



SLOVENSKI STANDARD SIST EN 859:2000

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Safety of woodworking machines - Handfed surface planing machines

Safety of woodworking machines - Handfed surface planing machines

Sicherheit von Holzbearbeitungsmaschinen - Abrichthobelmaschinen mit Handvorschub

Sécurité des machines pour le travail du bois - Machines à dégauchir à avance manuelle

Ta slovenski standard je istoveten z: EN 859:1997

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EUROPEAN STANDARD

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Safety of woodworking machines - Handfed surface planing machines

Sécurité des machines pour le travail du bois
- Machines à dégauchir à avance manuelle

Sicherheit von Holzbearbeitungsmaschinen -
Abricht Hobelmaschinen mit Handvorschub

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CEN

European Committee for Standardization
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 142 "Woodworking machines - Safety", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 1998, and conflicting national standards shall be withdrawn at the latest by January 1998.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

Organisation contributing to the preparation of the European Standard include the European Association of Manufacturer of Woodworking Machines "EUMABOIS".

Normative and informative annexes to this standard are indicated in the contents list.

The European standards prepared by CEN/TC 142 are particular to woodworking machines and complement the relevant A and B standards on the subject of general safety (see introduction of EN 292-1:1991 for a description of A, B and C standard).

Common requirements for tooling are given in EN 847-1:1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This European standard has been prepared to be a harmonised standard to provide one means of conforming to the essential safety requirements of the Machinery Directive, and associated EFTA regulations and is a type C standard as defined in EN 292:1991.

The extent to which hazards are covered is indicated in the scope of this standard.

The requirements of this European standard concern designers, manufacturers, suppliers and importers of handfed surface planing machines.

This European standard also includes information to be provided by the manufacturers to the users.

1 Scope

This European standard specifies out the requirements and/or measures to remove the hazards and limit the risk on hand fed surface planing machines hereinafter referred to as "machines" designed to cut solid wood, chipboard, fibreboard,

plywood and also these materials where they are covered with plastic laminate or edgings.

Electrically driven machines excluded from the scope of this standard are covered by the requirements of EN 61029-1:1995 or EN 50144-1: 1995 and prEN 61029-2-3: 1996.

This European standard covers all the hazards relevant to this machine. These hazards are listed in clause 4.

This European Standard does not apply to machines set up on a bench or a table similar to a bench which are intended to carry out work in a stationary position and capable of being lifted by one person.

This European standard applies to hand fed surface planing machines which can or can not be designed to be used with a demountable power feed unit.

This European standard applies to woodworking machines fixed in position during working. This includes machines which are fixed whilst working but transportable by the operator from one workstation to another.

This European standard does not apply to hand held woodworking machines or any adaptation permitting their use in a different mode i.e. bench mounting.

This European standard is primarily applicable to machines which are manufactured after the date of issue of this European standard.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 292-1	1991	Safety of machines - Basic concepts, general principles for design - Part 1 : basic terminology, methodology.
EN 292-2	1991	Safety of machines - Basic concepts, general principles for design - Part 2 : technical principles and specifications.
EN 292-2/A1	1995	
EN 294	1992	Safety of machinery - Safety distances to prevent danger zones being reached by upper limbs.
EN 847-1	1997	Tools for woodworking - Safety requirements - Part 1 : Milling tools, circular saw blades.
prEN 953	1992	Safety of machinery - General requirements for the design and construction of guards (fixed, movable).
EN 982	1996	Safety of machinery - Safety requirements for fluid power systems and their components - Hydraulics.

EN 1088	1995	Safety of machinery - Interlocking devices associated with guards - Principles for design and selection.
EN ISO 3743-2	1996	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering methods for small, movable sources in reverberant fields - Part 2 : Methods for special reverberant test rooms (ISO 3743-2:1994).
EN ISO 3743-1	1995	Acoustics - Determination of sound power levels of noise sources - Engineering methods for small, movable sources in reverberant fields - Part 1 : Comparison method for hard - walled test rooms (ISO 3743-1:1994).
EN ISO 3744	1995	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994).
ISO 3745	1977	Acoustics - Determination of sound power levels of noise sources - Precision methods for anechoic and semi-anechoic rooms.
EN ISO 3746	1995	Acoustics - Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:1995).
EN ISO 9614-1	1995	Acoustics - Determination of sound power levels of noise sources using sound intensity - Part 1 : Measurement at discreet points (ISO 9614-1:1993).
EN ISO 11202	1995	Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a work station and at other specified positions - Survey method in situ (ISO 11202:1995).
EN ISO 11204	1995	Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a work station and at other specified positions - Method requiring environmental corrections (ISO 11204:1995).
ISO TR 11688-1	1995	Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1 : Planning.
EN 50144-1	1995	Safety of hand held electric motor operated tools - Part 1: general requirements
EN 60204-1	1992	Safety of machinery - Electrical equipment of machines - Part 1 : General requirements (IEC 204-1:1992, modified).
prEN 60227-1		Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 1 : General requirements.

