1:2008 Equipment and components intended for use in potentially explosive atmospheres in underground mines	08/09/2009		
	EN 1710:2005+A1:2008/AC:2010			
CEN	EN 1755:2000+A2:2013 Safety of industrial trucks - Operation in potentially explosive atmospheres - Use in flammable gas, vapour, mist and dust	28/11/2013	EN 1755:2000+A1:2009 Note 2.1	28/11/2013
CEN	EN 1756-1:2001+A1:2008 Tail lifts - Platform lifts for mounting on wheeled vehicles - Safety requirements - Part 1: Tail lifts for goods	08/09/2009		
CEN	EN 1756-2:2004+A1:2009 Tail lifts - Platform lifts for mounting on wheeled vehicles - Safety requirements - Part 2: Tail lifts for passengers	18/12/2009		
CEN	EN 1777:2010 Hydraulic platforms (HPs) for fire fighting and rescue services - Safety requirements and testing	26/05/2010	EN 1777:2004+A1:2009 Note 2.1	30/09/2010
CEN	EN 1804-1:2001+A1:2010 Machines for underground mines - Safety requirements for hydraulic powered roof supports - Part 1: Support units and general requirements	26/05/2010		
CEN	EN 1804-2:2001+A1:2010 Machines for underground mines - Safety requirements for hydraulic powered roof supports - Part 2: Power set legs and rams	26/05/2010		
	EN 1804-3:2006+A1:2010			

CEN	Machines for underground mines - Safety requirements for hydraulic powered roof supports - Part 3: Hydraulic control systems	26/05/2010		
CEN	EN 1807-1:2013 Safety of woodworking machines - Band sawing machines - Part 1: Table band saws and band re-saws	28/11/2013	EN 1807:1999+A1:2009 Note 2.1	28/11/2013
CEN	EN 1807-2:2013 Safety of woodworking machines - Band sawing machines - Part 2: Log sawing machines	28/11/2013	EN 1807:1999+A1:2009 Note 2.1	28/11/2013
CEN	EN 1808:2015 Safety requirements for suspended access equipment - Design calculations, stability criteria, construction - Examinations and tests	13/05/2016	EN 1808:1999+A1:2010 Note 2.1	13/05/2016
CEN	EN 1829-1:2010 High pressure water jet machines - Safety requirements - Part 1: Machines	26/05/2010		
CEN	EN 1829-2:2008 High-pressure water jet machines - Safety requirements - Part 2: Hoses, hose lines and connectors	08/09/2009		
	EN 1829-2:2008/AC:2011			
CEN	EN 1845:2007 Footwear manufacturing machines - Footwear moulding machines - Safety requirements	08/09/2009		
CEN	EN 1846-2:2009+A1:2013 Firefighting and rescue service vehicles - Part 2: Common requirements - Safety and performance	28/11/2013	EN 1846-2:2009 Note 2.1	28/11/2013
CEN	EN 1846-3:2013 Firefighting and rescue service vehicles - Part 3: Permanently installed equipment - Safety and performance	28/11/2013	EN 1846-3:2002+A1:2008 Note 2.1	31/01/2014
CEN	EN 1853:1999+A1:2009 Agricultural machinery - Trailers with tipping body - Safety	18/12/2009		
CEN	EN 1870-3:2001+A1:2009 Safety of woodworking machines - Circular sawing machines - Part 3: Down cutting cross-cut saws and dual purpose down cutting cross-cut saws/circular saw benches	08/09/2009		
	EN 1870-4:2012			

CEN	Safety of woodworking machines - Circular sawing machines - Part 4: Multiblade rip sawing machines with manual loading and/or unloading	05/06/2012	EN 1870-4:2001+A1:2009 Note 2.1	30/09/2012
CEN	EN 1870-5:2002+A2:2012 Safety of woodworking machines - Circular sawing machines - Part 5: Circular sawbenches/up-cutting cross-cut sawing machines	15/11/2012	EN 1870-5:2002+A1:2009 Note 2.1	31/03/2013
CEN	EN 1870-6:2002+A1:2009 Safety of woodworking machines - Circular sawing machines - Part 6: Circular sawing machines for firewood and dual purpose circular sawing machines for firewood/circular saw benches, with manual loading and/or unloading	18/12/2009		
CEN	EN 1870-7:2012 Safety of woodworking machines - Circular sawing machines - Part 7: Single blade log sawing machines with integrated feed table and manual loading and/or unloading	05/04/2013	EN 1870-7:2002+A1:2009 Note 2.1	30/04/2013
CEN	EN 1870-8:2012 Safety of woodworking machines - Circular sawing machines - Part 8: Single blade edging circular rip sawing machines with power driven saw unit and manual loading and/or unloading	05/04/2013	EN 1870-8:2001+A1:2009 Note 2.1	31/05/2013
CEN	EN 1870-9:2012 Safety of woodworking machines - Circular sawing machines - Part 9: Double blade circular sawing machines for cross-cutting with integrated feed and with manual loading and/or unloading	15/11/2012	EN 1870-9:2000+A1:2009 Note 2.1	31/03/2013
CEN	EN 1870-10:2013 Safety of woodworking machines - Circular sawing machines - Part 10: Single blade automatic and semi-automatic up-cutting cross-cut sawing machines	28/11/2013	EN 1870-10:2003+A1:2009 Note 2.1	30/11/2013
CEN	EN 1870-11:2013 Safety of woodworking machines - Circular sawing machines - Part 11: Semi automatic horizontal cross-cut sawing machines with one saw unit (radial arm saws)	11/04/2014	EN 1870-11:2003+A1:2009 Note 2.1	30/04/2014
CEN	EN 1870-12:2013 Safety of woodworking machines - Circular sawing machines - Part 12: Pendulum cross-cut sawing machines	11/04/2014	EN 1870-12:2003+A1:2009 Note 2.1	30/04/2014
	EN 1870-13:2007+A2:2012		EN 1870-	

CEN	Safety of woodworking machines - Circular sawing machines - Part 13: Horizontal beam panel sawing machines	05/06/2012	13:2007+A1:2009 Note 2.1	30/09/2012
CEN	EN 1870-14:2007+A2:2012 Safety of woodworking machines - Circular sawing machines - Part 14: Vertical panel sawing machines	05/06/2012	EN 1870-14:2007+A1:2009 Note 2.1	30/09/2012
CEN	EN 1870-15:2012 Safety of woodworking machines - Circular sawing machines - Part 15: Multi-blade cross-cut sawing machines with integrated feed of the workpiece and manual loading and/or unloading	05/04/2013	EN 1870-15:2004+A1:2009 Note 2.1	30/04/2013
CEN	EN 1870-16:2012 Safety of woodworking machines - Circular sawing machines - Part 16: Double mitre sawing machines for V cutting	05/04/2013	EN 1870-16:2005+A1:2009 Note 2.1	30/04/2013
CEN	EN 1870-17:2012+A1:2015 Safety of woodworking machines - Circular sawing machines - Part 17: Manual horizontal cutting cross-cut sawing machines with one saw unit (radial arm saws)	13/05/2016	EN 1870-17:2012 Note 2.1	The date of this publication ()
CEN	EN 1870-19:2013 Safety of woodworking machines - Circular sawing machines - Part 19: Circular saw benches (with and without sliding table) and building site saws	11/04/2014	EN 1870-1:2007+A1:2009 Note 2.1	31/05/2014
CEN	EN 1889-1:2011 Machines for underground mines - Mobile machines working underground - Safety - Part 1: Rubber tyred vehicles	18/11/2011		
CEN	EN 1889-2:2003+A1:2009 Machines for underground mines - Mobile machines working underground - Safety - Part 2: Rail locomotives	08/09/2009		
CEN	EN 1915-1:2013 Aircraft ground support equipment - General requirements - Part 1: Basic safety requirements	28/11/2013	EN 1915-1:2001+A1:2009 Note 2.1	28/11/2013
CEN	EN 1915-2:2001+A1:2009 Aircraft ground support equipment - General requirements - Part 2: Stability and strength requirements, calculations and test methods	08/09/2009		
	EN 1915-3:2004+A1:2009			

