

SLOVENSKI STANDARD

SIST EN 1807:2000+A1:2009

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Safety of woodworking machines - Band sawing machines

Sicherheit von Holzbearbeitungsmaschinen - Bandsägemaschinen

Sécurité des machines pour le travail du bois - Machines à scier à ruban

Ta slovenski standard je istoveten z: EN 1807:1999+A1:2009

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ICS:

25.080.60	Strojne žage	Sawing machines
79.120.10	Lesnoobdelovalni stroji	Woodworking machines

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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ICS 79.120.10

Supersedes EN 1807:1999

English Version

Safety of woodworking machines - Band sawing machines

Sécurité des machines pour le travail du bois - Machines à
scier à ruban

Sicherheit von Holzbearbeitungsmaschinen -
Bandsägemaschinen

This European Standard was approved by CEN on 6 May 1999 and includes Amendment 1 approved by CEN on 30 July 2009.

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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 CEN Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 1807:1999+A1:2009) has been prepared by Technical Committee CEN/TC 142 "Woodworking machines - Safety" the Secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by March 2010, and conflicting national standards shall be withdrawn at the latest by March 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1, approved by CEN on 2009-07-30.

This document supersedes EN 1807:1999.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

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 A1 Machinery Directives A1.

A1 For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. A1

A1 This European Standard also supports essential requirements of the Outdoor Noise Directive 2000/14/EC. A1

Organisations contributing to the preparation of this European Standard include:

The European Manufacturers Association "EUMABOIS".

Normative and informative annexes to this European Standard are listed in the Contents list.

The European Standards produced 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 A1 EN ISO 12100-1:2003 A1 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, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EN 1807:1999+A1:2009 (E)

Introduction

This European Standard has been prepared to be a harmonised standard to provide one means of conforming to the Essential Health and Safety Requirements of the Machinery Directive and associated EFTA Regulations. This European Standard is a type "C" standard as defined in ^{A1} EN ISO 12100-1:2003 ^{A1}.

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

The requirements of this standard concern designers, manufacturers, suppliers and importers of band sawing machines, re-sawing machines and log sawing machines.

This European Standard also includes information to be provided by the manufacturer to the user.

1 Scope

^{A1} This document specifies all significant hazards, hazardous situations and events as listed in Clause 4 which are relevant to stationary and displaceable band sawing machines with either manual or automatic loading and/or unloading, 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. ^{A1}

^{A1} *deleted text* ^{A1}

^{A1} *deleted text* ^{A1} This European Standard does not cover the hazards related to Electromagnetic Compatibility (EMC) as required by the EMC Directive 89/336/EEC of 03-05-89.

This European Standard does not apply to: <https://standards.iteh.ai/catalog/standards/sist/687f70e1-099c-4d1d-9593-9d59dfec532/sist-en-1807-2000a1-2009>

- ^{A1} hand held motor-operated electric tools or any adaptation permitting their use in a different mode, i.e. bench mounting; ^{A1}

^{A1} NOTE 1 Hand-held motor operated electric tools are covered by the requirements of EN 60745-1:2006 together with EN 60745-2-20:2003. ^{A1}

- ^{A1} transportable machines set up on a bench or a table similar to a bench, which are intended to carry out work in a stationary position, capable of being lifted by one person by hand. ^{A1}

^{A1} NOTE 2 Transportable electrically driven machines are covered by the requirements of EN 61029-1:2000 together with EN 61029-2-5:2002. ^{A1}

This European Standard does not cover the hazards arising from machining processes (e.g. milling and sawing) of related to associated machines e.g. canters and circular saws.

This European Standard is primarily directed at machines which are manufactured after the date of issue of this standard.

