

DIN EN ISO 19085-7:2019-10 (E)

Woodworking machines - Safety - Part 7: Surface planing, thickness planing, combined surface/thickness planing machines (ISO 19085-7:2019)

Contents		Page
European foreword.....		5
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered		6
Foreword		9
Introduction		10
1	Scope	11
2	Normative references	12
3	Terms and definitions	12
4	List of significant hazards	17
5	Safety requirements and measures for controls	19
5.1	Safety and reliability of control systems	19
5.2	Control devices.....	19
5.3	Start.....	22
5.4	Safe stops.....	22
5.4.1	General.....	22
5.4.2	Normal stop	22
5.4.3	Operational stop.....	22
5.4.4	Emergency stop.....	22
5.5	Braking function of tool spindles	23
5.6	Mode selection	23
5.7	Spindle speed changing.....	23
5.7.1	Spindle speed changing by changing belts on the pulleys.....	23
5.7.2	Spindle speed changing by incremental speed change motor.....	23
5.7.3	Infinitely variable speed change by frequency inverter.....	23
5.8	Failure of any power supply.....	23
5.9	Manual reset control.....	23
5.10	Enabling control	23
5.11	Machine moving part speed monitoring.....	23
5.12	Time delay	23
5.13	Power-operated adjustment of tables.....	23
6	Safety requirements and measures for protection against mechanical hazards	24
6.1	Stability.....	24
6.1.1	Stationary machines.....	24
6.1.2	Displaceable machines.....	24
6.2	Risk of break-up during operation	24
6.3	Tool holder and tool design.....	24
6.3.1	General.....	24
6.3.2	Spindle locking.....	24
6.3.3	Circular saw blade fixing device	24
6.3.4	Flange dimension for circular saw blades	24
6.4	Braking.....	25
6.4.1	Braking of tool spindles.....	25

6.4.2	Maximum run-down time	25
6.4.3	Brake release	25
6.5	Safeguards	25
6.5.1	Fixed guards	25
6.5.2	Interlocking moveable guards	25
6.5.3	Hold-to-run control.....	25
6.5.4	Two-hand control	25
6.5.5	Electro-sensitive protective equipment (ESPE)	25
6.5.6	Pressure sensitive protective equipment (PSPE)	25
6.6	Prevention of access to moving parts.....	26
6.6.1	General	26
6.6.2	Guarding of tools.....	26
6.6.3	Guarding of drives.....	29
6.6.4	Guarding of shearing and/or crushing zones.....	29
6.7	Impact hazard	29
6.8	Clamping devices	29
6.9	Measures against ejection	29
6.9.1	General	29
6.9.2	Guards material and characteristics	30
6.9.3	Anti-kickback devices	30
6.10	Work-piece supports and guides	31
6.10.1	General	31
6.10.2	Surface planing tables.....	32
6.10.3	Thickening table	33
6.10.4	Mortising table.....	33
6.10.5	Work-piece guiding during surface planing	34
6.10.6	Work-piece guiding during thickness planing.....	35
6.11	Safety appliances	35
7	Safety requirements and measures for protection against other hazards.....	36
7.1	Fire	36
7.2	Noise.....	36
7.2.1	Noise reduction at the design stage	36
7.2.2	Noise emission measurement	36
7.3	Emission of chips and dust	36
7.4	Electricity.....	37
7.4.1	General	37
7.4.2	Displaceable machines	37
7.5	Ergonomics and handling.....	37
7.6	Lighting.....	37
7.7	Pneumatics.....	37
7.8	Hydraulics	37
7.9	Electromagnetic compatibility	38
7.10	Laser	38
7.11	Static electricity.....	38
7.12	Errors of fitting.....	38
7.13	Isolation	38
7.14	Maintenance	38
8	Information for use.....	38
8.1	Warning devices.....	38
8.2	Marking	38
8.2.1	General	38
8.2.2	Additional markings.....	38

8.3	Instruction handbook.....	38
8.3.1	General.....	38
8.3.2	Additional information	38
	Annex A (informative) Performance levels required.....	40
	Annex B (normative) Test for braking function.....	41
	Annex C (normative) Stability test for displaceable machines.....	42
C.1	Stability test for surface planing machine and combined surface/thickness planing machine in surface planing mode	42
C.2	Stability test for combined surface/thickness planing machine in thicknessing mode....	42
C.3	Stability test for thickness planing machine	43
	Annex D (normative) Impact test for guards.....	45
	Annex E (normative) Noise emission measurement for machines not in ISO 7960:1995	46
	Annex F (normative) Tests for bridge-type guards.....	47
F.1	Compression test.....	47
F.2	Shock test	47
F.3	Strength test for bridge-type guard.....	47
	Annex G (normative) Surface planing machines table lips resistance test	49
G.1	General.....	49
G.2	Work-piece	49
G.3	Measurements.....	50
G.4	Test.....	50
G.5	Result.....	51
	Annex H (normative) Kickback test.....	52
	Bibliography.....	53