



SLOVENSKI STANDARD

oSIST prEN 15572:2007

01-januar-2007

Stroji in obrati za miniranje in obdelavo naravnega kamna - Varnost - Zahteve za stroje za dodelavo robov

Machines and plants for mining and tooling of natural stone - Safety - Requirements for edge finishing machines

Maschinen und Anlagen zur Gewinnung und Bearbeitung von Naturstein - Sicherheit - Anforderungen für Kantenschleifmaschinen

Machines et équipements pour l'exploitation et l'usinage de pierres naturelles - Sécurité - Prescriptions relatives aux machines de finition des bords

Ta slovenski standard je istoveten z: prEN 15572

ICS:

25.080.50	Brusilni in polirni stroji	Grinding and polishing machines
73.120	Oprema za predelavo rudnin	Equipment for processing of minerals

oSIST prEN 15572:2007

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN 15572:2007](#)

<https://standards.iteh.ai/catalog/standards/sist/432d72a7-9b90-4bfc-9a3d-3a496dfbce1c/osist-pren-15572-2007>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 15572

September 2006

ICS

English Version

Machines and plants for mining and tooling of natural stone - Safety - Requirements for edge finishing machines

Maschinen und Anlagen zur Gewinnung und Bearbeitung
von Naturstein - Sicherheit - Anforderungen für
Kantenschleifmaschinen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 151.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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	4
1 Scope	4
2 Normative references	4
3 Terms and definitions – Symbols and abbreviated terms.....	5
4 List of significant hazards	10
5 Safety requirements and/or protective measures	10
5.1 Mechanical hazards	11
5.2 Electrical hazards	12
5.3 Electromagnetic Radiation	13
5.4 Hydraulic and pneumatic components.....	13
6 Verification of safety measures and/or protective measures	13
7 Information for use	13
7.1 Marking	14
7.2 Other information.....	14
7.3 Accompanying documents (in particular: Instruction handbook)	14
Annex A (normative) Pictograms	17
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC	18

Figures

Figure 1 — Table edge grinding machine	6
Figure 2 — Belt edge grinding machine	7
Figure 3 — finishing segment for working fore-parts and chamfers	8
Figure 4 — Combination tool groove cutting/calibration	8
Figure 5 — Combination tool for shaped edges.....	9
Figure A.1 — "Read the manual" (see ISO 7000:1989)	17
Figure A.2 — „Hearing protection must be worn“	17

Foreword

This document (prEN 15572:2006) has been prepared by Technical Committee CEN/TC 151 “Construction equipment and building material machines — Safety”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document 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 document.

Annex A is normative and contains pictograms.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[oSIST prEN 15572:2007](https://standards.iteh.ai/catalog/standards/sist/432d72a7-9b90-4bfc-9a3d-3a496dfbce1c/osist-pren-15572-2007)

<https://standards.iteh.ai/catalog/standards/sist/432d72a7-9b90-4bfc-9a3d-3a496dfbce1c/osist-pren-15572-2007>

Introduction

This document is a type C standard as defined in EN ISO 12100.

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

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

1 Scope

This standard applies for stationary edge and outline finishing machines for natural stone. Edge finishing machines are processing the usually rough edges of the workpiece with one or more spindles fitted with grinding tools which are aligned synchronously or asynchronously towards the edge of the workpiece. Edge finishing machines can be of table or belt design.

This European Standard does not deal with significant hazards associated with noise.

This European Standard does not deal with:

- metal grinding machines;
- wood grinding machines;
- hand-held grinding machines;
- machines intended for operation in a potentially explosive atmosphere;
- upstream and downstream conveying elements for transporting the workpieces.

This standard deals with all significant hazards, hazardous situations and events relevant to edge finishing machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards.

This document is not applicable to edge finishing machines which are manufactured before the date of publication of this document by CEN.

2 Normative references

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.

