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Safety requirements for bonded abrasive products

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 12413:2019 sisaldab Euroopa standardi EN 12413:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 12413:2019 consists of the English text of the European standard EN 12413:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

Safety requirements for bonded abrasive products

Exigences de sécurité pour les produits abrasifs  
agglomérés

Sicherheitsanforderungen für Schleifwerkzeuge aus  
gebundenem Schleifmittel

This European Standard was approved by CEN on 5 August 2019.

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

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## European foreword

This document (EN 12413:2019) has been prepared by Technical Committee CEN/TC 143 “Machine tools — Safety”, the secretariat of which is held by SNV.

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of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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

This document supersedes EN 12413:2007+A1:2011.

Significant technical differences between EN 12413:2007+A1:2011 and EN 12413:2019 are as follows:

- a) Clause 3 “Terms and definitions” has been revised;
- b) several modifications throughout the document have been done due to a change of concept regarding the terms “grinding” and “cutting-off” where the expression “grinding” does not include “cutting-off” anymore;
- c) the abbreviation “RE” for the “Restrictions of use” has been deleted;
- d) the type names in Table 6 have been checked and updated (the new edition of ISO 525 that is still under preparation will also include these revised types);
- e) in Table 6, the new Types 17R, 18B, 18P and 19R have been added;
- f) 6.2 “Scope of inspection by the manufacturer” has been moved to an informative Annex F “Recommended scope of the in-process inspection”;
- g) in Annex A, requirements for safety symbols (including symbols for personal protective equipment) have been added;
- h) in Table A.2, the following ‘restrictions to use’ including safety symbols have been added: “Only for grinding at an angle greater than 10°”. For the ‘restriction to use’ “Only permitted for totally enclosed working areas”, a safety symbol has been added;
- i) a new Table A.3 with symbols for personal protective equipment and a new safety symbol for “Do not use a damaged abrasive wheel” has been added;
- j) the three point side load test in C.3 has been deleted;
- k) Bibliography has been updated.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

This document has been prepared to provide one means of conforming with essential safety requirements, e.g. of the General Product Safety Directive and associated EFTA regulations.

This document is addressed to designers, manufacturers and suppliers of the abrasive products described in the scope. In addition, it helps designers, manufacturers and suppliers of grinding machines in the selection of abrasive products, in order to reduce the risks and achieve conformity of the respective machinery with the essential health and safety requirements of the Machinery Directive.

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

## 1 Scope

This document is applicable to rotating bonded abrasive products. It specifies requirements and/or measures for the removal or reduction of hazards resulting from the design and application of the abrasive products.

This document also contains procedures and tests for verification of compliance with the requirements as well as safety information for use, which is to be made available to the user by the manufacturer.

This document does not apply to superabrasive products and coated abrasive products.

## 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.

EN ISO 6103, *Bonded abrasive products - