



SLOVENSKI STANDARD

SIST EN 12750:2002

01-januar-2002

Safety of woodworking machines - Four-sided moulding machines

Safety of woodworking machines - Four-sided moulding machines

Sicherheit von Holzbearbeitungsmaschinen - Fräsmaschinen für vierseitige Bearbeitung

Sécurité des machines pour le travail du bois - Machines à moulurer sur quatre faces

Ta slovenski standard je istoveten z: EN 12750:2001

SIST EN 12750:2002
<https://standards.iteh.ai/catalog/standards/sist/d89651c6-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

ICS:

79.120.10 Lesnoobdelovalni stroji Woodworking machines

SIST EN 12750:2002

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12750:2002

<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

ICS 79.120.10

English version

Safety of woodworking machines - Four-sided moulding machines

Sécurité des machines pour le travail du bois - Machines à moulurer sur quatre faces

Sicherheit von Holzbearbeitungsmaschinen - Fräsmaschinen für vierseitige Bearbeitung

This European Standard was approved by CEN on 4 June 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

SIST EN 12750:2002

<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

CONTENTS

	page
Foreword	3
Introduction	3
1 Scope	3
2 Normative references	4
3 Terms and definitions	6
4 List of hazards	10
5 Safety requirements and/or measures	13
5.1 Controls	13
5.2 Protection against mechanical hazards	18
5.3 Protection against non-mechanical hazards.....	28
6 Information for use	32
6.1 Warning devices	32
6.2 Marking	32
6.3 Instruction handbook	32
Annex A (informative) Example of a safety related control system	35
Annex B (normative) Spindle specifications	36
Annex C (normative) Table lip resistance test	37
Annex D (informative) Safe working practice	41
Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives	43

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12750:2002
<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

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 2002, and conflicting national standards shall be withdrawn at the latest by January 2002.

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.

Organisations contributing to the preparation of this European Standard include European Committee of Woodworking Machinery Manufacturers Association "EUMABOIS".

The annexes B and C are normative, the annexes A, D and ZA are informative.

The European Standards produced by CEN/TC142 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 standards).

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.

[SIST EN 12750:2002](https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002)

<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

Introduction

This European Standard 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 European Standard.

The requirements of this European Standard concern designers, manufacturers, suppliers and importers of four-sided moulding machines.

This European Standard also includes information which the manufacturer shall provide to the user.

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

1 Scope

This European Standard specifies the requirements and/or measures to remove the hazards and limit the risks on four-sided moulding machines with a maximum working width of 350 mm hereafter referred to as "machines" designed to cut solid wood, chipboard, fibreboard, plywood and also these materials where these are covered with plastic laminate or edgings.

This European Standard covers the hazards relevant to this machine as listed in clause 4.

For Computer Numerically Controlled machines (CNC) this European Standard does not cover hazards related to Electro-Magnetic Compatibility (EMC).

EN 12750:2001 (E)

This European Standard does not apply to :

- a) hazards relating to infeed devices (magazines, hoppers, etc.);
- b) machines designed for machining logs which have not previously been machined.

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 (including amendments).

EN 292-1 :	1991	Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology
EN 292-2 :	1991	Safety of machinery - Basic concepts, general principles for design - Part 2:
EN 292-2/A1 :	1995	Technical principles and specifications
EN 294 :	1992	Safety of machinery – Safety distances to prevent danger zones being reached
EN 418 :	1992	Safety of machinery – Emergency stop equipment; functional aspects - Principles for design
EN 847-1 :	1997	Tools for woodworking – Safety requirements - Part 1: Milling tools, circular saw blades
EN 953 :	1997	Safety of machinery – Guards - General requirements for the design and construction of fixed and movable guards
EN 954-1 :	1996	Safety of machinery - Safety related parts of control systems - Part 1: General principles for design
EN 982 :	1996	Safety requirements for fluid power systems and components – Hydraulics
EN 983 :	1996	Safety requirements for fluid power systems and components - Pneumatics
EN 1088 :	1995	Safety of machinery – Interlocking devices associated with guards – Principles for design and selection
EN 20354 :	1993	Acoustics – Measurement of sound absorption in a reverberation room (ISO 354:1985)
EN 60204-1 :	1992	Safety of machinery – Electrical equipment of machines - Part 1 : General requirements (IEC 204-1:1992, modified)
EN 60529 :	1991	Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)