EN 294:1992, *Safety of machinery — Safety distances to prevent danger zones from being reached by the upper limbs*

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

EN 418:1992, *Safety of machinery — Emergency stop equipment, functional aspects; principles for design*

EN 574:1996, *Safety of machinery — Two-hand control devices — Functional aspects; principles for design*

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

EN 953:1997, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

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*

EN 1037:1995, *Safety of machinery — Prevention of unexpected start-up*

EN 1050:1996, *Safety of machinery — Principles for risk assessment*

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

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

prEN 60204-1:2006, *Electrical Equipment of Machines — Part 1: General Requirements*

EN 60529:1991, *Systems of protection by cases (IP Code) (IEC 529: 1989)*

EN 61000-6-2:2005, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standards: Immunity for industrial environments*

prEN 61000-6-3:2006, *Electromagnetic compatibility (EMC) — Part 6-3: Generic standards; Emission standard for residential, commercial and light-industrial environments*

prEN 61000-6-4:2006, *Electromagnetic compatibility (EMC) — Part 6-4: Generic standards; Emission standard for industrial environments*

prEN 61000-6-1:2006, *Electromagnetic compatibility (EMC) — Part 6-1: Generic standards; Immunity for residential, commercial and light- industrial environments*

3 Terms and definitions – Symbols and abbreviated terms

For the purposes of this document, the definitions given in EN ISO 12100 apply. Additional definitions specifically needed for this document are added below :

3.1

edge finishing machine

the edge finishing machine is a stationary machine for milling, grinding, polishing and cut-off grinding the edges of workpieces of marble, granite or other stone-similar material. During the work process water is always used as a cooling lubricant which also prevents the formation of dust caused by the process. The machines are intended for the use of abrasives and cut-off wheels with diamond impregnation