CEN	Aircraft ground support equipment - General requirements - Part 3: Vibration measurement methods and reduction	08/09/2009		
CEN	EN 1915-4:2004+A1:2009 Aircraft ground support equipment - General requirements - Part 4: Noise measurement methods and reduction	08/09/2009		
CEN	EN 1953:2013 Atomising and spraying equipment for coating materials - Safety requirements	28/11/2013	EN 1953:1998+A1:2009 Note 2.1	31/03/2014
CEN	EN 1974:1998+A1:2009 Food processing machinery - Slicing machines - Safety and hygiene requirements	18/12/2009		
CEN	EN ISO 2151:2008 Acoustics - Noise test code for compressors and vacuum pumps - Engineering method (Grade 2) (ISO 2151:2004)	08/09/2009		
CEN	EN ISO 2860:2008 Earth-moving machinery - Minimum access dimensions (ISO 2860:1992)	08/09/2009		
CEN	EN ISO 2867:2011 Earth-moving machinery - Access systems (ISO 2867:2011)	18/11/2011	EN ISO 2867:2008 Note 2.1	31/07/2014
CEN	EN ISO 3164:2013 Earth-moving machinery - Laboratory evaluations of protective structures - Specifications for deflection-limiting volume (ISO 3164:2013)	28/11/2013	EN ISO 3164:2008 Note 2.1	30/11/2013
CEN	EN ISO 3266:2010 Forged steel eyebolts grade 4 for general lifting purposes (ISO 3266:2010)	20/10/2010		
	EN ISO 3266:2010/A1:2015	13/05/2016	Note 3	30/06/2016
CEN	EN ISO 3411:2007 Earth-moving machinery - Physical dimensions of operators and minimum operator space envelope (ISO 3411:2007)	08/09/2009		
CEN	EN ISO 3449:2008 Earth-moving machinery - Falling-object protective structures - Laboratory tests and performance requirements (ISO 3449:2005)	08/09/2009		
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CEN	Earth-moving machinery - Wheeled or high-speed rubber-tracked machines - Performance requirements and test procedures for brake systems (ISO 3450:2011)	29/02/2012	EN ISO 3450:2008 Note 2.1	31/05/2012
CEN	EN ISO 3457:2008 Earth-moving machinery - Guards - Definitions and requirements (ISO 3457:2003)	08/09/2009		
CEN	EN ISO 3471:2008 Earth-moving machinery - Roll-over protective structures - Laboratory tests and performance requirements (ISO 3471:2008)	08/09/2009		
CEN	EN ISO 3691-1:2015 Industrial trucks - Safety requirements and verification - Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks (ISO 3691-1:2011, including Cor 1:2013)	15/01/2016	EN ISO 3691-1:2012 Note 2.1	31/01/2016
	EN ISO 3691-1:2015/AC:2016			
CEN	EN ISO 3691-5:2014 Industrial trucks - Safety requirements and verification - Part 5: Pedestrian-propelled trucks (ISO 3691-5:2014)	11/07/2014	EN ISO 3691-5:2009 Note 2.1	31/08/2014
	EN ISO 3691-5:2014/AC:2014			
CEN	EN ISO 3691-6:2015 Industrial trucks - Safety requirements and verification - Part 6: Burden and personnel carriers (ISO 3691-6:2013)	13/05/2016	EN ISO 3691-6:2013 Note 2.1	13/05/2016
	EN ISO 3691-6:2015/AC:2016			
CEN	EN ISO 4254-1:2015 Agricultural machinery - Safety - Part 1: General requirements (ISO 4254-1:2013)	13/05/2016	EN ISO 4254-1:2013 Note 2.1	13/05/2016
CEN	EN ISO 4254-5:2009 Agricultural machinery - Safety - Part 5: Power-driven soil-working machines (ISO 4254-5:2008)	26/05/2010		
	EN ISO 4254-5:2009/AC:2011			
CEN	EN ISO 4254-6:2009 Agricultural machinery - Safety - Part 6: Sprayers and liquid fertilizer distributors (ISO 4254-6:2009)	26/05/2010		
	EN ISO 4254-6:2009/AC:2010			
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CEN	Agricultural machinery - Safety - Part 7: Combine harvesters, forage harvesters and cotton harvesters (ISO 4254-7:2008)	26/05/2010		
	EN ISO 4254-7:2009/AC:2010			
CEN	EN ISO 4254-10:2009 Agricultural machinery - Safety - Part 10: Rotary tedders and rakes (ISO 4254-10:2009)	26/05/2010		
	EN ISO 4254-10:2009/AC:2010			
CEN	EN ISO 4254-11:2010 Agricultural machinery - Safety - Part 11: Pick-up balers (ISO 4254-11:2010)	08/04/2011	EN 704:1999+A1:2009 Note 2.1	30/06/2011
CEN	EN ISO 4254-12:2012 Agricultural machinery - Safety - Part 12: Rotary disc and drum mowers and flail mowers (ISO 4254-12:2012)	24/08/2012	EN 745:1999+A1:2009 Note 2.1	31/12/2012
	EN ISO 4254-12:2012/A1:2017 **(new)**	This is the first publication	Note 3	30/06/2018
CEN	EN ISO 4254-14:2016 Agricultural machinery - Safety - Part 14: Bale wrappers (ISO 4254-14:2016)	09/09/2016		
CEN	EN ISO 5395-1:2013 Garden equipment - Safety requirements for combustion-engine-powered lawnmowers - Part 1: Terminology and common tests (ISO 5395-1:2013)	28/11/2013	EN 836:1997+A4:2011 Note 2.1	30/09/2014
CEN	EN ISO 5395-2:2013 Garden equipment - Safety requirements for combustion-engine-powered lawnmowers - Part 2: Pedestrian-controlled lawnmowers (ISO 5395-2:2013)	28/11/2013	EN 836:1997+A4:2011 Note 2.1	30/09/2014
	EN ISO 5395-2:2013/A1:2016	09/06/2017	Note 3	30/06/2017
	EN ISO 5395-2:2013/A2:2017 **(new)**	This is the first publication	Note 3	30/06/2018
CEN	EN ISO 5395-3:2013 Garden equipment - Safety requirements for combustion-engine-powered lawnmowers - Part 3: Ride-on lawnmowers with seated operator (ISO 5395-3:2013)	28/11/2013	EN 836:1997+A4:2011 Note 2.1	30/09/2014
	EN ISO 5395-3:2013/A1:2017	09/06/2017	Note 3	31/08/2017

CEN	EN ISO 5674:2009 Tractors and machinery for agriculture and forestry - Guards for power take-off (PTO) drive-shafts - Strength and wear tests and acceptance criteria (ISO 5674:2004, corrected version 2005-07-01)	08/09/2009		
CEN	EN ISO 6682:2008 Earth-moving machinery - Zones of comfort and reach for controls (ISO 6682:1986, including Amd 1:1989)	08/09/2009		
CEN	EN ISO 6683:2008 Earth-moving machinery - Seat belts and seat belt anchorages - Performance requirements and tests (ISO 6683:2005)	08/09/2009		
CEN	EN ISO 7096:2008 Earth-moving machinery - Laboratory evaluation of operator seat vibration (ISO 7096:2000)	08/09/2009		
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CEN	EN ISO 8230-1:2008 Safety requirements for dry-cleaning machines - Part 1: Common safety requirements (ISO 8230-1:2008)	08/09/2009		
CEN	EN ISO 8230-2:2008 Safety requirements for dry-cleaning machines - Part 2: Machines using perchloroethylene (ISO 8230-2:2008)	08/09/2009		
CEN	EN ISO 8230-3:2008 Safety requirements for dry-cleaning machines - Part 3: Machines using combustible solvents (ISO 8230-3:2008)	08/09/2009		
CEN	EN ISO 8528-13:2016 Reciprocating internal combustion engine driven alternating current generating sets - Part 13: Safety (ISO 8528-13:2016, Corrected version 2016-10-15)	09/09/2016	EN 12601:2010 Note 2.1	30/06/2017
CEN	EN ISO 9902-1:2001 Textile machinery - Noise test code - Part 1: Common requirements (ISO 9902-1:2001)	18/12/2009		
	EN ISO 9902-1:2001/A1:2009	18/12/2009	Note 3	28/12/2009
	EN ISO 9902-1:2001/A2:2014	15/01/2016	Note 3	29/02/2016
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CEN	Textile machinery - Noise test code - Part 2: Spinning preparatory and spinning machinery (ISO 9902-2:2001)	18/12/2009		
	EN ISO 9902-2:2001/A1:2009	18/12/2009	Note 3	28/12/2009
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CEN	EN ISO 9902-3:2001 Textile machinery - Noise test code - Part 3: Nonwoven machinery (ISO 9902-3:2001)	18/12/2009		
	EN ISO 9902-3:2001/A1:2009	18/12/2009	Note 3	28/12/2009
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CEN	EN ISO 9902-4:2001 Textile machinery - Noise test code - Part 4: Yarn processing, cordage and rope manufacturing machinery (ISO 9902-4:2001)	18/12/2009		
	EN ISO 9902-4:2001/A1:2009	18/12/2009	Note 3	28/12/2009
	EN ISO 9902-4:2001/A2:2014	13/02/2015	Note 3	13/02/2015
CEN	EN ISO 9902-5:2001 Textile machinery - Noise test code - Part 5: Weaving and knitting preparatory machinery (ISO 9902-5:2001)	18/12/2009		
	EN ISO 9902-5:2001/A1:2009	18/12/2009	Note 3	28/12/2009
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CEN	EN ISO 9902-6:2001 Textile machinery - Noise test code - Part 6: Fabric manufacturing machinery (ISO 9902-6:2001)	18/12/2009		
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	EN ISO 9902-6:2001/A2:2014	13/02/2015	Note 3	13/02/2015
CEN	EN ISO 9902-7:2001 Textile machinery - Noise test code - Part 7: Dyeing and finishing machinery (ISO 9902-7:2001)	18/12/2009		
	EN ISO 9902-7:2001/A1:2009	18/12/2009	Note 3	28/12/2009
	EN ISO 9902-7:2001/A2:2014	13/02/2015	Note 3	13/02/2015
CEN	EN ISO 10218-1:2011 Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots (ISO 10218-1:2011)	18/11/2011	EN ISO 10218-1:2008 Note 2.1	01/01/2013

