

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 of 02 March 2021.

Edition: Ed. 8.0 - 26 March 2021 **ISBN**: 978-88-98550-24-1

Indice

Machinery Directive & Harmonised Standards	3
License and Conditions of Use	5
Changelog	6
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)	7
Introduction	8
Article 1 - Scope	14
Article 2 Definitions	15
Article 3 - Specific Directives	17
Article 4 - Market surveillance	18
Article 5 -Placing on the market and putting into service	19
Article 6 - Freedom of movement	20
Article 7 - Presumption of conformity and harmonised standards	21
Article 8 - Specific measures	22
Article 9 - Specific measures to deal with potentially hazardous machinery	23
Article 10 - Procedure for disputing a harmonised standard	24
Article 11 Safeguard clause	25
Article 12 - Procedures for assessing the conformity of machinery	26
Article 13 - Procedure for partly completed machinery	27
Article 14 - Notified bodies	28
Article 15 - Installation and use of machinery	29
Article 16 - CE marking	30
Article 17 - Non-conformity of marking	31
Article 18 - Confidentiality	32
Article 19 - Cooperation between Member States	33
Article 20 - Legal remedies	34
Article 21 - Dissemination of information	35
Article 22 - Committee	36
Article 23 - Penalties	37
Article 24 - Amendment of Directive 95/16/EC	38
Article 25 - Repeal	39
Article 26 - Transposition	40
Article 27 - Derogation	41
Article 28 - Entry into force	42
Article 29 - Addressees	43
Note	44
ANNEX I	45
1. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS	46
1.1.2. Principles of safety integration	47
1.1.3. Materials and products	48
1.1.4. Lighting	49
1.1.5. Design of machinery to facilitate its handling	50
1.1.6. Ergonomics	51
1.1.7. Operating positions	52
1.1.8. Seating	53

1.2. CONTROL SYSTEMS	54
1.2.1. Safety and reliability of control systems	54
1.2.2. Control devices	55
1.2.3. Starting	56
1.2.4. Stopping	57
1.2.4.1. Normal stop	57
1.2.4.2. Operational stop	58
1.2.4.3. Emergency stop	59
1.2.4.4. Assembly of machinery	60
1.2.5. Selection of control or operating modes	61
1.2.6. Failure of the power supply	62
1.3. PROTECTION AGAINST MECHANICAL HAZARDS	63
1.3.1. Risk of loss of stability	63
1.3.2. Risk of break-up during operation	64
1.3.4. Risks due to surfaces, edges or angles	66
1.3.5. Risks related to combined machinery	67
1.3.6. Risks related to variations in operating conditions	68
	69
1.3.7. Risks related to moving parts	70
1.3.8. Choice of protection against risks arising from moving parts	
1.3.8.1. Moving transmission parts	71 72
1.3.8.2. Moving parts involved in the process	72 72
1.3.9. Risks of uncontrolled movements	73
1.4. REQUIRED CHARACTERISTICS OF GUARDS AND PROTECTIVE DEVICES	74
1.4.1. General requirements	74
1.4.2. Special requirements for guards	75
1.4.2.1. Fixed guards	75
1.4.2.2. Interlocking movable guards	76
1.4.2.3. Adjustable guards restricting access	77
1.4.3. Special requirements for protective devices	78
1.5. RISKS DUE TO OTHER HAZARDS	79
1.5.1. Electricity supply	79
1.5.2. Static electricity	80
1.5.3. Energy supply other than electricity	81
1.5.4. Errors of fitting	82
1.5.5. Extreme temperatures	83
1.5.6. Fire	84
1.5.7. Explosion	85
1.5.8. Noise	86
1.5.9. Vibrations	87
1.5.10. Radiation	88
1.5.11. External radiation	89
1.5.12. Laser radiation	90
1.5.13. Emissions of hazardous materials and substances	91
1.5.14. Risk of being trapped in a machine	92
1.5.15. Risk of slipping, tripping or falling	93
1.5.16. Lightning	94
1.6. MAINTENANCE	95
1.6.1. Machinery maintenance	95

