
Woodworking machines — Safety —
Part 8:
Belt sanding and calibrating machines
for straight workpieces

Machines à bois — Sécurité —

Partie 8: Machines de ponçage et de calibrage à bande pour pièces droites

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Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 List of significant hazards	7
5 Safety requirements and measures for controls	9
5.1 Safety and reliability of control systems.....	9
5.2 Control devices.....	9
5.3 Start.....	9
5.4 Safe stops.....	10
5.4.1 General.....	10
5.4.2 Normal stop.....	10
5.4.3 Operational stop.....	10
5.4.4 Emergency stop.....	10
5.5 Braking function of tool spindles.....	10
5.6 Mode selection.....	10
5.7 Spindle speed changing.....	10
5.7.1 Spindle speed changing by changing belts on the pulleys.....	10
5.7.2 Spindle speed changing by incremental speed change motor.....	11
5.7.3 Infinitely variable speed frequency inverter.....	11
5.8 Failure of any power supply.....	11
5.9 Manual reset control.....	11
5.10 Enabling control.....	11
5.11 Machine moving parts speed monitoring.....	11
5.12 Time delay.....	11
6 Safety requirements and measures for protection against mechanical hazards	12
6.1 Stability.....	12
6.1.1 Stationary machines.....	12
6.1.2 Displaceable machines.....	12
6.2 Risk of break-up during operation.....	12
6.3 Tool holder and tool design.....	12
6.4 Braking.....	12
6.4.1 Braking of tool spindles.....	12
6.4.2 Maximum run-down time.....	12
6.4.3 Brake release.....	12
6.5 Safeguards.....	12
6.5.1 Fixed guards.....	12
6.5.2 Interlocking moveable guards.....	13
6.5.3 Hold-to-run control.....	13
6.5.4 Two-hand control.....	13
6.5.5 Electro-sensitive protective equipment (ESPE).....	13
6.5.6 Pressure sensitive protecting device (PSPE).....	13
6.6 Prevention of access to moving parts.....	13
6.6.1 General.....	13
6.6.2 Guarding of tools.....	13
6.6.3 Guarding of drives.....	14
6.6.4 Guarding of shearing and/or crushing zones.....	14
6.7 Impact hazard.....	15
6.8 Clamping devices.....	15
6.9 Measures against ejection.....	15
6.9.1 General.....	15

6.9.2	Guards material and characteristics	15
6.9.3	Anti-kickback devices	16
6.9.4	Adjustment of machine work height	17
6.10	Work piece support and guides	17
7	Safety requirements and measures for protection against other hazards	18
7.1	Fire	18
7.2	Noise	18
7.2.1	Noise reduction at the design stage	18
7.2.2	Noise emission measurement	19
7.3	Emission of chips and dust	19
7.4	Electricity	19
7.4.1	General	19
7.4.2	Displaceable machines	19
7.5	Ergonomics and handling	19
7.6	Lighting	19
7.7	Pneumatics	19
7.8	Hydraulics	19
7.9	Electromagnetic compatibility	20
7.10	Laser	20
7.11	Static electricity	20
7.12	Errors of fitting	20
7.13	Isolation	20
7.14	Maintenance	20
8	Information for use	20
8.1	Warning devices	20
8.2	Markings	20
8.2.1	General	20
8.2.2	Additional markings	20
8.3	Instruction handbook	20
8.3.1	General	20
8.3.2	Additional information	21
	Annex A (informative) Performance level required	22
	Annex B (normative) Test for braking function	23
	Annex C (normative) Stability test for displaceable machines	24
	Annex D (normative) Impact test for guards	25
	Annex E (normative) Noise emission measurement for machines not in ISO 7960:1995	26
	Annex F (normative) Anti-kickback test	27
	Annex G (normative) Test for anti-kickback devices of finger type	28
	Bibliography	29

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 39, *Machine tools*, Subcommittee SC 4, *Woodworking machines*.

This document is intended to be used in conjunction with ISO 19085-1:2017, which gives requirements common to different machine types.

A list of all parts in the ISO 19085 series can be found on the ISO website.

Introduction

The ISO 19085 series of International Standards provides technical safety requirements for the design and construction of woodworking machinery. It concerns designers, manufacturers, suppliers and importers of the machines specified in the Scope. It also includes a list of informative items that the manufacturer will need to give to the user.

This document is a type-C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

The full set of requirements for a particular type of woodworking machine are those given in the part of ISO 19085 applicable to that type, together with the relevant requirements from ISO 19085-1:2017, to the extent specified in the Scope of the applicable part of ISO 19085.