CEN	EN ISO 10218-2:2011 Robots and robotic devices - Safety requirements for industrial robots - Part 2: Robot systems and integration (ISO 10218-2:2011)	18/11/2011		
CEN	EN ISO 10472-1:2008 Safety requirements for industrial laundry machinery - Part 1: Common requirements (ISO 10472-1:1997)	08/09/2009		
CEN	EN ISO 10472-2:2008 Safety requirements for industrial laundry machinery - Part 2: Washing machines and washer-extractors (ISO 10472-2:1997)	08/09/2009		
CEN	EN ISO 10472-3:2008 Safety requirements for industrial laundry machinery - Part 3: Washing tunnel lines including component machines (ISO 10472-3:1997)	08/09/2009		
CEN	EN ISO 10472-4:2008 Safety requirements for industrial laundry machinery - Part 4: Air dryers (ISO 10472-4:1997)	08/09/2009		
CEN	EN ISO 10472-5:2008 Safety requirements for industrial laundry machinery - Part 5: Flatwork ironers, feeders and folders (ISO 10472-5:1997)	08/09/2009		
CEN	EN ISO 10472-6:2008 Safety requirements for industrial laundry machinery - Part 6: Ironing and fusing presses (ISO 10472-6:1997)	08/09/2009		
CEN	EN ISO 10517:2009 Powered hand-held hedge trimmers - Safety (ISO 10517:2009)	18/12/2009		
	EN ISO 10517:2009/A1:2013	28/11/2013	Note 3	30/09/2014
CEN	EN ISO 10821:2005 Industrial sewing machines - Safety requirements for sewing machines, units and systems (ISO 10821:2005)	18/12/2009		
	EN ISO 10821:2005/A1:2009	18/12/2009	Note 3	28/12/2009
CEN	EN ISO 11102-1:2009 Reciprocating internal combustion engines - Handle starting equipment - Part 1: Safety	18/12/2009		

	requirements and tests (ISO 11102-1:1997)			
CEN	EN ISO 11102-2:2009 Reciprocating internal combustion engines - Handle starting equipment - Part 2: Method of testing the angle of disengagement (ISO 11102-2:1997)	08/09/2009		
CEN	EN ISO 11111-1:2016 Textile machinery - Safety requirements - Part 1: Common requirements (ISO 11111-1:2016)	09/06/2017		30/11/2017
CEN	EN ISO 11111-2:2005 Textile machinery - Safety requirements - Part 2: Spinning preparatory and spinning machines (ISO 11111-2:2005)	18/12/2009		
	EN ISO 11111-2:2005/A1:2009	18/12/2009	Note 3	31/01/2010
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CEN	EN ISO 11111-3:2005 Textile machinery - Safety requirements - Part 3: Nonwoven machinery (ISO 11111-3:2005)	18/12/2009		
	EN ISO 11111-3:2005/A1:2009	18/12/2009	Note 3	31/01/2010
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CEN	EN ISO 11111-4:2005 Textile machinery - Safety requirements - Part 4: Yarn processing, cordage and rope manufacturing machinery (ISO 11111-4:2005)	18/12/2009		
	EN ISO 11111-4:2005/A1:2009	18/12/2009	Note 3	31/01/2010
	EN ISO 11111-4:2005/A2:2016	09/06/2017	Note 3	The date of this publication ()
CEN	EN ISO 11111-5:2005 Textile machinery - Safety requirements - Part 5: Preparatory machinery to weaving and knitting (ISO 11111-5:2005)	18/12/2009		
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CEN	EN ISO 11111-6:2005 Textile machinery - Safety requirements - Part 6: Fabric manufacturing machinery (ISO 11111-6:2005)	18/12/2009		
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CEN	EN ISO 11111-7:2005 Textile machinery - Safety requirements - Part 7: Dyeing and finishing machinery (ISO 11111-7:2005)	18/12/2009		
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CEN	EN ISO 11145:2016 Optics and photonics - Lasers and laser-related equipment - Vocabulary and symbols (ISO 11145:2016)	09/09/2016	EN ISO 11145:2008 Note 2.1	30/09/2016
CEN	EN ISO 11148-1:2011 Hand-held non-electric power tools - Safety requirements - Part 1: Assembly power tools for non-threaded mechanical fasteners (ISO 11148-1:2011)	24/08/2012	EN 792-1:2000+A1:2008 Note 2.1	30/06/2012
CEN	EN ISO 11148-2:2011 Hand-held non-electric power tools - Safety requirements - Part 2: Cutting-off and crimping power tools (ISO/FDIS 11148-2:2011)	29/02/2012	EN 792-2:2000+A1:2008 Note 2.1	30/06/2012
CEN	EN ISO 11148-3:2012 Hand-held non-electric power tools - Safety requirements - Part 3: Drills and tappers (ISO 11148-3:2012)	05/04/2013	EN ISO 11148-3:2010 Note 2.1	30/06/2013
CEN	EN ISO 11148-4:2012 Hand-held non-electric power tools - Safety requirements - Part 4: Non-rotary percussive power tools (ISO 11148-4:2012)	05/04/2013	EN ISO 11148-4:2010 Note 2.1	30/06/2013
CEN	EN ISO 11148-5:2011 Hand-held non-electric power tools - Safety	29/02/2012	EN 792-5:2000+A1:2008	30/06/2012

	requirements - Part 5: Rotary percussive drills (ISO 11148-5:2011)		Note 2.1	
CEN	EN ISO 11148-6:2012 Hand-held non-electric power tools - Safety requirements - Part 6: Assembly power tools for threaded fasteners (ISO 11148-6:2012)	05/04/2013	EN ISO 11148-6:2010 Note 2.1	30/06/2013
CEN	EN ISO 11148-7:2012 Hand-held non-electric power tools - Safety requirements - Part 7: Grinders (ISO 11148-7:2012)	15/11/2012	EN 792-7:2001+A1:2008 Note 2.1	28/02/2013
CEN	EN ISO 11148-8:2011 Hand-held non-electric power tools - Safety requirements - Part 8: Sanders and polishers (ISO 11148-8:2011)	29/02/2012	EN 792-8:2001+A1:2008 Note 2.1	30/06/2012
CEN	EN ISO 11148-9:2011 Hand-held non-electric power tools - Safety requirements - Part 9: Die grinders (ISO 11148-9:2011)	29/02/2012	EN 792-9:2001+A1:2008 Note 2.1	01/06/2012
CEN	EN ISO 11148-10:2011 Hand-held non-electric power tools - Safety requirements - Part 10: Compression power tools (ISO 11148-10:2011)	29/02/2012	EN 792-10:2000+A1:2008 Note 2.1	30/06/2012
CEN	EN ISO 11148-11:2011 Hand-held non-electric power tools - Safety requirements - Part 11: Nibblers and shears (ISO 11148-11:2011)	29/02/2012	EN 792-11:2000+A1:2008 Note 2.1	30/06/2012
CEN	EN ISO 11148-12:2012 Hand-held non-electric power tools - Safety requirements - Part 12: Circular, oscillating and reciprocating saws (ISO 11148-12:2012)	05/04/2013	EN 792-12:2000+A1:2008 Note 2.1	30/06/2013
CEN	EN ISO 11252:2013 Lasers and laser-related equipment - Laser device - Minimum requirements for documentation (ISO 11252:2013)	28/11/2013	EN ISO 11252:2008 Note 2.1	28/02/2014
CEN	EN ISO 11553-1:2008 Safety of machinery - Laser processing machines - Part 1: General safety requirements (ISO 11553-1:2005)	08/09/2009		
CEN	EN ISO 11553-2:2008 Safety of machinery - Laser processing machines - Part 2: Safety requirements for hand-held laser processing devices (ISO 11553-2:2007)	08/09/2009		

CEN	EN ISO 11553-3:2013 Safety of machinery - Laser processing machines - Part 3: Noise reduction and noise measurement methods for laser processing machines and hand-held processing devices and associated auxiliary equipment (accuracy grade 2) (ISO 11553-3:2013)	28/11/2013		
CEN	EN ISO 11554:2017 **(new)** Optics and photonics - Lasers and laser-related equipment - Test methods for laser beam power, energy and temporal characteristics (ISO 11554:2017)	This is the first publication	EN ISO 11554:2008 Note 2.1	30/06/2018
CEN	EN ISO 11680-1:2011 Machinery for forestry - Safety requirements and testing for pole-mounted powered pruners - Part 1: Machines fitted with an integral combustion engine (ISO 11680-1:2011)	29/02/2012	EN ISO 11680-1:2008 Note 2.1	30/06/2012
CEN	EN ISO 11680-2:2011 Machinery for forestry - Safety requirements and testing for pole-mounted powered pruners - Part 2: Machines for use with back-pack power source (ISO 11680-2:2011)	29/02/2012	EN ISO 11680-2:2008 Note 2.1	30/06/2012
CEN	EN ISO 11681-1:2011 Machinery for forestry - Portable chain-saw safety requirements and testing - Part 1: Chain-saws for forest service (ISO 11681-1:2011)	29/02/2012	EN ISO 11681-1:2008 Note 2.1	30/06/2012
CEN	EN ISO 11681-2:2011 Machinery for forestry - Portable chain-saw safety requirements and testing - Part 2: Chain-saws for tree service (ISO 11681-2:2011)	29/02/2012	EN ISO 11681-2:2008 Note 2.1	30/06/2012
	EN ISO 11681-2:2011/A1:2017 **(new)**	This is the first publication	Note 3	30/06/2018
CEN	EN ISO 11806-1:2011 Agricultural and forestry machinery - Safety requirements and testing for portable, hand-held, powered brush-cutters and grass-trimmers - Part 1: Machines fitted with an integral combustion engine (ISO 11806-1:2011)	29/02/2012	EN ISO 11806:2008 Note 2.1	30/06/2012
CEN	EN ISO 11806-2:2011 Agricultural and forestry machinery - Safety requirements and testing for portable, hand-held, powered brush-cutters and grass-trimmers - Part 2: Machines for use with back-pack power unit (ISO 11806-2:2011)	29/02/2012		