2 Normative references

^[A1] The following referenced documents are indispensable for the application 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. ^[A1]

^[A1] *deleted text* ^[A1]

^[A1] EN 349:1993 ^[A1], *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

^[A1] *deleted text* ^[A1]

^[A1] EN 614-1:2006, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles* ^[A1]

^[A1] EN 894-1:1997, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 1: General principles for human interactions with displays and control actuators*

EN 894-2:1997, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays*

EN 894-3:2000, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators* ^[A1]

EN 982:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics*

EN 983:1996, *Safety of machinery — safety requirements for fluid power systems and their components — Pneumatics*

^[A1] EN 1005-1:2001, *Safety of machinery — Human physical performance — Part 1: Terms and definitions*

EN 1005-2:2003, *Safety of machinery — Human physical performance — Part 2: Manual handling of machinery and component parts of machinery*

EN 1005-3:2002, *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machinery operation*

EN 1005-4:2005, *Safety of machinery — Human physical performance — Part 4: Evaluation of working postures and movements in relation to machinery*

EN 1037:1995, *Safety of machinery — Prevention of unexpected start-up* ^[A1]

EN 1088:1995, *Safety of machinery — Interlocking devices associated with guards - Principles for design and selection*

^[A1] EN 1760-1:1997, *Safety of machinery — Pressure sensitive protective devices — Part 1: General principles for the design and testing of pressure sensitive mats and pressure sensitive floors* ^[A1]

^[A1] EN 60204-1:2006 ^[A1], *Safety of machinery — Electrical equipment of machines — Part 1: Specification for general requirements* ^[A1] (IEC 60204-1:2005, modified) ^[A1]

^[A1] HD 21.1 S4:2002, *Cables of rated voltages up to and including 450/750 V and having thermoplastic insulation — Part 1: General requirements* ^[A1]

^[A1] HD 22.1 S4:2002, *Cables of rated voltages up to and including 450/750 V and having cross-linked insulation — Part 1: General requirements* ^[A1]

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EN 60529:1991, *Specification for degree of protection provided by enclosure (IP code) (IEC 60529:1989)*

EN 60825-1:2007 ^{A1}, *Safety of laser products — Equipment classification requirements and user's guide (IEC 60825:2007)* ^{A1}

EN 60947-4-1:2001 ^{A1}, *Specification for low voltage switchgear and control gear — Part 4: Contractors and motor starters — Section 1: Electromechanical contractors and motor starters (IEC 60947-4-1:2000)* ^{A1}

EN 60947-5-1:2004 ^{A1}, *Specification for low voltage switchgear and control gear — Part 5: Control circuits, devices and switching elements — Section 1: Electromechanical control circuit devices (IEC 60947-5-1:2003)* ^{A1}

EN 61029:2000 ^{A1}, *Safety of transportable motor operated electric tools — Part 1: General requirements (IEC 61029-1:1990, modified)* ^{A1}

EN 61029-2-5:2002, *Safety of transportable motor-operated electric tools — Part 2: Particular requirements for band saws (IEC 61029-2-5:1993+A1:2001, modified)* ^{A1}

CLC/TS 61496-2:2006 ^{A1}, *Safety of machinery — Electro-sensitive protective equipment — Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs) (IEC 61496-2:2006)* ^{A1}

EN ISO 3743-1:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering methods for small, moveable 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 using sound pressure — Engineering methods for small, moveable sources in reverberant fields — Part 2: Methods for special reverberant test rooms (ISO 3743-2:1996)*

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 3744:1995)*

EN ISO 3745:2003, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Precision methods for anechoic and semi-anechoic rooms (ISO 3745:2003)* ^{A1}

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 discrete points (ISO 9614-1:1993)*


EN ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)* ^{A1}



EN ISO 11202:1995, *Acoustics — Noise emitted by machinery and equipment — 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 — Measurement 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)* ^{A1}

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles* (ISO 12100-2:2003) 

 EN ISO 13850:2008, *Safety of machinery — Emergency stop — Principles for design* (ISO 13850:2006) 

 EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs* (ISO 13857:2008) 

 ISO 1940-1:2003, *Mechanical vibration — Balance quality requirements for rotors in a constant (rigid) state — Part 1: Specification and verification of balance tolerances* 