As far as possible, in parts of ISO 19085 other than ISO 19085-1:2017, safety requirements are referenced to the relevant sections of ISO 19085-1, to avoid repetition and reduce their length. The other parts contain replacements and additions to the common requirements given in ISO 19085-1:2017.

Thus, [Clauses 5, 6, 7](#) and [8](#), with their subclauses and the annexes of this document can either

— confirm as a whole,

— confirm with additions,

— exclude in total, or

— replace with specific text

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the corresponding subclauses or annexes of ISO 19085-1:2017.

This interrelation is indicated in the first paragraph of each subclause or annex right after the title by one of the following statements:

— “This subclause of ISO 19085-1:2017 applies”;

— “This subclause of ISO 19085-1:2017 applies with the following additions”, or “This subclause of ISO 19085-1:2017 applies with the following additions, subdivided into further specific subclauses.”;

— “This subclause of ISO 19085-1:2017 does not apply.”;

— “This subclause of ISO 19085-1:2017 is replaced by the following text.”, or “This subclause of ISO 19085-1:2017 is replaced by the following text, subdivided into further specific subclauses.”.

Specific subclauses and annexes in this document without correspondent in ISO 19085-1:2017 are indicated by the introductory sentence: “Subclause (or annex) specific to this part of ISO 19085.”

[Clauses 1, 2, 4](#) replace the correspondent clauses of ISO 19085-1:2017, with no need for indication since they are specific to each part of the series.

NOTE Requirements for tools are given in EN 847-1:2013.

Woodworking machines — Safety —

Part 8: Belt sanding and calibrating machines for straight workpieces

1 Scope

This document gives the safety requirements and measures for stationary calibrating and sanding machines, with an integrated feed and one or more sanding belt units positioned above and/or below the work piece level, with manual or automatic loading and/or unloading, hereinafter referred to as “machines”.

It deals with all significant hazards, hazardous situations and events as listed in [Clause 4](#), relevant to the machines, when operated, adjusted and maintained as intended and under the conditions foreseen by the manufacturer, including reasonably foreseeable misuse. Also, transport, assembly, dismantling, disabling and scrapping phases have been taken into account.

NOTE 1 For relevant but not significant hazards, e.g. sharp edges of the machine frame, see ISO 12100:2010.

It is also applicable to machines fitted with one or more of the following devices/additional working units, whose hazards have been dealt with:

- transversal sanding unit; [ISO 19085-8:2017](#)
- cleaning brushing unit; <https://standards.iteh.ai/catalog/standards/sist/e0aa7d4c-ac06-441b-b50d-1911393dab08/iso-19085-8-2017>
- satining roller unit;
- disk brushing unit;
- texturing brushing roller unit;
- texturing brushing belt unit;
- cutterblock unit;
- texturing band saw unit;
- spiked roller unit;
- antistatic bars;
- conveyor directly controlled by the machine;
- additional work piece vacuum clamping device.

The machines are designed to calibrate and/or sand work pieces, in shape of panels or beams, consisting of:

- a) solid wood;
- b) material with similar physical characteristics to wood (see ISO 19085-1:2017, 3.2);
- c) gypsum boards, gypsum bounded fibreboards;
- d) composite materials with core consisting of e.g. polyurethane or mineral material;

ISO 19085-8:2017(E)

- e) composite boards made from the materials listed above;
- f) all materials listed above, also already lacquered.

This document does not deal with hazards related to:

- specific devices other than those listed above;
- access through in-feed and out-feed openings of machines with a work piece height capacity greater than 550 mm;
- systems for automatic loading and/or unloading of the work piece to/from a single machine;

NOTE 2 Loading the machine manually includes manually placing the work piece onto a conveyor directly controlled by the machine. Unloading the machine manually includes manually removing the work piece from a conveyor directly controlled by the machine.

- interfacing of the machine with any other machine.

It is not applicable to machines intended for use in potentially explosive atmosphere and to machines manufactured prior to the date of its publication.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7960:1995, *Airborne noise emitted by machine tools — Operating conditions for woodworking machines*

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 19085-1:2017, *Woodworking machines — Safety — Part 1: Common requirements*

IEC 60204-1:2005, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

IEC 61800-5-2:2007, *Adjustable speed electrical power drive systems — Part 5-2: Safety requirements — Functional*

EN 847-1:2013, *Tools for woodworking — Safety requirements — Part 1: Milling tools, circular saw blades*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100:2010, ISO 13849-1:2015, ISO 19085-1:2017, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 calibrating and sanding machine

machine used to calibrate and/or to sand panels and/or linear work pieces, fitted with an integrated feed and sanding belts positioned above and/or below the work piece level, with manual or automatic loading and/or unloading

Note 1 to entry: See [Figures 1](#) and [2](#) for examples of different machine designs (safeguarding devices are not illustrated).