CEN	EN ISO 11850:2011 Machinery for forestry - General safety requirements (ISO 11850:2011)	29/02/2012	EN 14861:2004+A1:2009 Note 2.1	31/05/2012
	EN ISO 11850:2011/A1:2016	09/09/2016	Note 3	31/08/2016
CEN	EN 12001:2012 Conveying, spraying and placing machines for concrete and mortar - Safety requirements	15/11/2012	EN 12001:2003+A1:2009 Note 2.1	28/02/2013
CEN	EN 12012-1:2007+A1:2008 Plastics and rubber machines - Size reduction machines - Part 1: Safety requirements for blade granulators	08/09/2009		
CEN	EN 12012-3:2001+A1:2008 Plastics and rubber machines - Size reduction machines - Part 3: Safety requirements for shredders	08/09/2009		
CEN	EN 12012-4:2006+A1:2008 Plastics and rubber machines - Size reduction machines - Part 4: Safety requirements for agglomerators	08/09/2009		
CEN	EN 12013:2000+A1:2008 Plastics and rubber machines - Internal mixers - Safety requirements	08/09/2009		
CEN	EN 12016:2013 Electromagnetic compatibility - Product family standard for lifts, escalators and moving walks - Immunity	28/11/2013	EN 12016:2004+A1:2008 Note 2.1	28/02/2014
CEN	EN 12041:2014 Food processing machinery - Moulders - Safety and hygiene requirements	15/01/2016	EN 12041:2000+A1:2009 Note 2.1	29/02/2016
CEN	EN 12042:2014 Food processing machinery - Automatic dough dividers - Safety and hygiene requirements	13/02/2015	EN 12042:2005+A1:2010 Note 2.1	13/02/2015
CEN	EN 12043:2014 Food processing machinery - Intermediate provers - Safety and hygiene requirements	15/01/2016	EN 12043:2000+A1:2010 Note 2.1	29/02/2016
CEN	EN 12044:2005+A1:2009 Footwear, leather and imitation leather goods manufacturing machines - Cutting and punching machines - Safety requirements	18/12/2009		
	EN 12053:2001+A1:2008			

CEN	Safety of industrial trucks - Test methods for measuring noise emissions	08/09/2009		
CEN	EN 12077-2:1998+A1:2008 Cranes safety - Requirements for health and safety - Part 2: Limiting and indicating devices	08/09/2009		
CEN	EN 12110:2014 Tunnelling machines - Air locks - Safety requirements	13/02/2015	EN 12110:2002+A1:2008 Note 2.1	13/02/2015
CEN	EN 12111:2014 Tunnelling machines - Road headers and continuous miners - Safety requirements	13/02/2015	EN 12111:2002+A1:2009 Note 2.1	13/02/2015
CEN	EN 12158-1:2000+A1:2010 Builders' hoists for goods - Part 1: Hoists with accessible platforms	08/04/2011		
CEN	EN 12158-2:2000+A1:2010 Builders' hoists for goods - Part 2: Inclined hoists with non-accessible load carrying devices	08/04/2011		
CEN	EN 12159:2012 Builders hoists for persons and materials with vertically guided cages	05/04/2013	EN 12159:2000+A1:2009 Note 2.1	31/05/2013
CEN	EN 12162:2001+A1:2009 Liquid pumps - Safety requirements - Procedure for hydrostatic testing	08/09/2009		
CEN	EN 12203:2003+A1:2009 Footwear, leather and imitation leather goods manufacturing machines - Shoe and leather presses - Safety requirements	18/12/2009		
CEN	EN 12267:2003+A1:2010 Food processing machinery - Circular saw machines - Safety and hygiene requirements	20/10/2010		
CEN	EN 12268:2014 Food processing machinery - Band saw machines - Safety and hygiene requirements	15/01/2016	EN 12268:2003+A1:2010 Note 2.1	29/02/2016
CEN	EN 12301:2000+A1:2008 Plastics and rubber machines - Calenders - Safety requirements	08/09/2009		
CEN	EN 12312-1:2013 Aircraft ground support equipment - Specific requirements - Part 1: Passenger stairs	28/11/2013	EN 12312-1:2001+A1:2009	28/11/2013

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CEN	EN 12312-2:2014 Aircraft ground support equipment - Specific requirements - Part 2: Catering vehicles	13/02/2015	EN 12312-2:2002+A1:2009 Note 2.1	13/02/2015
CEN	EN 12312-3:2017 Aircraft ground support equipment - Specific requirements - Part 3: Conveyor belt vehicles	09/06/2017	EN 12312-3:2003+A1:2009 Note 2.1	31/07/2017
CEN	EN 12312-4:2014 Aircraft ground support equipment - Specific requirements - Part 4: Passenger boarding bridges	11/07/2014	EN 12312-4:2003+A1:2009 Note 2.1	30/09/2014
CEN	EN 12312-5:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 5: Aircraft fuelling equipment	08/09/2009		
CEN	EN 12312-6:2017 Aircraft ground support equipment - Specific requirements - Part 6: Deicers and de-icing/anti-icing equipment	09/06/2017	EN 12312-6:2004+A1:2009 Note 2.1	30/09/2017
CEN	EN 12312-7:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 7: Air-craft movement equipment	08/09/2009		
CEN	EN 12312-8:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 8: Maintenance stairs and platforms	08/09/2009		
CEN	EN 12312-9:2013 Aircraft ground support equipment - Specific requirements - Part 9: Container/Pallet loaders	28/11/2013	EN 12312-9:2005+A1:2009 Note 2.1	28/11/2013
CEN	EN 12312-10:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 10: Container/Pallet transfer transporters	08/09/2009		
CEN	EN 12312-12:2017 **(new)** Aircraft ground support equipment - Specific requirements - Part 12: Potable water service equipment	This is the first publication	EN 12312-12:2002+A1:2009 Note 2.1	30/06/2018
CEN	EN 12312-13:2017 **(new)** Aircraft ground support equipment - Specific requirements - Part 13: Lavatory service	This is the first publication	EN 12312-13:2002+A1:2009	30/06/2018

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CEN	EN 12312-14:2014 Aircraft ground support equipment - Specific requirements - Part 14: Disabled/incapacitated passenger boarding vehicles	13/02/2015	EN 12312-14:2006+A1:2009 Note 2.1	13/02/2015
CEN	EN 12312-15:2006+A1:2009 Aircraft ground support equipment - Specific requirements - Part 15: Baggage and equipment tractors	08/09/2009		
CEN	EN 12312-16:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 16: Air start equipment	08/09/2009		
CEN	EN 12312-17:2004+A1:2009 Aircraft ground support equipment - Specific requirements - Part 17: Air conditioning equipment	08/09/2009		
CEN	EN 12312-18:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 18: Nitrogen or Oxygen units	08/09/2009		
CEN	EN 12312-19:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 19: Aircraft jacks, axle jacks and hydraulic tail stanchions	08/09/2009		
CEN	EN 12312-20:2005+A1:2009 Aircraft ground support equipment - Specific requirements - Part 20: Electrical ground power units	08/09/2009		
CEN	EN 12321:2003+A1:2009 Underground mining machinery - Specification for the safety requirements of armoured face conveyors	08/09/2009		
CEN	EN 12331:2003+A2:2010 Food processing machinery - Mincing machines - Safety and hygiene requirements	20/10/2010		
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CEN	EN 12385-3:2004+A1:2008 Steel wire ropes - Safety - Part 3: Information for use and maintenance	08/09/2009		
CEN	EN 12385-4:2002+A1:2008 Steel wire ropes - Safety - Part 4: Stranded ropes for general lifting applications	08/09/2009		
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CEN	EN 12581:2005+A1:2010 Coating plants - Machinery for dip coating and electrodeposition of organic liquid coating material - Safety requirements	20/10/2010		
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CEN	EN 12622:2009+A1:2013 Safety of machine tools - Hydraulic press brakes	11/04/2014	EN 12622:2009 Note 2.1	30/04/2014
CEN	EN 12629-1:2000+A1:2010 Machines for the manufacture of constructional products from concrete and calcium-silicate - Safety - Part 1: Common requirements	08/04/2011		
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CEN	EN 12629-8:2002+A1:2010 Machines for the manufacture of constructional products from concrete and calcium-silicate - Safety - Part 8: Machines and equipment for the manufacture of constructional products from calcium-silicate (and concrete)	08/04/2011		
CEN	EN 12635:2002+A1:2008 Industrial, commercial and garage doors and gates - Installation and use	08/09/2009		
Warning: With regard to paragraph 5.1 and Annex D, this publication does not concern the reference to EN 12453:2000, the application of which does not confer a presumption of conformity to the essential health and safety requirements 1.1.2, 1.1.6, 1.2.1, 1.3.7, 1.3.8.2, 1.4.1, 1.4.3 and 1.5.14 of Annex I to Directive 2006/42/EC.				
CEN	EN 12643:2014 Earth-moving machinery - Rubber-tyred machines - Steering requirements (ISO 5010:1992 modified)	11/07/2014	EN 12643:1997+A1:2008 Note 2.1	31/08/2014
CEN	EN 12644-1:2001+A1:2008 Cranes - Information for use and testing - Part 1: Instructions	08/09/2009		
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CEN	EN 12693:2008 Refrigerating systems and heat pumps - Safety and environmental requirements - Positive displacement refrigerant compressors	08/09/2009		
CEN	EN 12717:2001+A1:2009 Safety of machine tools - Drilling machines	08/09/2009		
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CEN	EN 12750:2013 Safety of woodworking machines - Four sided moulding machines	28/11/2013	EN 12750:2001+A1:2009 Note 2.1	28/11/2013
CEN	EN 12753:2005+A1:2010 Thermal cleaning systems for exhaust gas from surface treatment equipment - Safety requirements	20/10/2010		
CEN	EN 12757-1:2005+A1:2010 Mixing machinery for coating materials - Safety requirements - Part 1: Mixing machinery for use in vehicle refinishing	20/10/2010		
CEN	EN 12779:2015 Safety of woodworking machines - Chip and dust extraction systems with fixed installation - Safety requirements	13/05/2016	EN 12779:2004+A1:2009 Note 2.1	31/05/2016
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CEN	EN 12853:2001+A1:2010 Food processing machinery - Hand-held blenders and whisks - Safety and hygiene requirements	20/10/2010		
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CEN	EN 12881-1:2014 Conveyor belts - Fire simulation flammability testing - Part 1: Propane burner tests	13/02/2015	EN 12881-1:2005+A1:2008 Note 2.1	13/02/2015
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CEN	EN 12882:2015 Conveyor belts for general purpose use - Electrical and flammability safety requirements	15/01/2016	EN 12882:2008 Note 2.1	29/02/2016
CEN	EN 12921-1:2005+A1:2010 Machines for surface cleaning and pre-treatment of industrial items using liquids or vapours - Part 1: Common safety requirements	20/10/2010		
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CEN	EN 12921-4:2005+A1:2008 Machines for surface cleaning and pretreatment of industrial items using liquids and vapours - Part 4: Safety of machines using halogenated solvents	08/09/2009		
CEN	EN 12965:2003+A2:2009 Tractors and machinery for agriculture and forestry - Power take-off (PTO) drive shafts and their guards - Safety	18/12/2009		
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CEN	EN 13001-1:2015 Cranes - General design - Part 1: General principles and requirements	15/01/2016	EN 13001-1:2004+A1:2009 Note 2.1	29/02/2016
CEN	EN 13001-2:2014 Crane safety - General design - Part 2: Load actions	15/01/2016	EN 13001-2:2011 Note 2.1	29/02/2016
CEN	EN 13001-3-1:2012+A1:2013 Cranes - General Design - Part 3-1: Limit States and proof competence of steel structure	28/11/2013	EN 13001-3-1:2012 Note 2.1	31/01/2014
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CEN	EN 13035-6:2006+A1:2009 Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 6: Machines for break-out	26/05/2010		
CEN	EN 13035-7:2006+A1:2009 Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 7: Cutting machines for laminated glass	26/05/2010		

