

DIN EN ISO 19085-1:2021-07 (E)

Woodworking machines - Safety - Part 1: Common requirements (ISO 19085-1:2021)

Contents		Page
European foreword		4
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered		5
Foreword		8
Introduction		10
1	Scope	11
2	Normative references	11
3	Terms and definitions	13
4	Safety requirements and measures for controls	16
4.1	Safety and reliability of control systems	16
4.2	Control devices	17
4.3	Start	17
4.3.1	Direct start	17
4.3.2	Start via control power-on	17
4.4	Safe stops	18
4.4.1	General	18
4.4.2	Normal stop	18
4.4.3	Operational stop	19
4.4.4	Emergency stop	19
4.5	Braking function of tools	19
4.6	Mode selection	20
4.7	Tool speed changing	20
4.7.1	Speed changing by shifting the belts on the pulleys	20
4.7.2	Speed changing by incremental speed change motor	21
4.7.3	Infinitely variable speed by frequency inverter	21
4.8	Failure of any power supply	21
4.9	Manual reset control	21
4.10	Standstill detection and monitoring	22
4.11	Machine moving parts speed monitoring	22
4.12	Time delay	22
4.13	Teleservice	22
5	Safety requirements and measures for protection against mechanical hazards	23
5.1	Stability	23
5.2	Risk of break-up during operation	23
5.3	Tool and tool fixing design	24
5.3.1	General	24
5.3.2	Spindle locking	24
5.3.3	Circular saw blade fixing device	24
5.3.4	Flange dimension for circular saw blades	24
5.4	Braking	24
5.4.1	Braking of tools	24
5.4.2	Maximum run-down time	25
5.4.3	Brake release	25
5.5	Safeguards	25

5.5.1	Fixed guards	25
5.5.2	Interlocking movable guards	25
5.5.3	Hold-to-run control	26
5.5.4	Two-hand control	26
5.5.5	Electro-sensitive protective equipment (ESPE)	27
5.5.6	Pressure-sensitive protective equipment (PSPE)	27
5.5.7	Enabling control	27
5.6	Prevention of access to hazardous moving parts	27
5.7	Impact hazard	28
5.8	Clamping devices	28
5.9	Measures against ejection	28
5.9.1	General	28
5.9.2	Guards materials and characteristics	29
5.10	Workpiece supports and guides	30
6	Safety requirements and measures for protection against other hazards	31
6.1	Fire	31
6.2	Noise	31
6.2.1	Noise reduction at the design stage	31
6.2.2	Noise emission measurement and declaration	32
6.3	Emission of chips and dust	32
6.4	Electricity	32
6.5	Ergonomics and handling	33
6.6	Lighting	34
6.7	Pneumatics	34
6.8	Hydraulics	34
6.9	Electromagnetic compatibility	34
6.10	Laser	34
6.11	Static electricity	34
6.12	Errors of fitting	34
6.13	Isolation	35
6.14	Maintenance	35
6.15	Relevant but not significant hazards	36
7	Information for use	36
7.1	Warning devices	36
7.2	Marking	36
7.2.1	General	36
7.2.2	Additional markings	37
7.3	Instruction handbook	37
7.3.1	General	37
7.3.2	Additional information	40
Annex A (informative) List of significant hazards		41
Annex B (informative) Performance level required		43
Annex C (normative) Stability test		44
Annex D (normative) Test for braking function		45
Annex E (normative) Impact test for guards		47
Annex F (normative) Noise test code		50
Bibliography		57