Note 2 to entry: sanding belts can rotate in both directions, against the feed or in “climb cutting”. The definitions of these directions of rotation are given in ISO 19085-1:2017, 3.16 and 3.17.

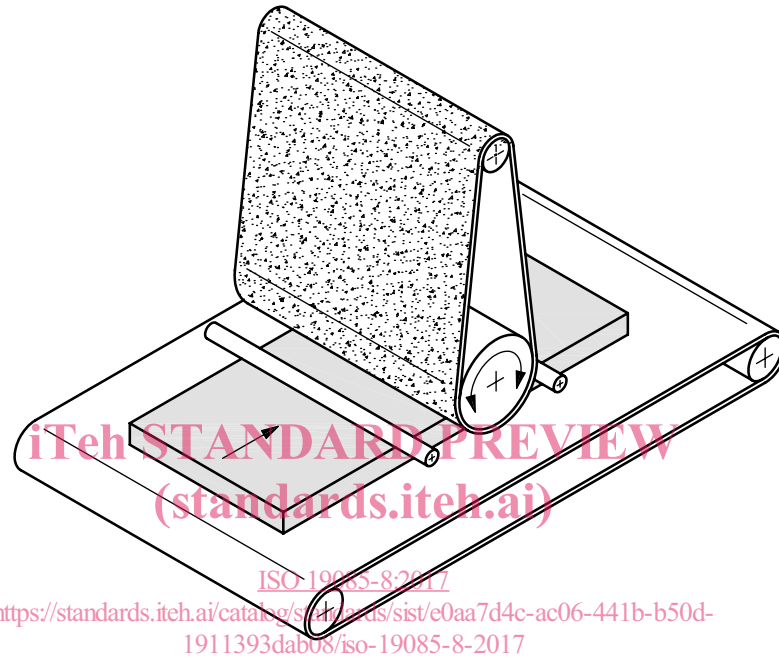


Figure 1 — Example of sanding belt unit positioned above the work piece level

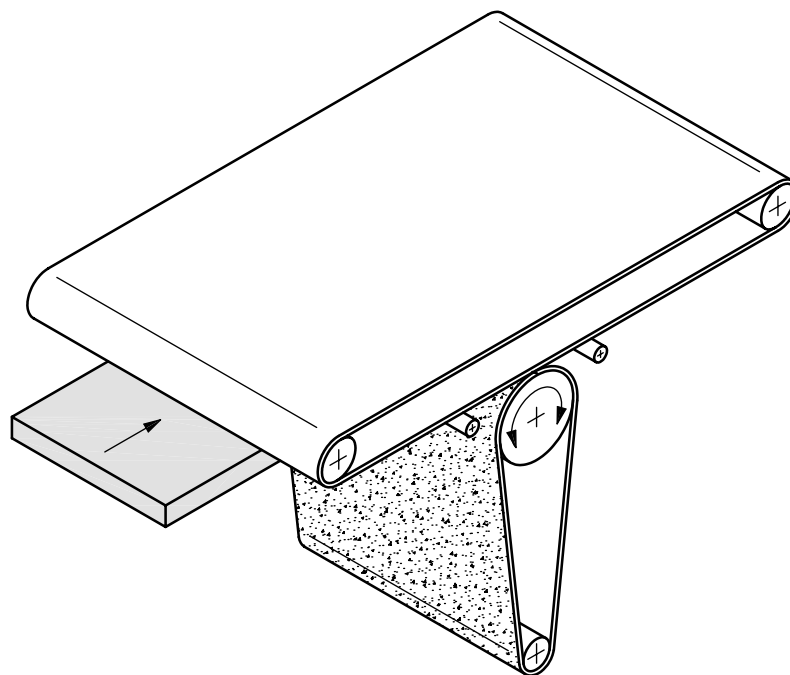


Figure 2 — Example of sanding belt unit positioned below the work piece level

3.2 transversal sanding unit

unit with sanding belt working perpendicularly to the panel feed direction positioned above or below the work piece level

Note 1 to entry: See [Figure 3](#) (safeguarding devices are not illustrated).