CEN	EN 13035-9:2006+A1:2010 Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 9: Washing installations	26/05/2010		
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CEN	EN 13112:2002+A1:2009 Tannery machines - Splitting and bandknife shearing machines - Safety requirements	26/05/2010		
CEN	EN 13113:2002+A1:2010 Tannery machines - Roller coating machines - Safety requirements	08/04/2011		
CEN	EN 13114:2002+A1:2009 Tannery machines - Rotating process vessels - Safety requirements	26/05/2010		
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CEN	EN 13128:2001+A2:2009 Safety of machine tools - Milling machines (including boring machines)	08/09/2009		
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CEN	EN 13135:2013 Cranes - Safety - Design - Requirements for equipment	28/11/2013	EN 13135-1:2003+A1:2010 EN 13135-2:2004+A1:2010 Note 2.1	28/11/2013
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CEN	EN 13204:2016 Double acting hydraulic rescue tools for fire and rescue service use - Safety and performance requirements	09/06/2017	EN 13204:2004+A1:2012 Note 2.1	30/11/2017
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CEN	EN 13241:2003+A2:2016 Industrial, commercial, garage doors and gates - Product standard, performance characteristics	09/06/2017	EN 13241-1:2003+A1:2011 Note 2.1	30/06/2018
CEN	EN 13288:2005+A1:2009 Food processing machinery - Bowl lifting and tilting machines - Safety and hygiene requirements	26/05/2010		
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CEN	Pasta processing plants - Dryers and coolers - Safety and hygiene requirements	28/11/2013		
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CEN	EN 13367:2005+A1:2008 Ceramic machines - Safety - Transfer platforms and cars	08/09/2009		
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CEN	EN 13411-4:2011 Terminations for steel wire ropes - Safety - Part 4: Metal and resin socketing	20/07/2011	EN 13411-4:2002+A1:2008 Note 2.1	30/09/2011
CEN	EN 13411-5:2003+A1:2008 Terminations for steel wire ropes - Safety - Part 5: U-bolt wire rope grips	08/09/2009		

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CEN	EN 13411-7:2006+A1:2008 Terminations for steel wire ropes - Safety - Part 7: Symmetric wedge socket	08/09/2009		
CEN	EN 13411-8:2011 Terminations for steel wire ropes - Safety - Part 8: Swage terminals and swaging	18/11/2011		
CEN	EN 13414-1:2003+A2:2008 Steel wire rope slings - Safety - Part 1: Slings for general lifting service	08/09/2009		
CEN	EN 13414-2:2003+A2:2008 Steel wire rope slings - Safety - Part 2: Specification for information for use and maintenance to be provided by the manufacturer	08/09/2009		
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CEN	EN 13418:2013 Plastics and rubber machines - Winding machines for film or sheet - Safety requirements	28/11/2013	EN 13418:2004+A1:2008 Note 2.1	30/11/2013
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CEN	EN ISO 13482:2014 Robots and robotic devices - Safety requirements for personal care robots (ISO 13482:2014)	11/07/2014		
CEN	EN 13524:2003+A2:2014 Highway maintenance machines - Safety requirements	11/07/2014	EN 13524:2003+A1:2009 Note 2.1	31/08/2014
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CEN	EN 13557:2003+A2:2008 Cranes - Controls and control stations	08/09/2009		
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CEN	EN 13586:2004+A1:2008 Cranes - Access	08/09/2009		
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CEN	EN 13736:2003+A1:2009 Safety of machine tools - Pneumatic presses	08/09/2009		
CEN	EN 13852-1:2013 Cranes - Offshore cranes - Part 1: General-purpose offshore cranes	28/11/2013		
CEN	EN 13862:2001+A1:2009 Floor cutting-off machines - Safety	08/09/2009		
CEN	EN 13870:2015 Food processing machinery - Portion cutting machines - Safety and hygiene requirements	15/01/2016	EN 13870:2005+A1:2010 Note 2.1	31/03/2016
CEN	EN 13871:2014 Food processing machinery - Cubes cutting machinery - Safety and hygiene requirements	15/01/2016	EN 13871:2005+A1:2010 Note 2.1	29/02/2016
CEN	EN 13885:2005+A1:2010 Food processing machinery - Clipping machines - Safety and hygiene requirements	20/10/2010		
CEN	EN 13886:2005+A1:2010 Food processing machinery - Cooking kettles equipped with powered stirrer and/or mixer - Safety and hygiene requirements	26/05/2010		
CEN	EN 13889:2003+A1:2008 Forged steel shackles for general lifting purposes - Dee shackles and bow shackles - Grade 6 - Safety	08/09/2009		
CEN	EN 13951:2012 Liquid pumps - Safety requirements - Agrifoodstuffs equipment; Design rules to ensure hygiene in use	24/08/2012	EN 13951:2003+A1:2008 Note 2.1	31/10/2012
CEN	EN 13954:2005+A1:2010 Food processing machinery - Bread slicers -	26/05/2010		

	Safety and hygiene requirements			
CEN	EN 13977:2011 Railway applications - Track - Safety requirements for portable machines and trolleys for construction and maintenance	20/07/2011		
CEN	EN 13985:2003+A1:2009 Machine tools - Safety - Guillotine shears	08/09/2009		
CEN	EN 14010:2003+A1:2009 Safety of machinery - Equipment for power driven parking of motor vehicles - Safety and EMC requirements for design, manufacturing, erection and commissioning stages	18/12/2009		
CEN	EN 14017:2005+A2:2009 Agricultural and forestry machinery - Solid fertilizer distributors - Safety	18/12/2009	EN 14017:2005+A1:2008 Note 2.1	31/01/2010
CEN	EN 14018:2005+A1:2009 Agricultural and forestry machinery - Seed drills - Safety	18/12/2009		
CEN	EN 14033-3:2017 **(new)** Railway applications - Track - Railbound construction and maintenance machines - Part 3: General safety requirements	This is the first publication	EN 14033-3:2009+A1:2011 Note 2.1	30/06/2018
CEN	EN 14043:2014 High rise aerial appliances for fire and rescue service use - Turntable ladders with combined movements - Safety and performance requirements and test methods	11/07/2014	EN 14043:2005+A1:2009 Note 2.1	31/07/2014
CEN	EN 14044:2014 High rise aerial appliances for fire and rescue service use - Turntable ladders with sequential movements - Safety and performance requirements and test methods	11/07/2014	EN 14044:2005+A1:2009 Note 2.1	31/07/2014
CEN	EN 14070:2003+A1:2009 Safety of machine tools - Transfer and special-purpose machines	08/09/2009		
	EN 14070:2003+A1:2009/AC:2010			
CEN	EN 14238:2004+A1:2009 Cranes - Manually controlled load manipulating devices	18/12/2009		
	EN ISO 14314:2009			