 *deleted text* 

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

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3 Terms and definitions

3.1 Definitions

For the purposes of this standard the following definitions apply:

3.1.1

band sawing machine

a sawing machine with one or more saw blades in the form of continuous bands each mounted on and running between two or more band wheels

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3.1.2

saw blade straining

the force exerted on the saw blade to keep it in position on the band wheels during cutting (see figure 15)

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3.1.3

tensioning

the process used to form the cross-section of the saw blade, either by rolling or hammering, in order to ensure that the front and back edges of the saw blade grip the band wheels

3.1.4

Saw blade tracking

the means used to maintain the position of the saw blade on the band wheels (see figure 16)

3.1.5

dogging

the means of securing a log for cutting

3.1.6

table band saw

a hand fed band sawing machine with a fixed or tilting table (bed) or tilting frame (see figures 1, 7 and 8)

3.1.7

log band saw

a band sawing machine designed for the primary conversion of logs

3.1.7.1

travelling table log saw

a hand fed or power fed log band saw fitted with a travelling table and dogging (see figure 3)

EN 1807:1999+A1:2009 (E)**3.1.7.2****reciprocating carriage log saw**

a power fed log band saw fitted with a reciprocating carriage and dogging (see figure 4)

3.1.7.3**conveyor fed log saw**

a log band saw fitted with a conveyor as an integrated feed device (see figure 5)

3.1.7.4**moving head rig log saw (gantry log saw)**

a log band saw with a moving saw unit (see figure 6)

3.1.8**band re-saw**

a band sawing machine with integrated feed used for secondary conversion of solid wood (see figures 2, 9, 10, 27 and 29)

3.1.9**manual control**

a situation where each process movement is initiated by the operator

3.1.10**machine actuator**

a power mechanism used to effect motion of the machine

3.1.11**hand feed**

the manual holding and/or guiding of the workpiece. Hand feed includes the use of a hand operated carriage on which the workpiece is placed manually or clamped and the use of a demountable power feed unit

3.1.12**demountable power feed unit**

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

3.1.13**integrated feed**

a 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

3.1.14**run-up time**

the elapsed time from the actuation of the start control device until the driven band wheel reaches the intended speed

3.1.15**run-down time**

the elapsed time from the actuation of the stop control device until driven band wheel standstill

3.1.16**manual loading of power fed machines**

where the workpiece is presented by the operator directly to the machine integrated feed, e.g. rotating feed rollers, travelling table or reciprocating carriage; i.e. for which there is no intermediate loading device to receive and transfer the workpiece from the operator to the integrated feed

3.1.17**manual unloading of power fed machines**

where the workpiece is removed by the operator directly from the machine outfeed; i.e. for which there is no intermediate unloading device to receive and transfer the workpiece from the machine outfeed to the operator

3.1.18**cutting area**

The area where the saw blade can be involved in the cutting process

3.1.19**non-cutting area**

the area where the saw blade is not involved in the cutting process

3.1.20**A1 displaceable machine A1**

a 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

3.1.21**stationary machine**

a machine designed to be located on or fixed to the floor or other parts of the structure of the premises and to be stationary during use

3.1.22**A1 information from the supplier A1**

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

3.2 Terminology

The names of the main parts of the machines are shown in figures and Tables 1 to 6.