3.2

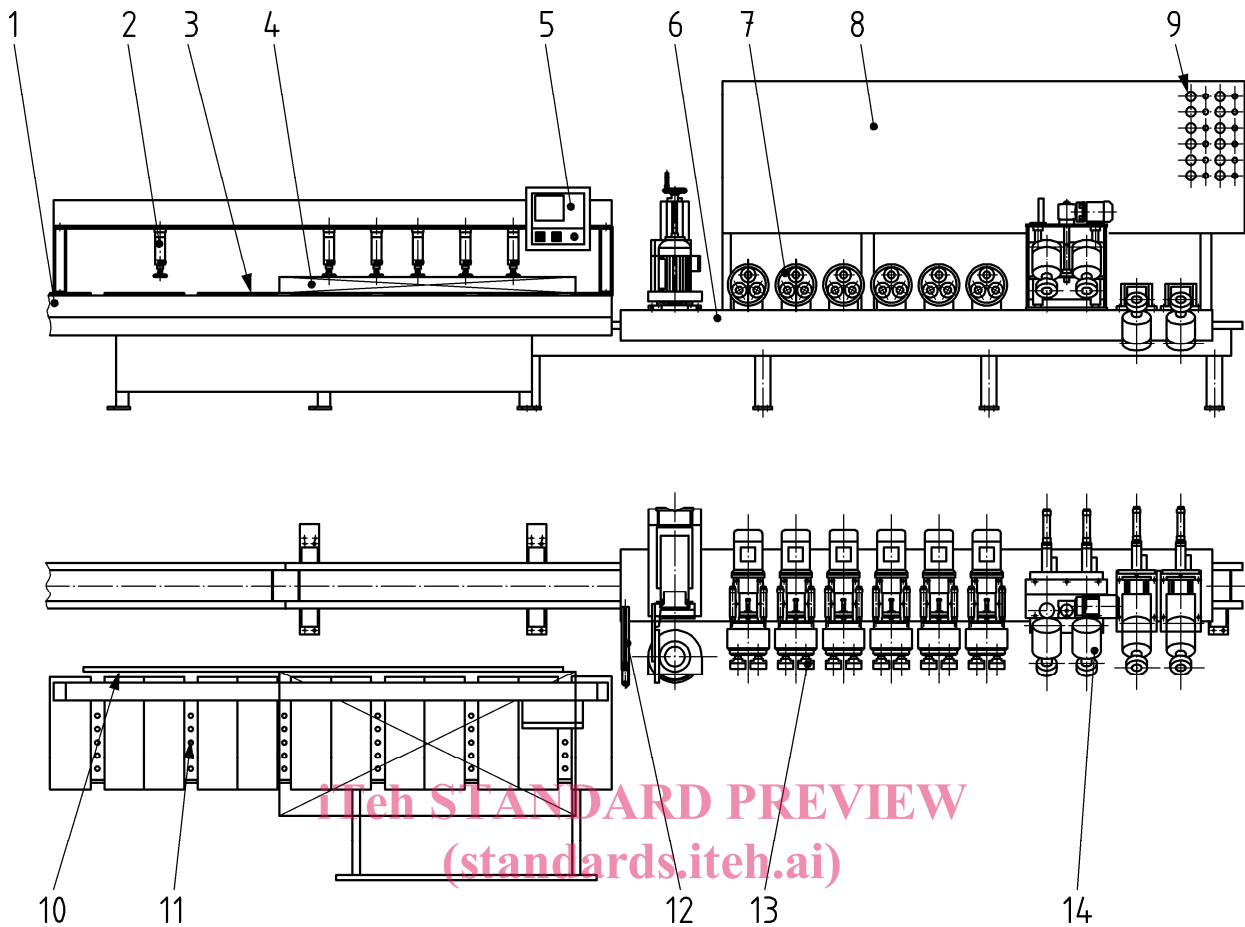
table edge finishing machine

a stationary machine with a worktable on which the workpieces are fixed for processing. The work spindles are guided along the workpiece on a rail-carriage combination. The worktable is fixed.

The particular work spindles will be generally switched on by the machine control when in working position relative to the workpiece and switched off when leaving the workpiece.

Before the delivery the respective work spindle is put into rotation and the cooling lubricant supply is activated. This process is repeated in reverse order when the carriage is turned off

prEN 15572:2006 (E)

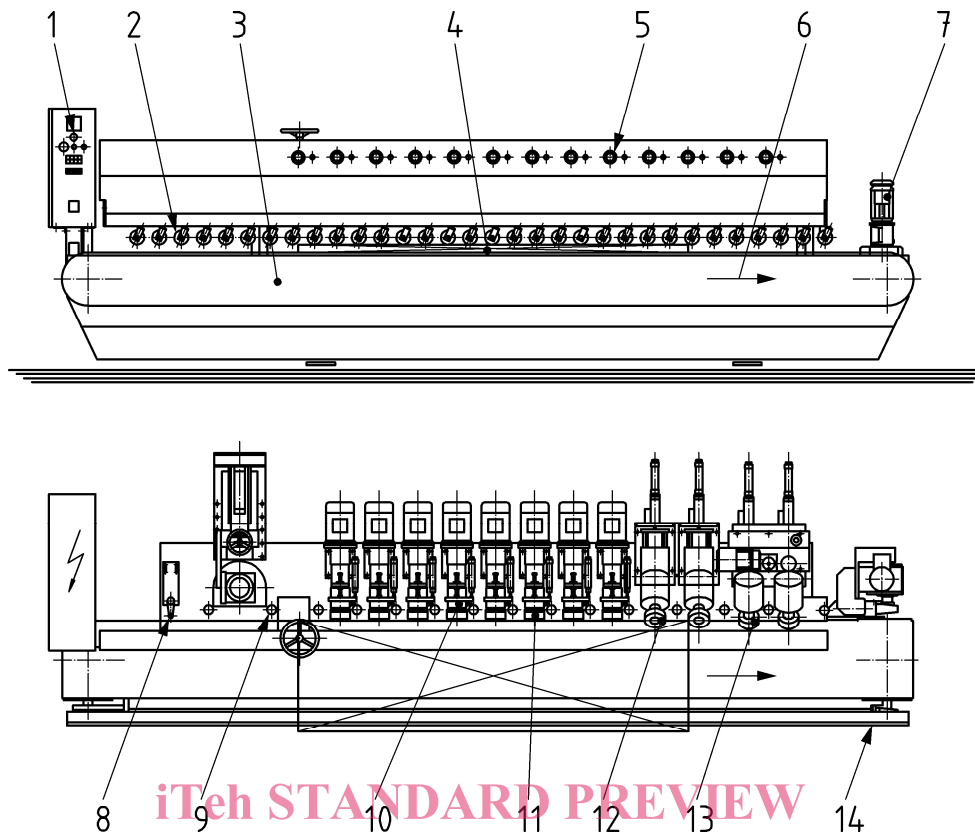
**Key**

1	guide rail	9	pneumatic control unit
2	stretching device	10	table limit stop
3	worktable	11	removable conveying elements (rolls)
4	workpiece	12	edge detection
5	control panel	13	work spindles for face finishing
6	moving machine frame	14	work spindles for chamfering
7	finishing carriage		

Figure 1 — Table edge grinding machine**3.3****belt edge finishing machine**

a belt edge finishing machine is a stationary machine with a conveyer belt on which the workpieces are guided in-line along the work spindles by horizontal and vertical guide rolls. These machines are designed for the intermittent as well as for the continuous transport of the workpieces. The workpieces are guided on the conveyer belt by means of non-driven top pressure rolls with pneumatic or elastic force.