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prEN 60245-1		Rubber insulated cables of rated voltages up to and including 450/750 V - Part 1 : General requirements.
EN 60529	1991	Degrees of protection provided by enclosures (IP code) (IEC 529:1989).
EN 60947-4-1	1992	Low voltage switchgear and controlgear - Part 4 : contactors and motors-starters - Section 1 : Electromechanical contactors and motor-starters (IEC 947-4-1:1990).
EN 60947-5-1	1991	Low-voltage switchgear and controlgear - Part 5 : Control circuits devices and switching elements - Section 1 : Electromechanical control circuit devices (IEC 947-5-1:1990).
EN 60439-1 prA11	1995	Low voltage switchgear and control gear assemblies - Part 1 : Type tested and partially type tested assemblies.
EN 61029-1	1995	Safety of transportable motor operated electric tools - Part 1: General requirements (IEC 1029-1:1990, modified).
prEN 61029-2-3	1996	Safety of transportable motor operated electric tools - Part 2 - Section 3: Particular requirements for planers and thicknessers.
ISO 7571	1986	Woodworking machines - Surface planing machines with cutterblock for one-side dressing - Nomenclature and acceptance conditions.
ISO 7960	1995	Airborne noise emitted by machine tools - Operating conditions for woodworking machines.

3 Definitions and terminology

3.1 Definitions

For the purposes of this standard the following definitions apply :

3.1.1 handfed surface planing machine

A machine designed to plane the surface of wood and similar materials by means of a horizontal rotating tool located between two tables which are used to position and support the workpiece. The lower surface of the workpiece is planed.

3.1.2 cutterblock

The machine component designed to hold the cutting knives or cutting blades.

3.1.3 tool

A complex tool as described in EN 847-1:1997 which consists of the cutterblock, the cutting blades and their fixings.

3.1.4 hand feed

The manual holding and/or guiding of the workpiece. Hand feed includes the use of a demountable power feed unit.

3.1.5 demountable power feed unit

A feed mechanism which is mounted on the machine that can be moved from its working position without the use of a spanner or similar additional device.

3.1.6 éjection

The unexpected movement of the workpiece, parts of it or part of the machine from the machine during processing.

3.1.7 kickback

A particular form of ejection describing the unexpected movement of the workpiece or parts of it or parts of the machine opposite to the direction of feed during processing.

3.1.8 run-up time

The elapsed time from the actuation of the start control device until the spindle reaches the actual speed related to the intended speed.

3.1.9 rundown time

The elapsed time from the actuation of the stop control device to spindle stand still.

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3.1.10 operator position

The position in which the operator stands to feed the workpiece to the tool.

3.1.11 confirmation

Statement, sales literature, leaflets or other documents, where a manufacturer (or supplier) declares either the characteristics or the compliance of the material or product to a relevant standard.

3.1.12 machine actuator

A power mechanism used to effect motion of the machine.

3.1.13 transportable machine

Machine which is located on the floor, stationary during use, and equipped with a device, normally wheels, which allows it to be moved between locations.

3.2 Terminology

The names of the main parts of the machine are shown in table 1 and figure 1.