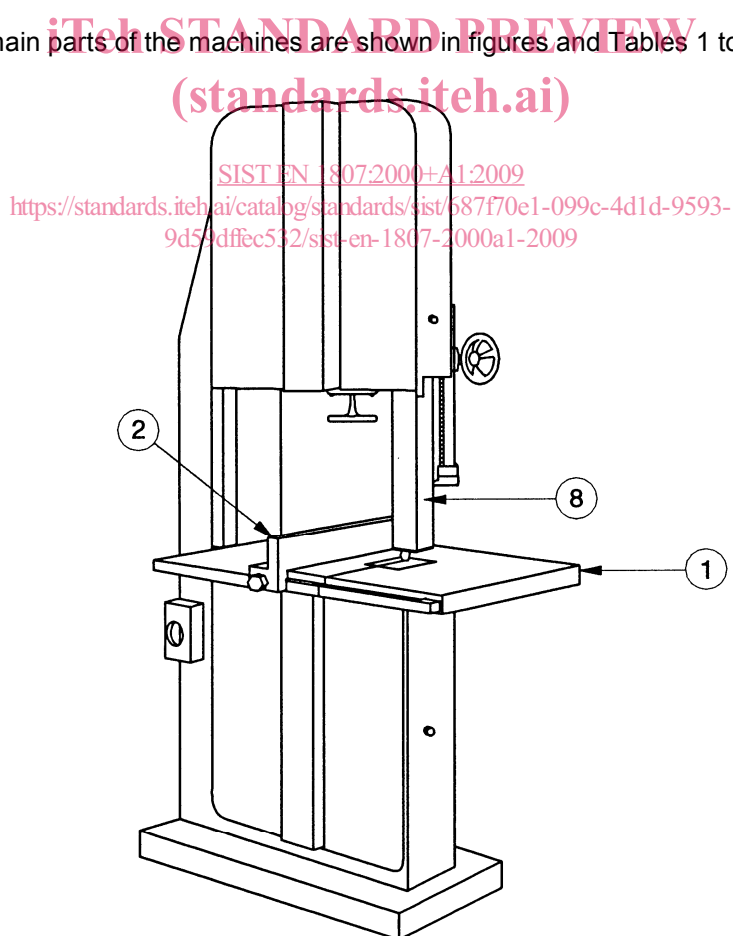


Figure 1 a) — Guards closed

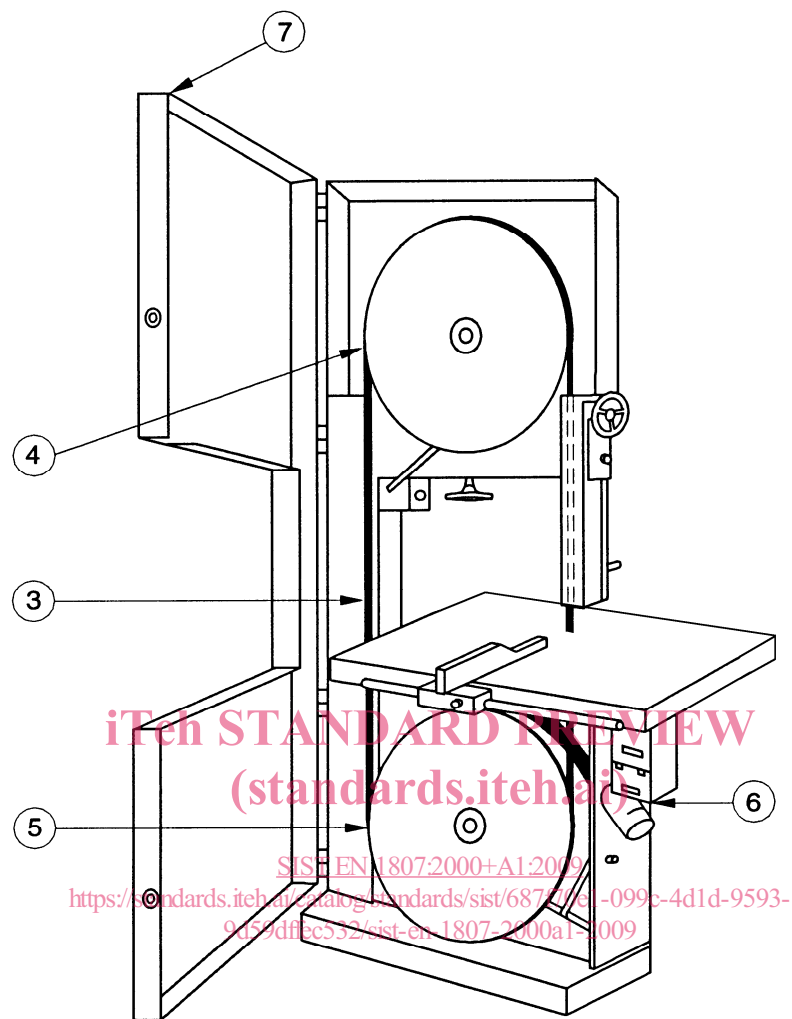


Figure 1b) — Guards open

Figure 1 — Hand fed table band saw

Table 1 — Terminology for table band saw

1	Table