1.6.2. Access to operating positions and servicing points	96
1.6.3. Isolation of energy sources	97
1.6.4. Operator intervention	98
1.6.5. Cleaning of internal parts	99
1.7. INFORMATION	100
1.7.1. Information and warnings on the machinery	100
1.7.1.1. Information and information devices	101
1.7.1.2. Warning devices	102
1.7.2. Warning of residual risks	103
1.7.3. Marking of machinery	104
1.7.4. Instructions	105
1.7.4.1. General principles for the drafting of instructions	106
1.7.4.2. Contents of the instructions	107
1.7.4.3. Sales literature	109
2. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS FOR CERTAIN CATEGORIES OF MACHINERY	110
2.1. FOODSTUFFS MACHINERY AND MACHINERY FOR COSMETICS OR PHARMACEUTICAL PRODUCTS	111
2.1.1. General	111
2.1.2. Instructions	112
2.2. PORTABLE HAND-HELD AND/OR HAND-GUIDED MACHINERY	113
2.2.1. General	113
2.2.1.1. Instructions	114
2.2.2. Portable fixing and other impact machinery	115
2.2.2.1. General	115
2.2.2.2. Instructions	116
2.3. MACHINERY FOR WORKING WOOD AND MATERIAL WITH SIMILAR PHYSICAL CHARACTERISTICS	117
3. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS TO OFFSET HAZARDS DUE TO THE MOBILITY OF MACHINERY	118
3.1. GENERAL	119
3.1.1. Definitions	119
3.2. WORK POSITIONS	120
3.2.1. Driving position	120
3.2.2. Seating	121
3.2.3. Positions for other persons	122
3.3. CONTROL SYSTEMS	123
3.3.1. Control devices	124
3.3.2. Starting/moving	125
3.3.3. Travelling function	126
3.3.4. Movement of pedestrian-controlled machinery	127
3.3.5. Control circuit failure	128
3.4. PROTECTION AGAINST MECHANICAL HAZARDS	129
3.4.1. Uncontrolled movements	129
3.4.2. Moving transmission parts	130
3.4.3. Roll-over and tip-over	131
3.4.4. Falling objects	132
3.4.5. Means of access	133
3.4.6. Towing devices	134
3.4.7. Transmission of power between self-propelled machinery (or tractor) and recipient machinery	135

3.5. PROTECTION AGAINST OTHER HAZARDS	136
3.5.1. Batteries	136
3.5.2. Fire	137
3.5.3. Emissions of hazardous substances	138
3.6. INFORMATION AND INDICATIONS	139
3.6.1. Signs, signals and warnings	139
3.6.2. Marking	140
3.6.3. Instructions	141
3.6.3.1. Vibrations	141
3.6.3.2. Multiple uses	142
4. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS TO OFFSET HAZARDS DUE TO LIFTING OPERATIONS	143
4.1. GENERAL	144
4.1.1. Definitions	144
4.1.2. Protection against mechanical hazards	145
4.1.2.1. Risks due to lack of stability	145
4.1.2.2. Machinery running on guide rails and rail tracks	146
4.1.2.3. Mechanical strength	147
4.1.2.4. Pulleys, drums, wheels, ropes and chains	148
4.1.2.5. Lifting accessories and their components	149
4.1.2.6. Control of movements	150
4.1.2.7. Movements of loads during handling	151
4.1.2.8. Machinery serving fixed landings	152
4.1.2.8.1. Movements of the carrier	152
4.1.2.8.2. Access to the carrier	153
4.1.2.8.3. Risks due to contact with the moving carrier	154
4.1.2.8.4. Risk due to the load falling off the carrier	155
4.1.2.8.5. Landings	156
4.1.3. Fitness for purpose	157
4.2. REQUIREMENTS FOR MACHINERY WHOSE POWER SOURCE IS OTHER THAN MANUAL EFFORT	158
4.2.1. Control of movements	158
4.2.2. Loading control	159
4.3. INFORMATION AND MARKINGS	160
4.3.1. Chains, ropes and webbing	160
4.3.2. Lifting accessories	161
4.3.3. Lifting machinery	162
4.4. INSTRUCTIONS	163
4.4.1. Lifting accessories	163
4.4.2. Lifting machinery	164
5. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS FOR MACHINERY INTENDED FOR UNDERGROUND WORK	165
5.1. RISKS DUE TO LACK OF STABILITY	166
5.2. MOVEMENT	167
5.3. CONTROL DEVICES	168
5.4. STOPPING	169
5.5. FIRE	170
5.6. EXHAUST EMISSIONS	171
6. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS FOR MACHINERY PRESENTING	