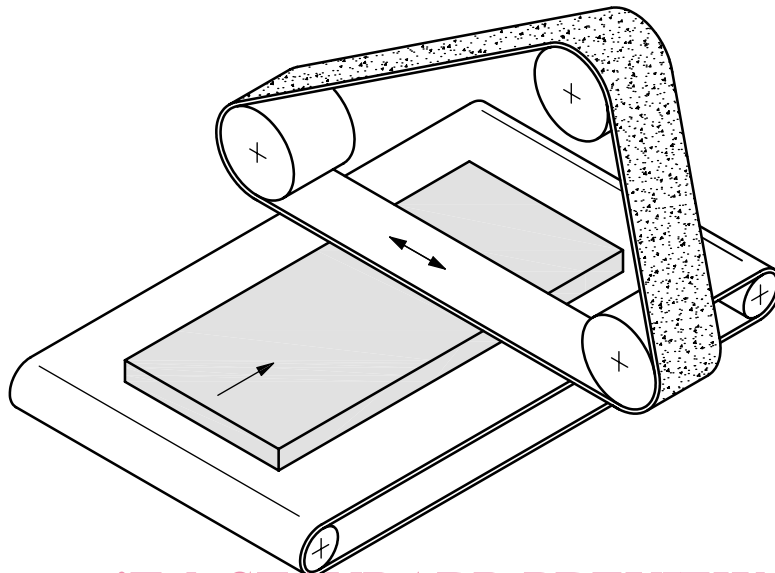


Figure 3 — Example of transversal sanding unit

3.3 cleaning brushing unit

unit with either brushing roller or brushing belt, both bearing non-abrasive brushes, positioned above or below the work piece level

3.4 satining roller unit

unit with satining roller positioned above or below the work piece level and working in parallel to the work piece feed direction

Note 1 to entry: Satining roller unit rotation can be in both directions, against the feed or in “climb cutting”.

3.5 disk brushing unit

unit with rotating abrasive disks positioned above or below the work piece level

Note 1 to entry: See [Figure 4](#) (safeguarding devices are not illustrated).

3.6 texturing brushing roller unit

unit with abrasive brushing roller positioned above or below the work piece level and working in parallel to the work piece feed direction

Note 1 to entry: Texturing brushing roller unit rotation can be in both directions, against the feed or in “climb cutting”.

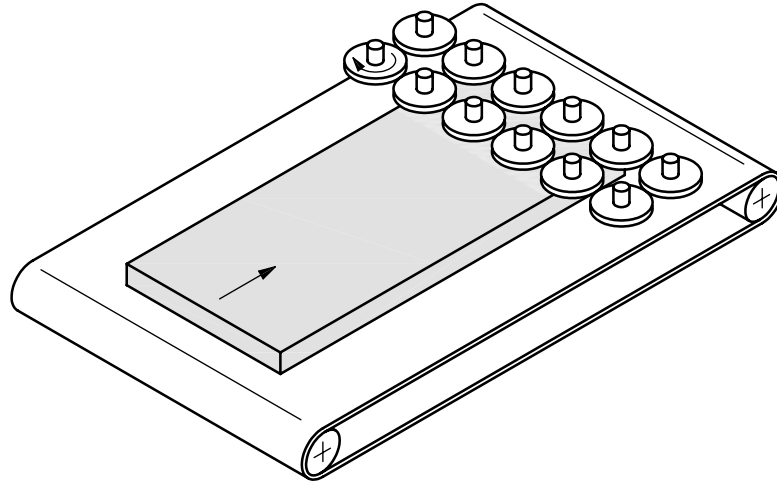


Figure 4 — Example of disk brushing unit

3.7

texturing brushing belt unit

unit with abrasive brushes mounted on a belt positioned above or below the work piece level and working perpendicularly to the work piece feed direction

Note 1 to entry: See [Figure 5](#) (safeguarding devices are not illustrated).