EN 60947-4-1 :	1992	Low voltage switchgear and control gear - Part 4: Contactors and motor starters – Section 1 : Electromechanical contactors and motor starters (IEC 60947-4-1:1990)
EN 60947-5-1 :	1997	Low voltage switchgear and control gear - Part 5-1: Control circuit devices and switching elements - Electro-mechanical control circuit devices (IEC 60947-5-1:1990)
EN ISO 3741 :	1999	Acoustics – Determination of sound power levels of noise sources using sound pressure – Precision methods for broad-band sources in reverberation rooms (ISO 3741:1999)
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 3743-2 :	1996	Acoustics – Determination of sound power levels of noise sources - Engineering methods for small, movable sources in reverberant fields - Part 2: Method for special reverberation test rooms (ISO 3743-2:1994)
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)
EN ISO 3746 :	1995	Acoustics – Determination of sound power levels of noise sources using sound pressure – Survey method employing an enveloping measurement surface over a reflecting plane (ISO 3746:1995)
EN ISO 4871 :	1996	Acoustics – determination and verification of noise emission values of machinery and equipment (ISO 4871:1996)
EN ISO 9614-1 :	1995	Acoustics – Determination of sound power levels of noise sources using sound intensity - Part 1 : Measurement at discrete points (ISO 9614-1:1993)
EN ISO 11202 :	1995	Acoustics - Noise emitted by machinery and equipment – Survey method for the measurement of emission sound pressure levels at the workstation and at other specified positions - Survey method in situ (ISO 11202:1995)
EN ISO 11204 :	1995	Acoustics - Noise emitted by machinery and equipment –Determination of emission sound pressure levels at the workstation and at other specified positions - Method requiring environmental corrections (ISO 11204:1995)
EN ISO 11688-1 :	1998	Acoustics – Recommended practice for the design of low-noise machinery and equipment – Part 1 : Planning (ISO/TR 11688-1:1995)
ISO 230-1 :	1998	Test code for machine tools – Part 1: Geometric accuracy of machines operating under no-load or finishing conditions
ISO 3745 :	1977	Acoustics – Determination of sound power levels of noise sources - Precision methods for anechoic and semi anechoic rooms
ISO 7960 :	1995	Airborne noise emitted by machine tools - Operating conditions for woodworking machines

EN 12750:2001 (E)

- HD 21.1 S3 : 1997 Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 1: General requirements
- HD 22.1 S3 : 1997 Rubber insulated cables of rated voltage up to and including 450/750 V - Part 1: General requirements

3 Terms and definitions

For the purposes of this European Standard the following terms and definitions apply :

3.1

four-sided moulding machine

a machine where the workpiece once loaded manually or by magazine, moves by an integrated feed mechanism. Machines where the first feed roller is beyond the first tool are, for the purpose of this European Standard, integrated fed machines. The machine has at least four work units, one on each side, with rotating planing or moulding tools. The tool spindles have horizontal and/or vertical axes which can be adjusted manually or under power

The machine can be fitted with additional work units such as universal spindles or glass bead saw units.