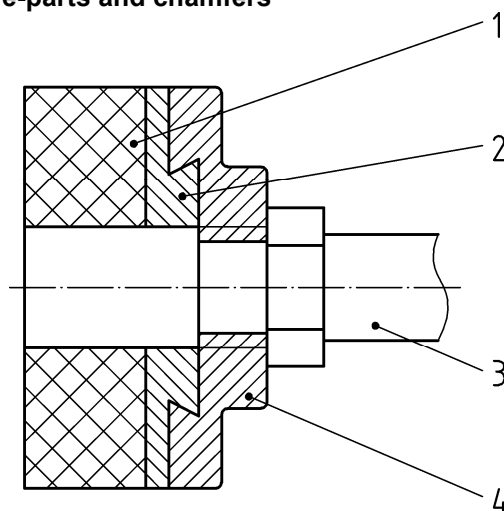
The particular work spindles will be generally switched on by the machine control when in working position relative to the workpiece and switched off when leaving the workpiece. Before the delivery the respective work spindle is put into rotation and the cooling lubricant supply is activated. This process is repeated in reverse order when the carriage is turned off

**Key**

1	control panel	8	edge detection
2	workpiece guidance device (rolls)	9	vertical guide rolls
3	conveyor belt	10	fore-part carriage
4	workpiece	11	finishing segment
5	pneumatic control unit	12	lower chamfer carriage
6	running direction	13	upper chamfer carriage
7	conveying belt drive	14	conveyor belt extension

Figure 2 — Belt edge grinding machine

prEN 15572:2006 (E)

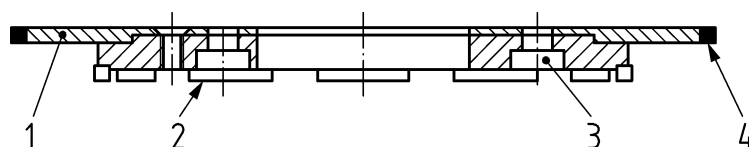
3.4
typical processing tools3.4.1
finishing segment for working fore-parts and chamfers

Key

- 1 abrasive wheel
- 2 coupler for plastic segment with worm-lock
- 3 finishing shaft
- 4 tool flange with worm-lock

iTech STANDARD PREVIEW
(standards.iteh.ai)

Figure 3 — finishing segment for working fore-parts and chamfers

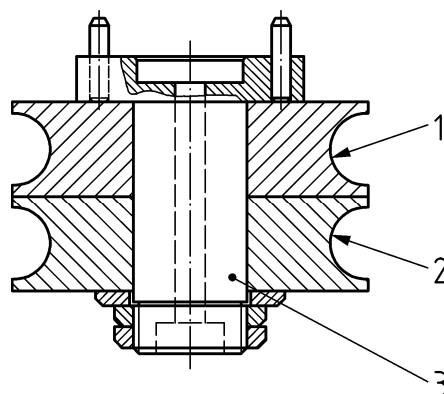
3.4.2
combination tool groove cutting/calibration

Key

- 1 cut-off wheel
- 2 milling cutter
- 3 fixing holes
- 4 diamond segment

Figure 4 — Combination tool groove cutting/calibration

3.4.3 combination tool for shaped edges



Key

- 1 profile tool, rough
- 2 profile tool, fine
- 3 quick change coupler

Figure 5 — Combination tool for shaped edges

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN 15572:2007](https://standards.iteh.ai/catalog/standards/sist/432d72a7-9b90-4bfc-9a3d-3a496dfbce1c/osist-pren-15572-2007)

<https://standards.iteh.ai/catalog/standards/sist/432d72a7-9b90-4bfc-9a3d-3a496dfbce1c/osist-pren-15572-2007>