CEN	Reciprocal internal combustion engines - Recoil starting equipment - General safety requirements (ISO 14314:2004)	18/12/2009		
CEN	EN 14439:2006+A2:2009 Cranes - Safety - Tower cranes	08/09/2009		
CEN	EN 14462:2005+A1:2009 Surface treatment equipment - Noise test code for surface treatment equipment including its ancillary handling equipment - Accuracy grades 2 and 3	08/09/2009		
CEN	EN 14466:2005+A1:2008 Fire-fighting pumps - Portable pumps - Safety and performance requirements, tests	08/09/2009		
CEN	EN 14492-1:2006+A1:2009 Cranes - Power driven winches and hoists - Part 1: Power driven winches	18/12/2009		
	EN 14492-1:2006+A1:2009/AC:2010			
CEN	EN 14492-2:2006+A1:2009 Cranes - Power driven winches and hoists - Part 2: Power driven hoists	18/12/2009		
	EN 14492-2:2006+A1:2009/AC:2010			
CEN	EN 14502-2:2005+A1:2008 Cranes - Equipment for the lifting of persons - Part 2: Elevating control stations	08/09/2009		
CEN	EN 14655:2005+A1:2010 Food processing machinery - Baguette slicers - Safety and hygiene requirements	26/05/2010		
CEN	EN 14656:2006+A1:2010 Safety of machinery - Safety requirements for extrusion presses for steel and non-ferrous metals	20/10/2010		
CEN	EN 14658:2005+A1:2010 Continuous handling equipment and systems - General safety requirements for continuous handling equipment for opencast lignite mining	26/05/2010		
CEN	EN 14673:2006+A1:2010 Safety of machinery - Safety requirements for hydraulically powered open die hot forging presses for the forging of steel and non-ferrous metals	20/10/2010		
	EN 14677:2008			

CEN	Safety of machinery - Secondary steelmaking - Machinery and equipment for treatment of liquid steel	08/09/2009		
CEN	EN 14681:2006+A1:2010 Safety of machinery - Safety requirements for machinery and equipment for production of steel by electric arc furnaces	20/10/2010		
CEN	EN 14710-1:2005+A2:2008 Fire-fighting pumps - Fire-fighting centrifugal pumps without primer - Part 1: Classification, general and safety requirements	08/09/2009		
CEN	EN 14710-2:2005+A2:2008 Fire-fighting pumps - Fire-fighting centrifugal pumps without primer - Part 2: Verification of general and safety requirements	08/09/2009		
CEN	EN 14753:2007 Safety of machinery - Safety requirements for machinery and equipment for continuous casting of steel	08/09/2009		
CEN	EN 14886:2008 Plastics and rubber machines - Bandknife cutting machines for block foams - Safety requirements	08/09/2009		
CEN	EN 14910:2007+A1:2009 Garden equipment - Walk-behind combustion engine powered trimmers - Safety	08/09/2009		
CEN	EN 14930:2007+A1:2009 Agricultural and forestry machinery and gardening equipment - Pedestrian controlled and hand-held machines - Determination of accessibility of hot surfaces	08/09/2009		
CEN	EN 14957:2006+A1:2010 Food processing machinery - Dishwashing machines with conveyor - Safety and hygiene requirements	26/05/2010		
CEN	EN 14958:2006+A1:2009 Food processing machinery - Machinery for grinding and processing flour and semolina - Safety and hygiene requirements	08/09/2009		
CEN	EN 14973:2015 Conveyor belts for use in underground installations - Electrical and flammability safety requirements	13/05/2016	EN 14973:2006+A1:2008 Note 2.1	31/05/2016

CEN	EN ISO 14982:2009 Agricultural and forestry machinery - Electromagnetic compatibility - Test methods and acceptance criteria (ISO 14982:1998)	08/09/2009		
CEN	EN 14985:2012 Cranes - Slewing jib cranes	23/03/2012		
CEN	EN 15000:2008 Safety of industrial trucks - Self propelled variable reach trucks - Specification, performance and test requirements for longitudinal load moment indicators and longitudinal load moment limiters	08/09/2009		
CEN	EN 15011:2011+A1:2014 Cranes - Bridge and gantry cranes	11/07/2014	EN 15011:2011 Note 2.1	31/08/2014
CEN	EN ISO 15012-4:2016 Health and safety in welding and allied processes - Equipment for capture and separation of welding fume - Part 4: General requirements (ISO 15012-4:2016)	09/06/2017		
CEN	EN 15027:2007+A1:2009 Transportable wall saw and wire saw equipment for job site - Safety	08/09/2009		
CEN	EN 15056:2006+A1:2009 Cranes - Requirements for container handling spreaders	08/09/2009		
CEN	EN 15059:2009+A1:2015 Snow grooming equipment - Safety requirements	15/01/2016	EN 15059:2009 Note 2.1	29/02/2016
CEN	EN 15061:2007+A1:2008 Safety of machinery - Safety requirements for strip processing line machinery and equipment	08/09/2009		
CEN	EN 15067:2007 Plastics and rubber machines - Film converting machines for bags and sacks - Safety requirements	08/09/2009		
CEN	EN 15093:2008 Safety of Machinery - Safety requirements for hot flat rolling mills	08/09/2009		
CEN	EN 15094:2008 Safety of Machinery - Safety requirements for cold flat rolling mills	08/09/2009		

CEN	EN 15095:2007+A1:2008 Power-operated mobile racking and shelving, carousels and storage lifts - Safety requirements	08/09/2009		
CEN	EN 15162:2008 Machines and plants for mining and tooling of natural stone - Safety requirements for gang saws	08/09/2009		
CEN	EN 15163:2008 Machines and installations for the exploitation and processing of natural stone - Safety - Requirements for diamond wire saws	08/09/2009		
CEN	EN 15164:2008 Machines and plants for mining and tooling of natural stone - Safety - Requirements for chain- and belt-slotting machines	08/09/2009		
CEN	EN 15166:2008 Food processing machinery - Automatic back splitting machines of butchery carcasses - Safety and hygiene requirements	08/09/2009		
CEN	EN 15268:2008 Petrol filling stations - Safety requirements for the construction of submersible pump assemblies	08/09/2009		
CEN	EN 15503:2009+A2:2015 Garden equipment - Garden blowers, vacuums and blower/vacuums - Safety	13/05/2016	EN 15503:2009+A1:2013 Note 2.1	30/06/2017
CEN	EN 15572:2015 Machines and plants for mining and tooling of natural stone - Safety - Requirements for edge finishing machines	15/01/2016		
CEN	EN 15695-1:2017 **(new)** Agricultural tractors and self-propelled sprayers - Protection of the operator (driver) against hazardous substances - Part 1: Cab classification, requirements and test procedures	This is the first publication	EN 15695-1:2009 Note 2.1	30/06/2018
CEN	EN 15695-2:2017 **(new)** Agricultural tractors and self-propelled sprayers - Protection of the operator (driver) against hazardous substances - Part 2: Filters, requirements and test procedures	This is the first publication	EN 15695-2:2009 Note 2.1	30/06/2018
CEN	EN 15700:2011 Safety for conveyor belts for winter sport or leisure use	29/02/2012		

CEN	EN ISO 15744:2008 Hand-held non-electric power tools - Noise measurement code - Engineering method (grade 2) (ISO 15744:2002)	08/09/2009		
CEN	EN 15746-2:2010+A1:2011 Railway applications - Track - Road-rail machines and associated equipment - Part 2: General safety requirements	29/02/2012	EN 15746-2:2010 Note 2.1	30/04/2012
CEN	EN 15774:2010 Food processing machinery - Machines for processing fresh and filled pasta (tagliatelle, cannelloni, ravioli, tortellini, orecchiette and gnocchi) - Safety and hygiene requirements	08/04/2011		
CEN	EN 15811:2014 Agricultural machinery - Fixed guards and interlocked guards with or without guard locking for moving transmission parts (ISO/TS 28923:2012 modified)	15/01/2016	EN 15811:2009 Note 2.1	29/02/2016
CEN	EN 15830:2012 Rough-terrain variable reach trucks - Visibility - Test methods and verification	24/08/2012		
CEN	EN 15861:2012 Food processing machinery - Smokehouses - Safety and hygiene requirements	24/08/2012		
CEN	EN 15895:2011 Cartridge operated hand-held tools - Safety requirements - Fixing and hard marking tools	18/11/2011		
CEN	EN 15949:2012 Safety of machinery - Safety requirements for bar mills, structural steel mills and wire rod mills	05/06/2012		
CEN	EN 15954-2:2013 Railway applications - Track - Trailers and associated equipment - Part 2: General safety requirements	28/11/2013		
CEN	EN 15955-2:2013 Railway applications - Track - Demountable machines and associated equipment - Part 2: General safety requirements	28/11/2013		
CEN	EN 15997:2011 All terrain vehicles (ATVs - Quads) - Safety requirements and test methods	29/02/2012		