3.2

universal spindle

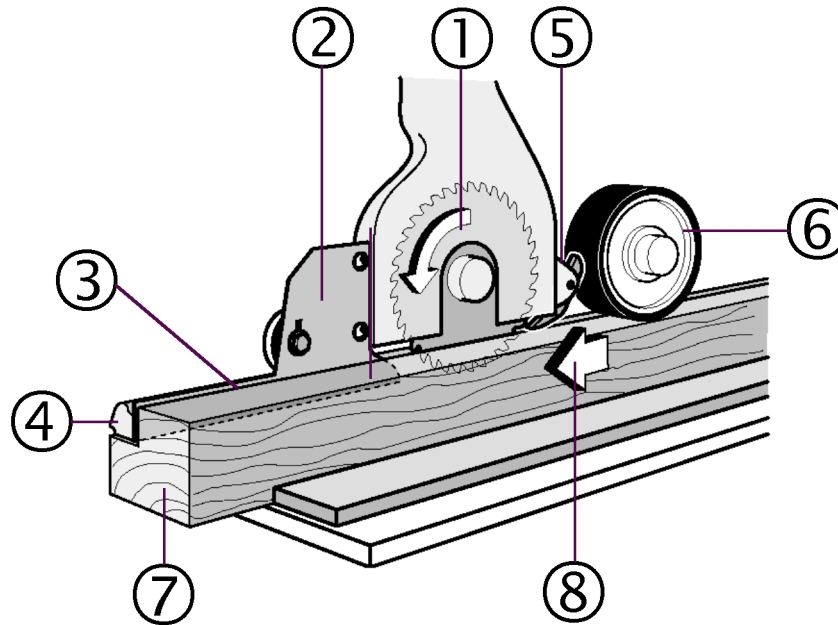
work unit, the position of which can be changed manually or under power so as to allow it to work at different positions around the workpiece

3.3

glass bead saw unit

work unit fitted with a sawblade to cut out a glass bead from the machined profile of the workpiece (e.g. see Figure 1)

SIST EN 12750:2002
<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

**Key**

- 1 Glass bead sawblade
- 2 Riving knife
- 3 Guiding channel for bead ledge
- 4 Bead ledge
- 5 Anti-kickback finger
- 6 Feed roller
- 7 Workpiece
- 8 Feed direction

<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-8e19c3c8b12e/en-12750-2001>

Figure 1 - Example of a glass bead saw unit

3.4**hydraulic tool fixing device**

device for clamping the tool to the spindle using hydraulic pressure

3.5**integrated feed**

feed mechanism for the workpiece or tool which is integrated with the machine and where the workpiece or machine element with incorporated tool are held and controlled mechanically during the machining operation

3.6**loading the machine**

operation where the workpiece is manually or automatically placed on to a carriage, magazine, lift, hopper, movable bed, conveyor or the presentation of the workpiece to an integrated feed device

3.7**cutting against the feed**

when the relative rotational direction of the tool cutting point is opposite to the direction of the feed

3.8**climb cutting**

when the relative rotational direction of the tool cutting point is in the same direction as the feed

EN 12750:2001 (E)

3.9

cutting area of the tool

area of the tool involved in the cutting process

3.10

non-cutting area of the tool

area of the tool which is not involved in the cutting process

3.11

machine actuator

power mechanism used to effect motion of a machine

3.12

ejection

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

3.13

kickback

particular form of ejection describing the unexpected movement of the workpiece, part of it (or part of the machine) opposite to the direction of feed during processing

NOTE The words in brackets are not applicable to this machine.

3.14

anti-kickback device

device which either reduces the possibility of kickback or arrests the motion during kickback of the workpiece or parts of it (or parts of the machine, see Figure 1)

[SIST EN 12750:2002](#)

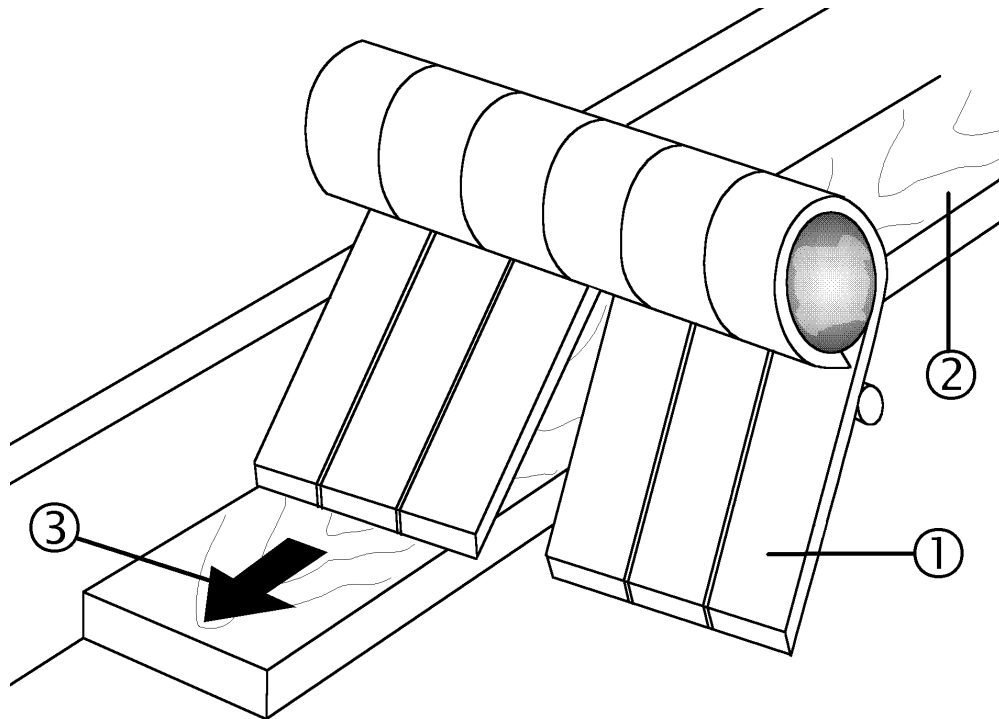
NOTE The words in brackets are not applicable to this machine.