2	Adjustable fence
3	Bandsaw blade
4	Top band wheel
5	Bottom band wheel
6	Start and stop controls
7	Band wheel guard
8	Adjustable guard for saw blade
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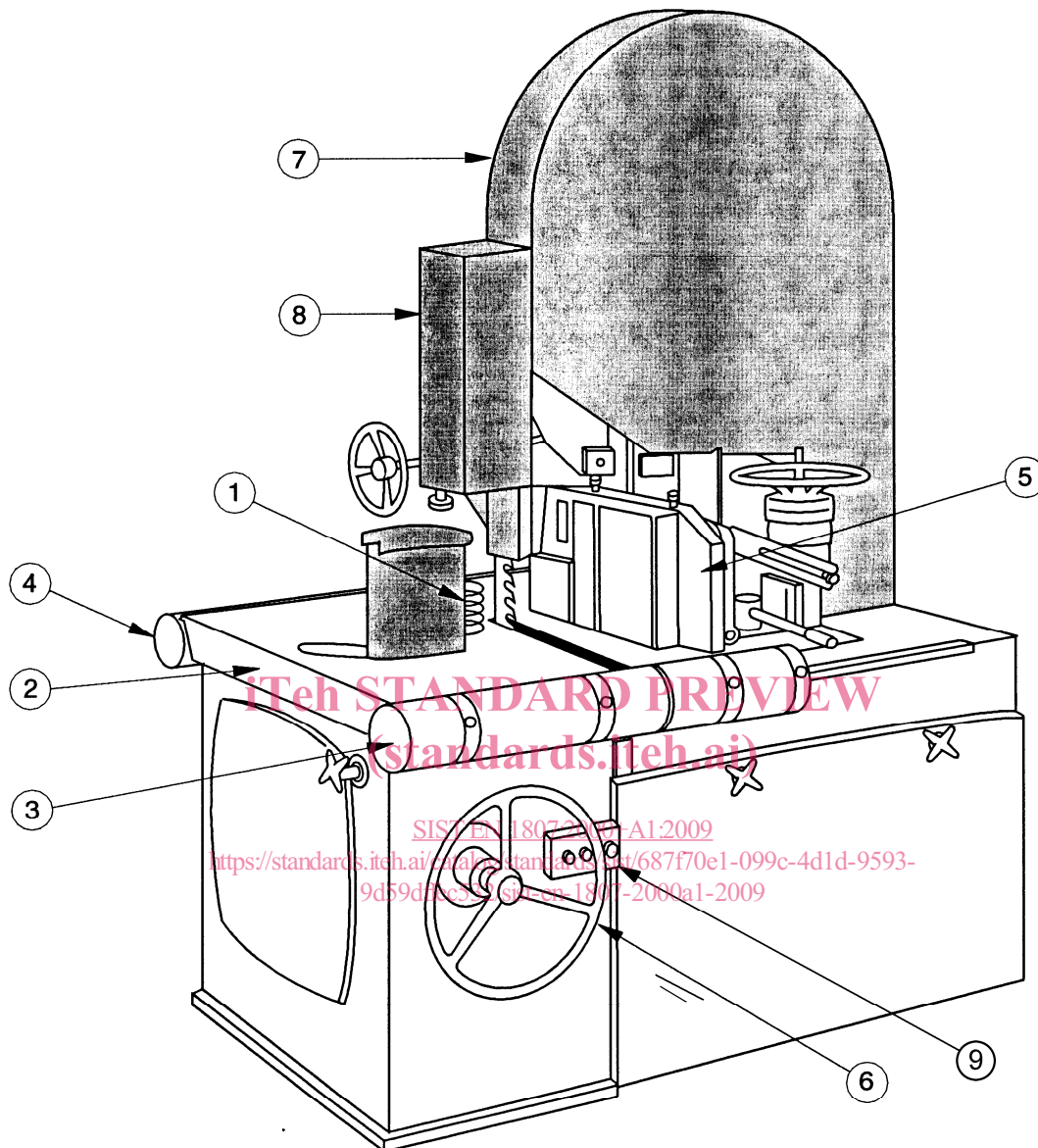


