

DIN EN ISO 19085-12/A11:2023-07 (E)

Woodworking machines - Safety - Part 12: Tenoning/profiling machines (ISO 19085-12:2021)

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		8
Introduction		9
1	Scope	10
2	Normative references	11
3	Terms and definitions	12
4	List of significant hazards	21
5	Safety requirements and measures for controls	23
5.1	Safety and reliability of control systems.....	23
5.2	Control devices.....	23
5.2.1	General.....	23
5.2.2	Additional requirements for single end tenoning machines with manual feed sliding table.....	23
5.2.3	Additional requirements for single end tenoning machines with mechanical feed sliding table.....	23
5.2.4	Additional requirements for single end tenoning and/or profiling machines with mechanical feed.....	23
5.2.5	Additional requirements for double end machines.....	24
5.2.6	Additional requirements for angular systems for tenoning and profiling with mechanical feed.....	24
5.3	Start.....	24
5.3.1	Machines with manual feed.....	24
5.3.2	Machines with mechanical feed.....	24
5.3.3	Laser marking unit.....	25
5.4	Safe stops.....	25
5.4.1	General.....	25
5.4.2	Normal stop.....	25
5.4.3	Operational stop.....	26
5.4.4	Emergency stop.....	26
5.5	Braking function of tool spindles.....	26
5.6	Mode selection.....	26
5.6.1	General.....	26
5.6.2	Adjustment mode (MODE 2).....	26
5.7	Spindle speed changing.....	27
5.7.1	Spindle speed changing by changing belts on the pulleys.....	27
5.7.2	Spindle speed changing by incremental speed change motor.....	27
5.7.3	Infinitely variable speed by frequency inverter.....	27
5.8	Failure of any power supply.....	27
5.9	Manual reset control.....	27
5.10	Enabling control.....	27
5.11	Machine moving parts limited speed monitoring.....	27
5.12	Time delay.....	27
5.13	Tele-service.....	28

6	Safety requirements and measures for protection against mechanical hazards	28
6.1	Stability	28
6.1.1	Stationary machines	28
6.1.2	Displaceable machines	28
6.2	Risk of break-up during operation	28
6.3	Tool holder and tool design	29
6.3.1	General	29
6.3.2	Spindle locking	29
6.3.3	Circular saw blade fixing devices	29
6.3.4	Flange dimensions for circular saw blades	29
6.3.5	Spindle rings	29
6.4	Braking	30
6.4.1	Braking of tool spindle	30
6.4.2	Maximum run-down time	30
6.4.3	Brake release	30
6.5	Safeguards	30
6.5.1	Fixed guards	30
6.5.2	Interlocking moveable guards	30
6.5.3	Hold-to-run control	30
6.5.4	Two hand control	30
6.5.5	Electro-sensitive protective equipment (ESPE)	31
6.5.6	Pressure sensitive protective equipment (PSPE)	31
6.6	Prevention of access to moving parts	31
6.6.1	General	31
6.6.2	Guarding of tools	31
6.6.3	Guarding of drives	36
6.6.4	Guarding of shearing and/or crushing zones	37
6.7	Impact hazard	42
6.8	Clamping devices	42
6.8.1	Single end tenoning machines with sliding table	42
6.8.2	Machines other than single end tenoning machines with sliding table	42
6.9	Measures against ejection	43
6.9.1	General	43
6.9.2	Guards materials and characteristics	43
6.9.3	Devices to minimize the possibility or effect of ejection or kickback	43
6.10	Work-piece support and guides	45
6.10.1	Single end tenoning machines with sliding table	45
6.10.2	Single end tenoning and/or profiling machines with mechanical feed	45
6.10.3	Double end tenoning and/or profiling machines with mechanical feed	46
6.10.4	Angular systems for tenoning and profiling with mechanical feed	46
6.10.5	Work-piece returner	46
	Safety requirements and measures for protection against other hazards	47
7.1	Fire	47
7.2	Noise	48
7.2.1	Noise reduction at the design stage	48
7.2.2	Noise emission measurement	48
7.3	Emission of chips and dust	48
7.4	Electricity	48
7.4.1	General	48
7.4.2	Displaceable machines	48
7.5	Ergonomics and handling	48
7.6	Lighting	49
7.7	Pneumatics	49
7.8	Hydraulics	49
7.9	Electromagnetic compatibility	49
7.10	Laser	49
7.11	Static electricity	49
7.12	Errors of fitting	49
7.13	Isolation	49
7.14	Maintenance	50
7.15	Heat	50
7.16	Substances	50

8	Information for use	50
8.1	Warning devices.....	50
8.2	Marking.....	50
	8.2.1 General.....	50
	8.2.2 Additional markings.....	50
8.3	Instruction handbook.....	51
	8.3.1 General.....	51
	8.3.2 Additional information.....	51
	Annex A (informative) Performance levels required	53
	Annex B (normative) Tests for braking function	55
	Annex C (normative) Stability test for displaceable machines	56
	Annex D (normative) Impact test for guards	57
	Annex E (normative) Noise emission measurement for single end profiling machines (not in ISO 7960:1995)	58
	Bibliography	62