	EN 15997:2011/AC:2012			
CEN	EN 16005:2012 Power operated pedestrian doorsets - Safety in use - Requirements and test methods	05/04/2013		
	EN 16005:2012/AC:2015			
CEN	EN 16029:2012 Ride-on, motorized vehicles intended for the transportation of persons and not intended for use on public roads - Single-track two-wheel motor vehicles - Safety requirements and test methods	24/08/2012		
CEN	EN ISO 16089:2015 Machine tools - Safety - Stationary grinding machines (ISO 16089:2015)	13/05/2016	EN 13218:2002+A1:2008 Note 2.1	30/06/2017
CEN	EN ISO 16093:2017 **(new)** Machine tools - Safety - Sawing machines for cold metal (ISO 16093:2017)	This is the first publication	EN 13898:2003+A1:2009 Note 2.1	30/06/2018
CEN	EN ISO 16119-1:2013 Agricultural and forestry machinery - Environmental requirements for sprayers - Part 1: General (ISO 16119-1:2013)	28/11/2013		
CEN	EN ISO 16119-2:2013 Agricultural and forestry machinery - Environmental requirements for sprayers - Part 2: Horizontal boom sprayers (ISO 16119-2:2013, Corrected version 2017-03)	28/11/2013		
CEN	EN ISO 16119-3:2013 Agricultural and forestry machinery - Environmental requirements for sprayers - Part 3: Sprayers for bush and tree crops (ISO 16119-3:2013)	28/11/2013		
CEN	EN ISO 16119-4:2014 Agricultural and forestry machinery - Environmental requirements for sprayers - Part 4: Fixed and semi-mobile sprayers (ISO 16119-4:2014)	15/01/2016		
CEN	EN 16191:2014 Tunnelling machinery - Safety requirements	13/02/2015	EN 815:1996+A2:2008 EN 12336:2005+A1:2008 Note 2.1	13/02/2015
	EN 16203:2014			

CEN	Safety of Industrial Trucks - Dynamic tests for verification of lateral stability - Counterbalanced Trucks	13/02/2015		
CEN	EN 16228-1:2014 Drilling and foundation equipment - Safety - Part 1: Common requirements	13/02/2015	EN 791:1995+A1:2009 EN 996:1995+A3:2009 Note 2.1	13/02/2015
CEN	EN 16228-2:2014 Drilling and foundation equipment - Safety - Part 2: Mobile drill rigs for civil and geotechnical engineering, quarrying and mining	13/02/2015	EN 791:1995+A1:2009 EN 996:1995+A3:2009 Note 2.1	13/02/2015
CEN	EN 16228-3:2014 Drilling and foundation equipment - Safety - Part 3: Horizontal directional drilling equipment (HDD)	13/02/2015	EN 791:1995+A1:2009 EN 996:1995+A3:2009 Note 2.1	13/02/2015
CEN	EN 16228-4:2014 Drilling and foundation equipment - Safety - Part 4: Foundation equipment	13/02/2015	EN 791:1995+A1:2009 EN 996:1995+A3:2009 Note 2.1	13/02/2015
CEN	EN 16228-5:2014 Drilling and foundation equipment - Safety - Part 5: Diaphragm walling equipment	13/02/2015	EN 791:1995+A1:2009 EN 996:1995+A3:2009 Note 2.1	13/02/2015
CEN	EN 16228-6:2014 Drilling and foundation equipment - Safety - Part 6: Jetting, grouting and injection equipment	13/02/2015	EN 791:1995+A1:2009 EN 996:1995+A3:2009 Note 2.1	13/02/2015
CEN	EN 16228-7:2014 Drilling and foundation equipment - Safety - Part 7: Interchangeable auxiliary equipment	13/02/2015	EN 791:1995+A1:2009 EN 996:1995+A3:2009 Note 2.1	13/02/2015
CEN	EN 16230-1:2013+A1:2014 Leisure karts - Part 1: Safety requirements and test methods for karts	15/01/2016	EN 16230-1:2013 Note 2.1	29/02/2016
CEN	EN ISO 16230-1:2015 Agricultural machinery and tractors - Safety of higher voltage electrical and electronic components and systems - Part 1: General requirements (ISO 16230-1:2015)	15/01/2016		
CEN	EN ISO 16231-1:2013 Self-propelled agricultural machinery -	28/11/2013		

	Assessment of stability - Part 1: Principles (ISO 16231-1:2013)			
CEN	EN ISO 16231-2:2015 Self-propelled agricultural machinery - Assessment of stability - Part 2: Determination of static stability and test procedures (ISO 16231-2:2015)	15/01/2016		
CEN	EN 16246:2012 Agricultural machinery - Backhoes - Safety	05/04/2013		
CEN	EN 16252:2012 Machines for compacting waste materials or recyclable fractions - Horizontal baling presses - Safety requirements	05/04/2013		
CEN	EN 16307-1:2013+A1:2015 Industrial trucks - Safety requirements and verification - Part 1: Supplementary requirements for self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks	15/01/2016	EN 16307-1:2013 Note 2.1	29/02/2016
CEN	EN 16307-5:2013 Industrial trucks - Safety requirements and verification - Part 5: Supplementary requirements for pedestrian-propelled trucks	11/07/2014		
CEN	EN 16307-6:2014 Industrial trucks - Safety requirements and verification - Part 6: Supplementary requirements for burden and personnel carriers	11/07/2014		
CEN	EN 16327:2014 Fire-fighting - Positive-pressure proportioning systems (PPPS) and compressed-air foam systems (CAFS)	11/07/2014		
CEN	EN 16474:2015 Plastics and rubber machines - Tyre curing machines - Safety requirements	15/01/2016		
CEN	EN 16486:2014 Machines for compacting waste materials or recyclable fractions - Compactors - Safety requirements	15/01/2016		
CEN	EN 16500:2014 Machines for compacting waste materials or recyclable fractions - Vertical baling presses - Safety requirements	15/01/2016		

CEN	EN 16590-3:2014 Tractors and machinery for agriculture and forestry - Safety-related parts of control systems - Part 3: Series development, hardware and software (ISO 25119-3:2010 modified)	13/02/2015		
CEN	EN 16590-4:2014 Tractors and machinery for agriculture and forestry - Safety-related parts of control systems - Part 4: Production, operation, modification and supporting processes (ISO 25119-4:2010 modified)	13/02/2015		
CEN	EN 16743:2016 Food processing machinery - Automatic industrial slicing machines - Safety and hygiene requirements	09/09/2016		
CEN	EN 16774:2016 Safety of machinery - Safety requirements for steel converter and associated equipment	09/09/2016		
CEN	EN 16851:2017 Cranes - Light crane systems	09/06/2017		
CEN	EN ISO 17916:2016 Safety of thermal cutting machines (ISO 17916:2016)	09/09/2016		
CEN	EN ISO 18217:2015 Safety of woodworking machines - Edge-banding machines fed by chain(s) (ISO 18217:2015)	15/01/2016	EN 1218-4:2004+A2:2009 Note 2.1	31/03/2016
CEN	EN ISO 19085-1:2017 **(new)** Woodworking machines - Safety - Part 1: Common requirements (ISO 19085-1:2017)	This is the first publication		
CEN	EN ISO 19085-2:2017 **(new)** Woodworking machines - Safety - Part 2: Horizontal beam panel circular sawing machines (ISO 19085-2:2017)	This is the first publication		
CEN	EN ISO 19085-5:2017 **(new)** Woodworking machines - Safety - Part 5: Dimension saws (ISO 19085-5:2017)	This is the first publication	EN 1870-18:2013 Note 2.1	30/06/2018
CEN	EN ISO 19432:2012 Building construction machinery and equipment - Portable, hand-held, internal combustion engine driven cut-off machines - Safety requirements (ISO 19432:2012)	15/11/2012	EN ISO 19432:2008 Note 2.1	31/01/2013

CEN	EN ISO 19932-1:2013 Equipment for crop protection - Knapsack sprayers - Part 1: Safety and environmental requirements (ISO 19932-1:2013)	28/11/2013		
CEN	EN ISO 19932-2:2013 Equipment for crop protection - Knapsack sprayers - Part 2: Test methods (ISO 19932-2:2013)	28/11/2013		
CEN	EN ISO 20361:2015 Liquid pumps and pump units - Noise test code - Grades 2 and 3 of accuracy (ISO 20361:2015)	09/09/2016	EN ISO 20361:2009 Note 2.1	31/12/2015
CEN	EN ISO 22867:2011 Forestry and gardening machinery - Vibration test code for portable hand-held machines with internal combustion engine - Vibration at the handles (ISO 22867:2011)	29/02/2012	EN ISO 22867:2008 Note 2.1	30/06/2012
CEN	EN ISO 22868:2011 Forestry and gardening machinery - Noise test code for portable hand-held machines with internal combustion engine - Engineering method (Grade 2 accuracy) (ISO 22868:2011)	20/07/2011	EN ISO 22868:2008 Note 2.1	30/09/2011
CEN	EN ISO 23125:2015 Machine tools - Safety - Turning machines (ISO 23125:2015, Corrected version 2016-03-15)	15/01/2016	EN ISO 23125:2010 Note 2.1	29/02/2016
CEN	EN ISO 28139:2009 Agricultural and forestry machinery - Knapsack combustion-engine-driven mistblowers - Safety requirements (ISO 28139:2009)	18/12/2009		
CEN	EN ISO 28881:2013 Machine tools - Safety - Electro-discharge machines (ISO 28881:2013)	28/11/2013	EN 12957:2001+A1:2009 Note 2.1	28/02/2014
	EN ISO 28881:2013/AC:2013			
CEN	EN ISO 28927-1:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 1: Angle and vertical grinders (ISO 28927-1:2009)	26/05/2010		
	EN ISO 28927-1:2009/A1:2017 **(new)**	This is the first publication	Note 3	30/06/2018
CEN	EN ISO 28927-2:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 2:	26/05/2010		