Figure 2 — Band re-saw

Table 2 — Terminology for band re-saw

1	Feed roller
2	Workpiece support (table)
3	Infeed table roller
4	Outfeed table roller
5	Fence
6	Handwheel for adjustment of feed rollers
7	Band wheel guard
8	Adjustable guard for saw blade
A1 9	Start and stop controls A1

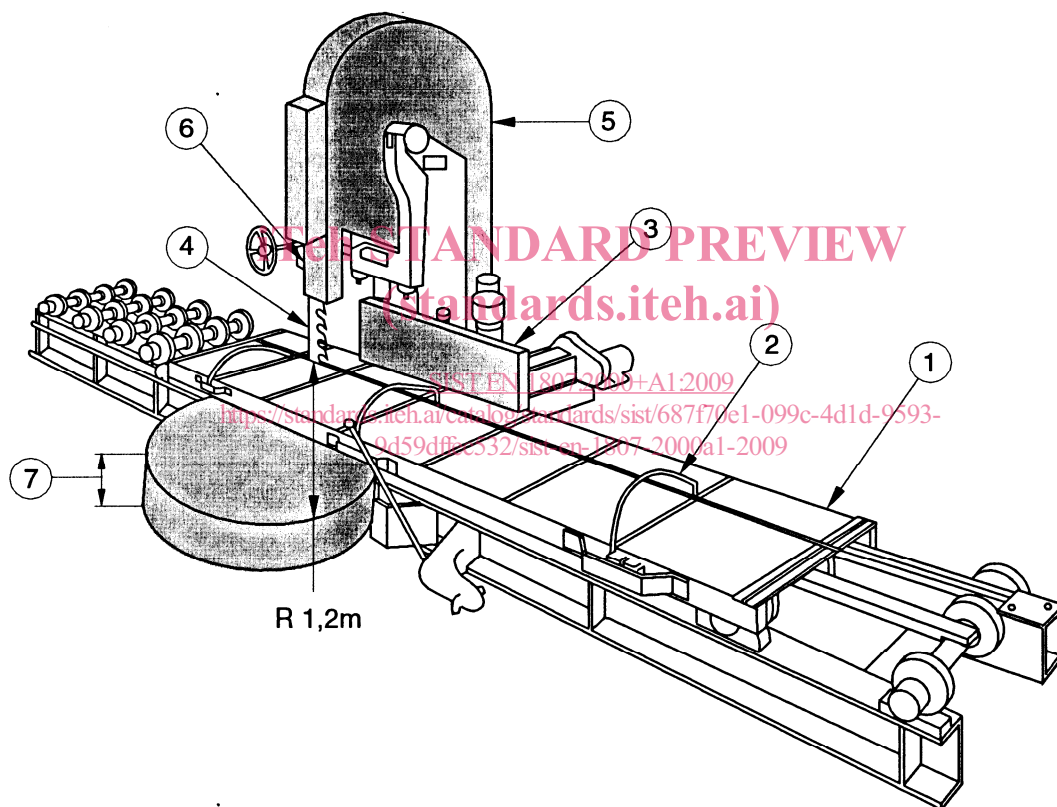


Figure 3 — Travelling table log saw

Table 3 — Terminology for travelling table log saw

1	Travelling table
2	Dogging
3	Fence
4	Saw blade
5	Band wheel guards
6	Adjustable guard for saw blade
7	Below travelling table height by not more than 100 mm