PARTICULAR HAZARDS DUE TO THE LIFTING OF PERSONS	172
6.1. GENERAL	173
6.1.1. Mechanical strength	173
6.1.2. Loading control for machinery moved by power other than human strength	174
6.2. CONTROL DEVICES	175
6.3. RISKS TO PERSONS IN OR ON THE CARRIER	176
6.3.1. Risks due to movements of the carrier	176
6.3.2. Risk of persons falling from the carrier	177
6.3.3. Risk due to objects falling on the carrier	178
6.4. MACHINERY SERVING FIXED LANDINGS	179
6.4.1. Risks to persons in or on the carrier	179
6.4.2. Controls at landings	180
6.4.3. Access to the carrier	181
6.5. MARKINGS	182
ANNEX II	183
ANNEX III	185
ANNEX IV	186
ANNEX V	187
ANNEX VI	188
ANNEX VII	189
ANNEX VIII	191
ANNEX IX	192
ANNEX X	194
ANNEX XI	196
ANNEX XII	197
Harmonised standards March 2021	204
Harmonised standards March 2021	205

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 02.03.2021

Since 1 December 2018 the references of harmonised standards are published in, and withdrawn from the Official Journal of the European Union by means of 'Commission implementing decisions'.

The references published under Directive 2006/42/EC on Machinery are found in the Commission communication published in OJ C 092 of 9 March 2018 and in the Commission Implementing Decision (EU) 2019/436 of 18 March 2019 (OJ L 75, 19 March 2019), in the Commission implementing Decision (EU) 2019/1766 of 23 October 2019 (OJ L 1 270/94 del 24 October 2019) and in the Commission implementing Decision (EU) 2019/1863 of 6 November 2019 (OJ L 286/25 07 November 2019) listed below. They need to be read together, taking into account that the decision modifies some references published in the Communication.

- Commission Implementing Decision (EU) 2021/377 of 2 March 2021 amending Implementing Decision (EU) 2019/436 on harmonised standards for machinery drafted in support of Directive 2006/42/EC of the European Parliament and of the Council (OJ L 72/12 03 March 2021)

- Commission implementing Decision (EU) 2020/480 of 1 April 2020 amending Implementing Decision (EU) 2019/436 on harmonised standards for machinery drafted ini support of Directive 2006/42/EC of the European Parliament and of the Council (OJ L 102/6 02 April 2020)

- Commission implementing Decision (EU) 2019/1863 of 6 November 2019 amending and correcting Implementing Decision (EU) 2019/436 as regards the withdrawal of references of harmonised standards for machinery from the Official Journal of the European Union (OJ L 286/25 07 November 2019)

- Commission implementing Decision (EU) 2019/1766 of 23 October 2019 amending Implementing Decision (EU) 2019/436 as regards harmonised standard EN ISO 19085- 3:2017 for numerically controlled boring and routing machines (OJ L L 270/94 del 24 October 2019)

- Commission Implementing Decision (EU) 2019/436 of 18 March 2019 on the harmonised standards for machinery drafted in support of Directive 2006/42/EC of the European Parliament and of the Council C/2019/1932 - OJ L 75, 19 March 2019, p. 108–119

- 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) - OJ C 092 of 9 March 2018

License and Conditions of Use

Copyright development and update ebook: Certifico S.r.l Official source of information: European Commission - Official Journal of the European Union (OJEU).

Important Note

Every care has been taken in the collection and verification of information contained in this ebook.

However Certifico S.r.l. assumes no responsibility for the actual accuracy of the information contained in the eBook or resulting from its use.

The user using the shell to the information under its responsibility.

The only official source is the European Commission - Enterprise and Industry, through the publication of the Directive in the Official Journal of the European Union (OJEU).

Certifico S.r.l. reserves sales revenues for the development and update of the ebook.

The copying, disclosure, etc. are prohibited unless specifically authorized by Certifico S.r.l.

©Certifico S.r.I. - IT eng. Marco Maccarelli Headquarters, Op: via A. de Curtis n. 28 - 06135 Perugia - ITALY Tel. +39 075 599 73 63 Fax. +39 075 599 73 43

www.certifico.com info@certifico.com

Edition: Ed 8.0 - 26 March 2021 **ISBN**: 978-88-98550-24-1

Changelog

Ed. 8.0 March 2021 Ed. 7.0 December 2020 Ed. 6.0 December 2019 Ed. 5.0 August 2019 Ed. 4.0 April 2018 Ed. 3.0 June 2017 Ed. 2.0 March 2015 Ed. 1.0 April 2014



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)

Harmonised Standards

Harmonised standards March 2021