

DIN EN ISO 19085-2:2018-02 (E)

Woodworking machines - Safety - Part 2: Horizontal beam panel circular sawing machines (ISO 19085-2:2017)

Contents

Page

European foreword.....	4
Annex ZA (informative) Relationship between this European Standard and the essential requirements of EU Directive 2006/42/EC	5
Foreword	8
Introduction.....	9
1 Scope.....	10
2 Normative references	11
3 Terms and definitions	11
4 List of significant hazards	16
5 Safety requirements and measures for controls.....	18
5.1 Safety and reliability of control systems.....	18
5.2 Control devices	18
5.3 Start.....	19
5.3.1 General.....	19
5.3.2 Operating conditions.....	20
5.4 Safe stops	20
5.4.1 General.....	20
5.4.2 Normal stop.....	21
5.4.3 Operational stop.....	21
5.4.4 Emergency stop	21
5.5 Braking function of tool spindles	21
5.6 Mode selection	21
5.7 Spindle speed changing.....	21
5.7.1 Spindle speed changing by changing belts on the pulleys	21
5.7.2 Spindle speed changing by incremental speed change motor	21
5.7.3 Infinitely variable speed by frequency inverter.....	21
5.8 Failure of any power supply.....	21
5.9 Manual reset control	22
5.10 Enabling control.....	22
5.11 Machine moving parts speed monitoring.....	22
5.12 Time delay.....	22
6 Safety requirements and measures for protection against mechanical hazards.....	22
6.1 Stability.....	22
6.1.1 Stationary machines	22
6.1.2 Displaceable machines	22
6.2 Risk of break-up during operation.....	22
6.3 Tool holder and tool design.....	22
6.3.1 General.....	22
6.3.2 Spindle locking.....	22
6.3.3 Circular saw blade fixing device.....	23
6.3.4 Flange dimension for circular saw blades	23
6.4 Braking.....	23
6.4.1 Braking of tool spindles	23
6.4.2 Maximum run-down time.....	23
6.4.3 Brake release.....	23

6.5	Safeguards.....	23
6.5.1	Fixed guards.....	23
6.5.2	Interlocking movable guards.....	23
6.5.3	Hold-to-run control.....	23
6.5.4	Two-hand control.....	23
6.5.5	Electro-sensitive protective equipment (ESPE).....	23
6.5.6	Pressure-sensitive protective equipment (PSPE).....	24
6.6	Prevention of access to moving parts.....	24
6.6.1	General.....	24
6.6.2	Guarding of tools.....	24
6.6.3	Guarding of drives.....	25
6.6.4	Guarding of shearing and/or crushing zones.....	26
6.7	Impact hazard.....	33
6.8	Clamping devices.....	34
6.9	Measures against ejection.....	34
6.9.1	General.....	34
6.9.2	Guards materials and characteristics.....	34
6.10	Work-piece supports and guides.....	34
7	Safety requirements and measures for protection against other hazards.....	35
7.1	Fire.....	35
7.2	Noise.....	35
7.2.1	Noise reduction at the design stage.....	35
7.2.2	Noise emission measurement.....	35
7.3	Emission of chips and dust.....	35
7.4	Electricity.....	35
7.4.1	General.....	35
7.4.2	Displaceable machines.....	35
7.5	Ergonomics and handling.....	35
7.6	Lighting.....	36
7.7	Pneumatics.....	36
7.8	Hydraulics.....	36
7.9	Electromagnetic compatibility.....	36
7.10	Laser.....	36
7.11	Static electricity.....	36
7.12	Errors of fitting.....	36
7.13	Isolation.....	36
7.14	Maintenance.....	36
8	Information for use.....	36
8.1	Warning devices.....	36
8.2	Marking.....	36
8.2.1	General.....	36
8.2.2	Additional markings.....	36
8.3	Instruction handbook.....	37
8.3.1	General.....	37
8.3.2	Additional information.....	37
	Annex A (informative) Performance levels required.....	39
	Annex B (normative) Test for braking function.....	40
	Annex C (normative) Stability test for displaceable machines.....	41
	Annex D (normative) Impact test for guards.....	42
	Annex E (normative) Noise emission measurement for machines not in ISO 7960:1995.....	43
	Annex F (normative) Rigidity tests for sectional safety curtain material.....	44