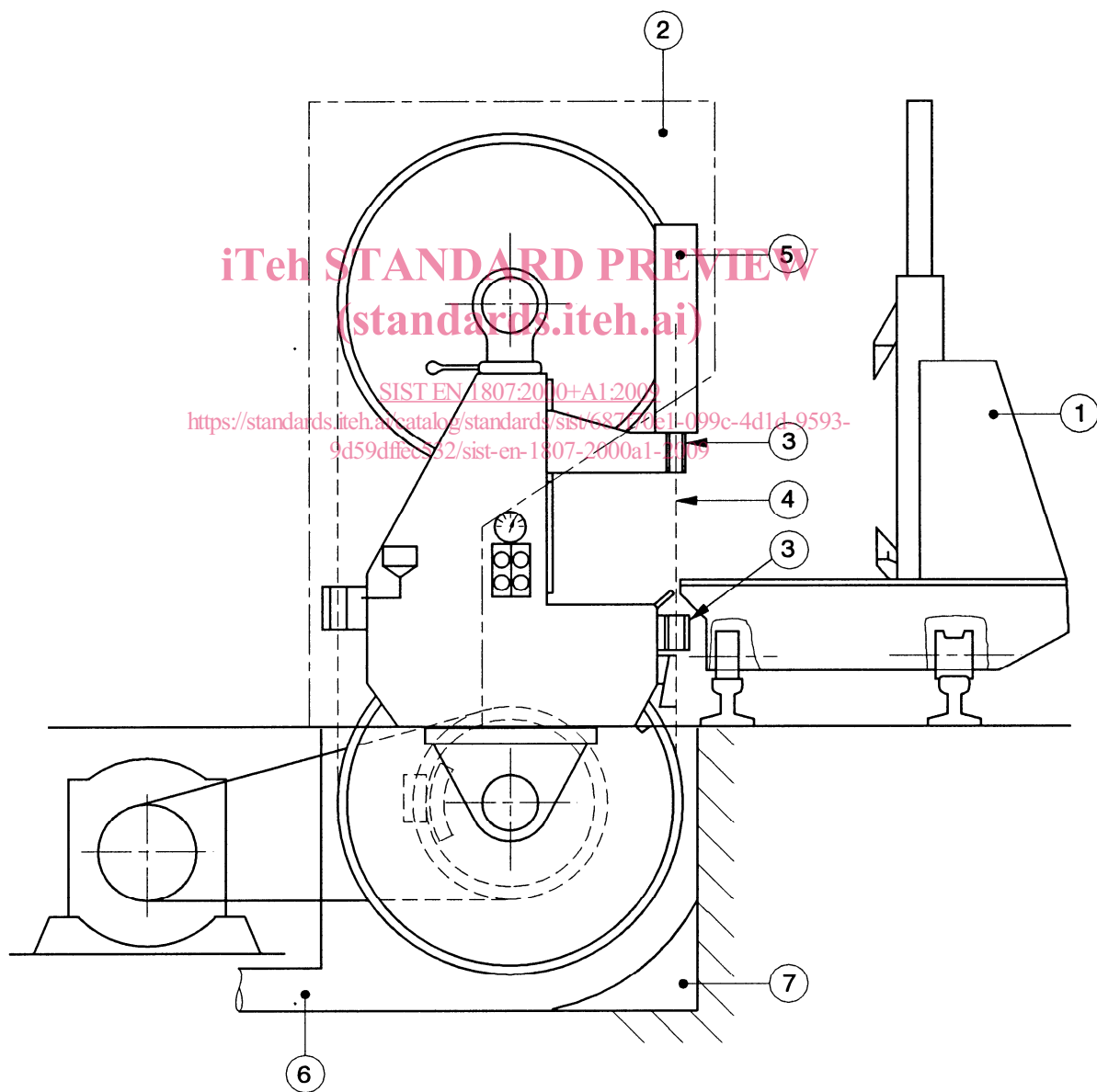


Figure 4 — Reciprocating carriage log saw