

DIN EN ISO 19085-14:2022-04 (E)

Woodworking machines - Safety - Part 14: Four-sided moulding machines (ISO 19085-14:2021)

Contents		Page
European foreword		4
Annex ZA (informative) Relationship between this International Standard and the Essential Requirements of EU Directive 2006/42/EC aimed to be covered		5
Foreword		7
Introduction		8
1	Scope	10
2	Normative references	11
3	Terms and definitions	11
4	Safety requirements and measures for controls	15
4.1	Safety and reliability of control systems.....	15
4.2	Control devices.....	15
4.3	Start.....	16
4.3.1	Direct start.....	16
4.3.2	Start via control power-on.....	16
4.3.3	Integrated feed.....	16
4.3.4	Laser marking unit.....	16
4.4	Safe stops.....	16
4.4.1	General.....	16
4.4.2	Normal stop.....	17
4.4.3	Operational stop.....	17
4.4.4	Emergency stop.....	17
4.5	Braking function of tools.....	17
4.6	Mode selection.....	17
4.6.1	MODE 2.....	17
4.6.2	MODE 3.....	17
4.7	Tool speed changing.....	19
4.7.1	Speed changing by shifting the belts on the pulleys.....	19
4.7.2	Speed changing by incremental speed change motor.....	19
4.7.3	Infinitely variable speed by frequency inverter.....	19
4.7.4	Direction of spindle rotation.....	19
4.8	Failure of any power supply.....	20
4.9	Manual reset control.....	20
4.10	Standstill detection and monitoring.....	20
4.11	Machine moving parts speed monitoring.....	20
4.12	Time delay.....	20
4.13	Tele-service.....	20
5	Safety requirements and measures for protection against mechanical hazards	21
5.1	Stability.....	21
5.2	Risk of break-up during operation.....	21
5.3	Tool and tool fixing design.....	21
5.3.1	General.....	21
5.3.2	Spindle locking.....	22
5.3.3	Circular saw blade fixing device.....	22
5.3.4	Flange dimensions for circular saw blades.....	22
5.3.5	Spindle rings.....	22
5.4	Braking.....	22

5.4.1	Braking of tools	22
5.4.2	Maximum run-down time	22
5.4.3	Brake release	22
5.5	Safeguards	22
5.5.1	Fixed guards	22
5.5.2	Interlocking moveable guards	22
5.5.3	Hold-to-run control	23
5.5.4	Two hand control	23
5.5.5	Electro-sensitive protective equipment (ESPE)	23
5.5.6	Pressure sensitive protective equipment (PSPE)	23
5.5.7	Enabling control	23
5.6	Prevention of access to hazardous moving parts	23
5.6.1	Guarding of tools	23
5.6.2	Guarding of drives	25
5.6.3	Safeguarding of feed mechanisms	26
5.7	Impact hazard	27
5.8	Clamping devices	27
5.9	Measures against ejection	28
5.9.1	General	28
5.9.2	Guards materials and characteristics	28
5.9.3	Devices to minimize the possibility or effect of ejection or kickback	28
5.10	Workpiece support and guides	33
5.10.1	General	33
5.10.2	In-feed hopper	34
5.10.3	Loading magazine	34
5.10.4	Automatic workpiece returner	35
6	Safety requirements and measures for protection against other hazards	35
6.1	Fire	35
6.2	Noise	36
6.2.1	Noise reduction at the design stage	36
6.2.2	Noise emission measurement and declaration	36
6.3	Emission of chips and dust	36
6.4	Electricity	36
6.5	Ergonomics and handling	36
6.6	Lighting	36
6.7	Pneumatics	36
6.8	Hydraulics	36
6.9	Electromagnetic compatibility	37
6.10	Laser	37
6.11	Static electricity	37
6.12	Errors of fitting	37
6.13	Isolation	37
6.14	Maintenance	37
6.15	Relevant but not significant hazards	37
7	Information for use	37
7.1	Warning devices	37
7.2	Marking	37
7.2.1	General	37
7.2.2	Additional markings	37
7.3	Instruction handbook	38
7.3.1	General	38
7.3.2	Additional information	38
	Annex A (informative) List of significant hazards	40
	Annex B (informative) Performance levels required	42
	Annex C (normative) Stability test	44
	Annex D (normative) Tests for braking function	45
	Annex E (normative) Impact test for guards	46
	Annex F (normative) Noise test code	47
	Annex G (normative) Table lip resistance test	51
- 2 -	Bibliography	54