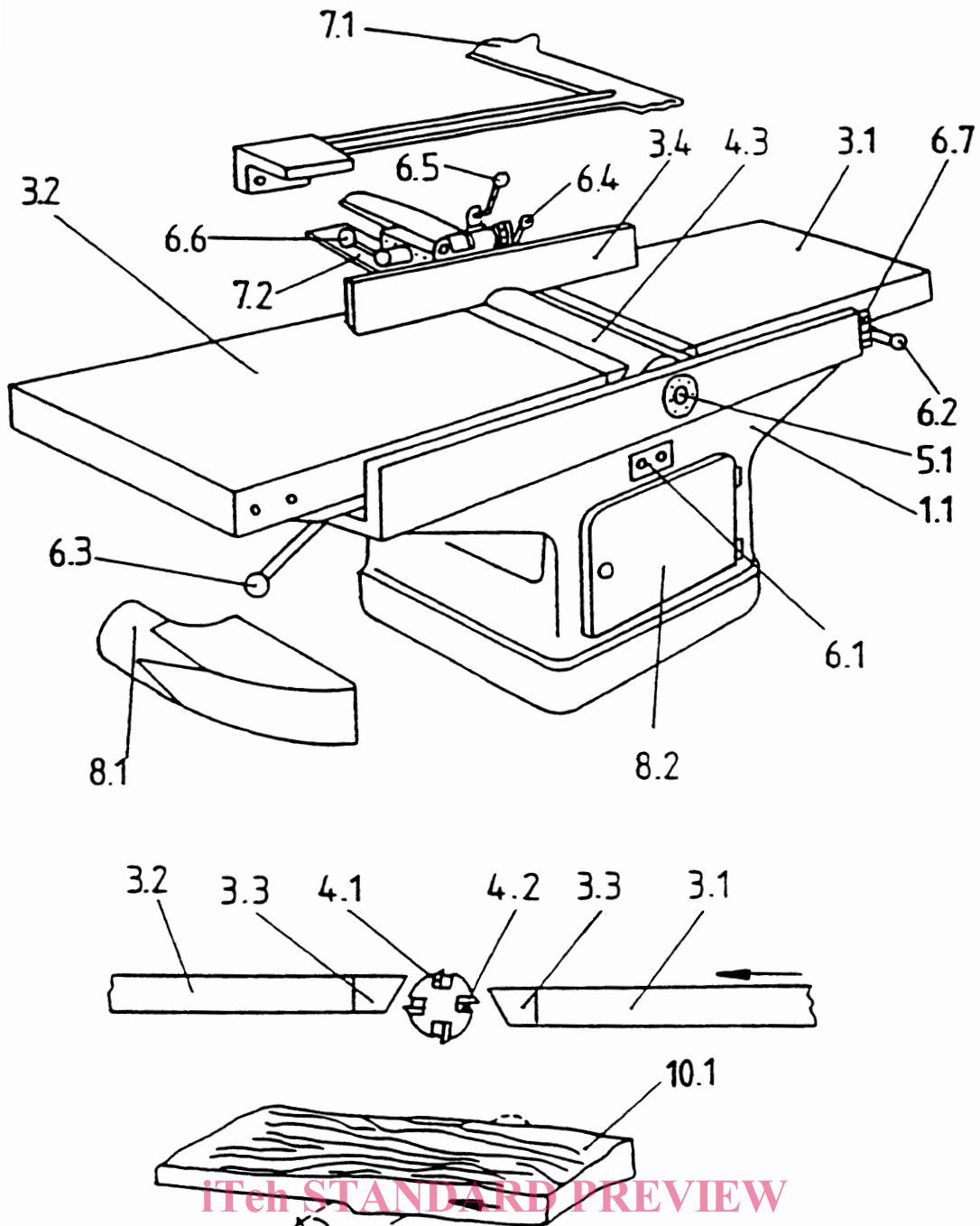
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Table 1 : Main components of hand fed surface planing machines