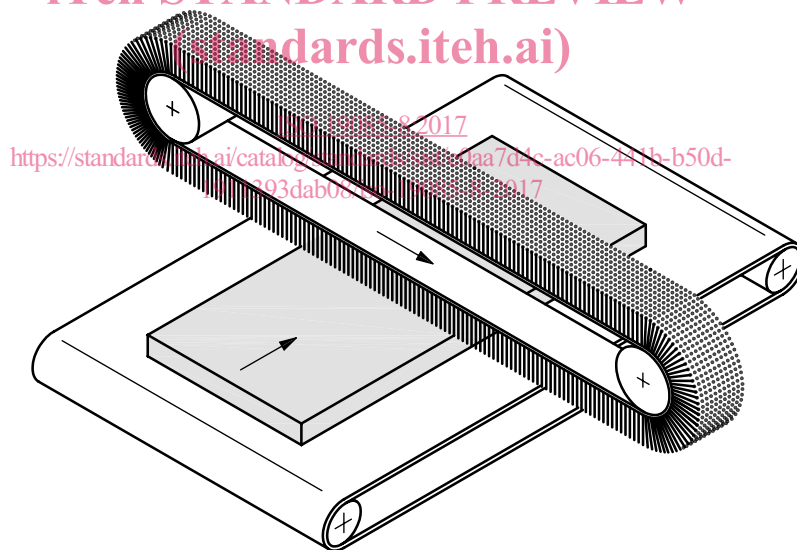


Figure 5 — Example of texturing brushing belt unit

3.8

texturing band saw unit

unit with a band saw for texturing panel surface positioned above or below the work piece level and working perpendicularly to the work piece feed direction

Note 1 to entry: See [Figure 6](#) (safeguarding devices are not illustrated).

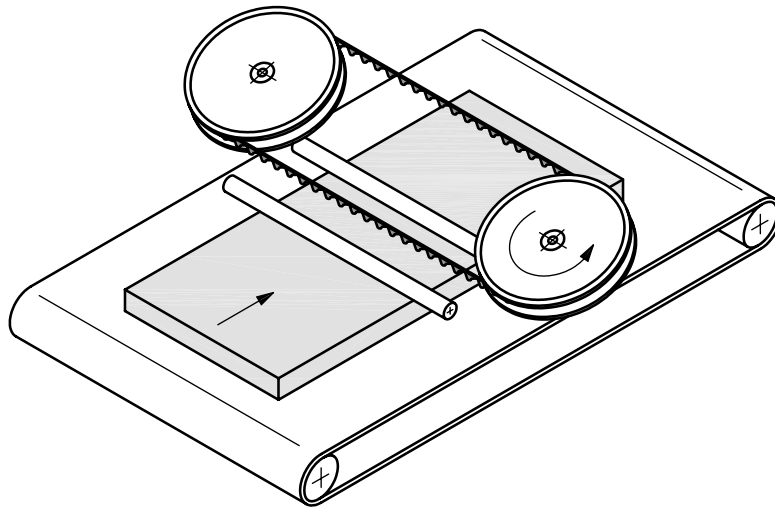


Figure 6 — Example of texturing band saw unit

**3.9
cutterblock unit**

unit with cylindrical-shaped complex tool equipped with blades or inserts with a straight, helical or V-shaped cutting line, positioned above or below the work piece level and working in parallel to the work piece feed direction and against the feed

Note 1 to entry: See [Figure 7](#) (safeguarding devices are not illustrated) and EN 847-1 for a description of a complex tool.

Note 2 to entry: During rotation, cutterblock can also have a reciprocating movement along its axis and in vertical direction.

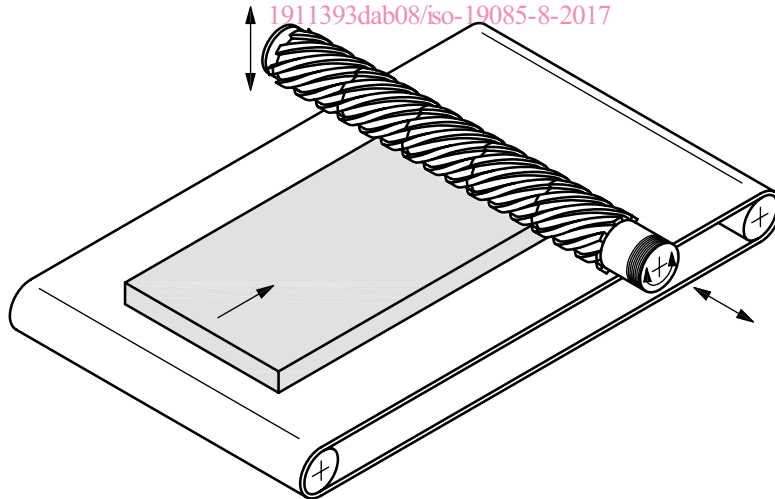


Figure 7 — Example of cutterblock unit

**3.10
spiked roller unit**

unit with spiked roller for creating a woodworm effect on the work piece surface positioned above or below the work piece level and working in parallel to the work piece feed direction and in climb cutting

Note 1 to entry: See [Figure 8](#) (safeguarding devices are not illustrated).