<https://standards.iteh.ai/catalog/standards/sist/d81155b-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

3.15

catching finger device

device designed to prevent the ejection of divided workpieces (see Figure 2)

**Key**

- 1 Catching finger
 2 Workpiece
 3 Feed direction

Figure 2 - Example of catching fingers

[SIST EN 12750:2002](https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002)

<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

3.16**run-up time**

time elapsed from the actuation of the start control device until the spindle reaches its intended speed

3.17**run-down time**

time elapsed from the actuation of the stop control device up to complete spindle standstill

3.18**speed range**

maximum and minimum speeds within which the tool spindle or tool is designed to operate

3.19**confirmation**

statements, 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

3.20**integral enclosure**

guarding designed to fit close to the machine and provide a measure of sound attenuation and where certain setting adjustments may be available outside it

3.21**complete enclosure**

total machine enclosure primarily designed for noise attenuation and to permit the operator to move around freely within it and where all machine settings and adjustments are available inside it. Access is normally through a door/opening

EN 12750:2001 (E)

4 List of hazards

This European Standard deals with all hazards listed and relevant to the machine as 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 by reference to relevant type A standards, especially EN 292-1:1991 and EN 292-2:1991/A1:1995.

These hazards are listed in Table 1 in accordance with annex A of EN 292-2:1991/A1:1995.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 12750:2002

<https://standards.iteh.ai/catalog/standards/sist/d8965fcb-0863-4277-b5d0-5ee9c396ff0d/sist-en-12750-2002>

Table 1 - List of hazards

Number	Hazard	Relevant sub-clauses of this European Standard
1	Mechanical hazards (caused for example by : <ul style="list-style-type: none"> – 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 : <ul style="list-style-type: none"> • elastic elements (springs); or • liquids or gases under pressure; or • vacuum of the machine parts or workpieces)	
1.1	Crushing hazard	5.2.1, 5.2.7
1.2	Shearing hazard	5.2.7
1.3	Cutting or severing hazard	5.2.2, 5.2.3, 5.2.4, 5.2.7
1.4	Entanglement hazard	5.2.3, 5.2.4, 5.2.6, 5.2.7
1.5	Drawing-in or trapping hazard	5.2.7
1.6	Impact hazard	5.2.7.2
1.7	Stabbing or puncture hazard	Not relevant
1.8	Friction or abrasion hazard	Not relevant
1.9	High pressure fluid injection hazard	5.3.8
1.10	Ejection of parts (of machinery and processed material/workpieces)	5.2.2, 5.2.3, 5.2.5, 5.2.6
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
2	Electrical hazards, caused for example by :	
2.1	electrical contact (direct or indirect)	5.3.4, 5.3.15, 5.3.16
2.2	electrostatic phenomena	Not relevant
2.3	thermal radiation or other phenomena such as ejection of molten particles, and chemical effects from short-circuits, overloads etc.	Not relevant
2.4	external influences on electrical equipment	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	5.3.1, 5.3.9
3.2	health-damaging effects by hot or cold work environment	Not relevant

(continued)