	Wrenches, nutrunners and screwdrivers (ISO 28927-2:2009)			
CEN	EN ISO 28927-3:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 3: Polishers and rotary, orbital and random orbital sanders (ISO 28927-3:2009)	26/05/2010		
CEN	EN ISO 28927-4:2010 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 4: Straight grinders (ISO 28927-4:2010)	08/04/2011		
CEN	EN ISO 28927-5:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 5: Drills and impact drills (ISO 28927-5:2009)	26/05/2010		
	EN ISO 28927-5:2009/A1:2015	15/01/2016	Note 3	31/03/2016
CEN	EN ISO 28927-6:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 6: Rammers (ISO 28927-6:2009)	26/05/2010		
CEN	EN ISO 28927-7:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 7: Nibblers and shears (ISO 28927-7:2009)	26/05/2010		
CEN	EN ISO 28927-8:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 8: Saws, polishing and filing machines with reciprocating action and saws with oscillating or rotating action (ISO 28927-8:2009)	26/05/2010		
	EN ISO 28927-8:2009/A1:2015	13/05/2016	Note 3	30/06/2016
CEN	EN ISO 28927-9:2009 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 9: Scaling hammers and needle scalers (ISO 28927-9:2009)	26/05/2010		
CEN	EN ISO 28927-10:2011 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 10: Percussive drills, hammers and breakers (ISO 28927-10:2011)	18/11/2011		
CEN	EN ISO 28927-11:2011 Hand-held portable power tools - Test methods	20/07/2011		

	for evaluation of vibration emission - Part 11: Stone hammers (ISO 28927-11:2011)			
CEN	EN ISO 28927-12:2012 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 12: Die grinders (ISO 28927-12:2012)	05/04/2013		

B-type standards

B-type standards deal with specific aspects of machinery safety or specific types of safeguard that can be used across a wide range of categories of machinery. Application of the specifications of B-type standards confers a presumption of conformity with the essential health and safety requirements of the Machinery Directive that they cover when a C-type standard or the manufacturer's risk assessment shows that a technical solution specified by the B-type standard is adequate for the particular category or model of machinery concerned. Application of B-type standards that give specifications for safety components that are independently placed on the market confers a presumption of conformity for the safety components concerned and for the essential health and safety requirements covered by the standards.

Cenelec	EN 60204-1:2006 Safety of machinery - Electrical equipment of machines - Part 1: General requirements IEC 60204-1:2005 (Modified)	26/05/2010		
	EN 60204-1:2006/A1:2009 IEC 60204-1:2005/A1:2008	26/05/2010	Note 3	01/02/2012
	EN 60204-1:2006/AC:2010			
Cenelec	EN 60204-11:2000 Safety of machinery - Electrical equipment of machines - Part 11: Requirements for HV equipment for voltages above 1 000 V a.c. or 1 500 V d.c. and not exceeding 36 kV IEC 60204-11:2000	26/05/2010		
	EN 60204-11:2000/AC:2010			
Cenelec	EN 60204-32:2008 Safety of machinery - Electrical equipment of machines - Part 32: Requirements for hoisting machines IEC 60204-32:2008	18/12/2009		
Cenelec	EN 60204-33:2011 Safety of machinery - Electrical equipment of machines - Part 33: Requirements for semiconductor fabrication equipment IEC 60204-33:2009 (Modified)	18/11/2011		
Cenelec	EN 61310-1:2008 Safety of machinery - Indication, marking and actuation - Part 1: Requirements for visual, acoustic and tactile signals IEC 61310-1:2007	18/12/2009		
	EN 61310-2:2008			

Cenelec	Safety of machinery - Indication, marking and actuation - Part 2: Requirements for marking IEC 61310-2:2007	18/12/2009		
Cenelec	EN 61310-3:2008 Safety of machinery - Indication, marking and actuation - Part 3: Requirements for the location and operation of actuators IEC 61310-3:2007	18/12/2009		
Cenelec	EN 61496-1:2013 Safety of machinery - Electro-sensitive protective equipment - Part 1: General requirements and tests IEC 61496-1:2012	11/04/2014	EN 61496-1:2004 + A1:2008 Note 2.1	10/05/2015
Cenelec	EN 61800-5-2:2007 Adjustable speed electrical power drive systems - Part 5-2: Safety requirements - Functional IEC 61800-5-2:2007	18/12/2009		
Cenelec	EN 62061:2005 Safety of machinery - Functional safety of safety-related electrical, electronic and programmable electronic control systems IEC 62061:2005	26/05/2010		
	EN 62061:2005/A1:2013 IEC 62061:2005/A1:2012	28/11/2013	Note 3	18/12/2015
	EN 62061:2005/AC:2010			
	EN 62061:2005/A2:2015 IEC 62061:2005/A2:2015	15/01/2016	Note 3	31/07/2018

C-type standards

C-type standards provide specifications for a given category of machinery. The different types of machinery belonging to the category covered by a C-type standard have a similar intended use and present similar hazards. C-type standards may refer to A or B-type standards, indicating which of the specifications of the A or B-type standard are applicable to the category of machinery concerned. When, for a given aspect of machinery safety, a C-type standard deviates from the specifications of an A or B-type standard, the specifications of the C-type standard take precedence over the specifications of the A or B-type standard. Application of the specifications of a C-type standard on the basis of the manufacturerÂ¿s risk assessment confers a presumption of conformity with the essential health and safety requirements of the Machinery Directive covered by the standard. Certain C-type standards are organised as a series of several parts, Part 1 of the standard giving general specifications applicable to a family of machinery and other parts of the standard giving specifications for specific categories of machinery belonging to the family, supplementing or modifying the general specifications of Part 1. For C-type standards organised in this way, the presumption of conformity with the essential health and safety requirements of the Machinery Directive is conferred by application of the general Part 1 of the standard together with the relevant specific part of the standard.

Cenelec	EN 50223:2015 Stationary electrostatic application equipment for ignitable flock material - Safety requirements	15/01/2016	EN 50223:2010 Note 2.1	13/04/2018
	EN 50348:2010 Stationary electrostatic application equipment for	26/05/2010		

Cenelec	non-ignitable liquid coating material - Safety requirements			
	EN 50348:2010/AC:2010			
Cenelec	EN 50434:2014 Safety of household and similar appliances - Particular requirements for mains operated shredders and chippers	13/02/2015		
Cenelec	EN 50569:2013 Household and similar electrical appliances - Safety - Particular requirements for commercial electric spin extractors	11/04/2014		
Cenelec	EN 50570:2013 Household and similar electrical appliances - Safety - Particular requirements for commercial electric tumble dryers	11/04/2014		
Cenelec	EN 50571:2013 Household and similar electrical appliances - Safety - Particular requirements for commercial electric washing machines	11/04/2014		
Cenelec	EN 50580:2012 Safety of hand-held electric motor operated tools - Particular requirements for spray guns	05/06/2012		
	EN 50580:2012/A1:2013	28/11/2013	Note 3	22/07/2016
Cenelec	EN 50636-2-91:2014 Household and similar electrical appliances - Safety - Part 2-91: Particular requirements for walk-behind and hand-held lawn trimmers and lawn edge trimmers IEC 60335-2-91:2008 (Modified)	13/02/2015		
Cenelec	EN 50636-2-92:2014 Household and similar electrical appliances - Safety - Part 2-92: Particular requirements for pedestrian-controlled mains-operated lawn scarifiers and aerators IEC 60335-2-92:2002 (Modified)	13/02/2015		
Cenelec	EN 50636-2-94:2014 Household and similar electrical appliances - Safety - Part 2-94: Particular requirements for scissors type grass shears IEC 60335-2-94:2008 (Modified)	13/02/2015		
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Note 1: Generally the date of cessation of presumption of conformity will be the date of withdrawal ("dow"), set by the

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Note 2.1: The new (or amended) standard has the same scope as the superseded standard. On the date stated, the superseded standard ceases to give presumption of conformity with the essential or other requirements of the relevant Union legislation.

Note 2.2: The new standard has a broader scope than the superseded standard. On the date stated the superseded standard ceases to give presumption of conformity with the essential or other requirements of the relevant Union legislation.

Note 2.3: The new standard has a narrower scope than the superseded standard. On the date stated the (partially) superseded standard ceases to give presumption of conformity with the essential or other requirements of the relevant Union legislation for those products or services that fall within the scope of the new standard. Presumption of conformity with the essential or other requirements of the relevant Union legislation for products or services that still fall within the scope of the (partially) superseded standard, but that do not fall within the scope of the new standard, is unaffected.

Note 3: In case of amendments, the referenced standard is EN CCCCC:YYYY, its previous amendments, if any, and the new, quoted amendment. The superseded standard therefore consists of EN CCCCC:YYYY and its previous amendments, if any, but without the new quoted amendment. On the date stated, the superseded standard ceases to give presumption of conformity with the essential or other requirements of the relevant Union legislation.

Certifico S.r.l.

Headquarters, Op: Via A. De Curtis 28 - 06135 Perugia - ITALY
Tel.1 +39 075 599 73 63
Tel.2 +39 075 599 73 43

www.certifico.com
info@certifico.com

Machinery Directive & Harmonised Standards

Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) with last comunication references of harmonised standards which have been generated by the HAS (Harmonised standards) database OJ 2018/C 092/01 of 09 March 2018.

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