	English	French	German
Reference	Surface planing machines with cutterblock for one side dressing	Machines à dégauchir sur une face avec porte-outil cylindrique à lames	Abrichtobelmaschine mit Messerwelle für einseitige Bearbeitung
1	Framework	Ossature	Ständer
1.1	Mainframe	Bâti	Gestell
	Workpiece support and clamp guide	Support, maintien et guidage des pièces	Werkstückauflage, -halterung und -führung
3.1	Infeed table	Table d'entrée	Aufgabetisch
3.2	Outfeed table	Table de sortie	Abnahmetisch
3.3	Table lip plates	Lèvres des tables	Tischlippen
3.4	Canting fence	Guide inclinable	Schrägstellbarer Fügeanschlag
	Tool holders and tools	Porte-outils et outils	Werkzeugträger und Werkzeug
4.1	Blade	Lame	Streifenhobelmesser
4.2	Cutterblock wedge	Coin de blocage de la lame	Messerkeilleiste
4.3	Cutterblock	Broche porte-outil	Hobelmesserwelle
5	Workheads and tool drives	Unité de travail et son entraînement	Einbauteile und Teil für den Werkzeugantrieb
5.1	Cutterblock bearing	Palier de roulement	Hobelmesserwellenlager
6	Controls	Commandes	Stellteile
6.2	Starting switch	Commutateur	Elektrischer Schalter
6.3	Infeed table vertical adjustment	Réglage vertical de la table d'entrée	Höhenverstellung des Aufgabetisches
6.4	Outfeed table vertical adjustment	Réglage vertical de la table de sortie	Höhenverstellung des Abnahmetisches
6.5	Fence canting adjustment	Réglage d'inclinaison du guide	Einstellung der Fügeanschlagneigung
6.6	Fence canting lock	Verrouillage de l'inclinaison du guide	Blockierung der Fügeanschlagneigung
6.7	Fence traverse lock	Verrouillage du déplacement du guide	Blockierung der Fügeanschlagverstellung
6.7	Infeed table adjustment scale	Graduation du réglage micrométrique de la table d'entrée	Höhenanzeige des Aufgabetisches
	Safety devices	Dispositifs de sécurité	Sicherheitseinrichtungen
7.1	Cutterblock guard (bridge type)	Protecteur du porte-outil	Vordere Messerwellenverdeckung
7.2	Cutterblock rear guard	Protecteur arrière du porte-outil	Hinterere Messerwellenverdeckung
8.1			
8.2	Miscellaneous	Divers	Verschiedenes
	Dust extraction hood	Buse d'aspiration	Absaugstutzen
	Access door to control gear	Porte d'accès aux organes mécaniques	Tür für die Maschinenwartung
	Examples of work	Exemples de travail	Arbeitsbeispiele
10.1	Planing	Dégauchissage	Abrichten



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Figure 1

4 List of hazards

This European standard deals with all the hazards relevant to the machines defined in the scope :

- for significant hazards by defining safety requirements and/or measures or by reference to relevant type B standards ;
- for hazards which are not significant e.g. general, minor or secondary hazards see relevant type A standards especially parts 1 and 2 of EN 292:1991.

These hazards are listed in table 2 in accordance with annex A of EN 292-2:1991/A1:1995.

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Table 2 : List of hazards

Hazard	Relevant clause of this standard
1.Mechanical hazards (caused for example by : - shape - relative location - mass and stability (potential energy of elements) - mass and velocity (kinetic energy of elements) - inadequacy of the mechanical strength - accumulation of potential energy by : . elastic elements (springs), or . liquids or gases under pressure, or . vacuum of the machine parts or workpieces	
1.1 Crushing hazard	5.2.7
1.2 Shearing hazard	5.2.7
1.3 Cutting or severing hazard	5.2.7
1.4 Entanglement hazard	5.2.7
1.5 Drawing in or trapping hazard	5.2.7
1.6 Impact hazard	Not relevant
1.7 Stabbing or puncture hazard	Not relevant
1.8 Friction or abrasion hazard	Not relevant
1.9 High pressure fluid injection hazard	Not relevant
1.10 Ejection of parts (of machinery and processed materials/workpieces)	5.2.3
1.11 Loss of stability of machinery and machine parts	5.2.1
1.12 Slip, trip and fall hazards in relationship with machinery (because of their mechanical nature)	Not relevant

(continued)

Hazard	Relevant clause of this standard
2. Electrical hazards, caused for example by : 2.1 Electrical contact (direct or indirect) 2.2 Electrostatic phenomena 2.3 Thermal radiation or other phenomena such as ejection of molten particles, and chemical effects from short circuits, overloads, etc. 2.4 External influences on electrical equipment	5.3.4 Not relevant Not relevant 5.3.12
3. Thermal hazards resulting in : 3.1 Burns and scalds, by a possible contact of persons, by flames or explosions and also by the radiation of heat sources 3.2 Health damaging effects by hot or cold work environment	Not relevant Not relevant
4. Hazards generated by noise, resulting in : 4.1 Hearing loss (deafness), other physiological disorders (e.g. loss of balance, loss or awareness) 4.2 Interference with speech communication, acoustic signals, etc.	5.3.2 Not relevant
5. Hazards generated by vibration (resulting in variety of neurological and vascular disorders)	Not relevant
6. Hazards generated by radiation, especially by : 6.1 Electrical arcs 6.2 Lasers 6.3 Ionising radiation sources 6.4 Machines making use of high frequency electro magnetic fields	Not relevant Not relevant Not relevant Not relevant
7. Hazards generated by materials and substances processed, used or exhausted by machinery for example : 7.1 Hazards resulting from contact or inhalation of harmful fluids, gases, mists, fumes and dusts	5.3.3

(continued)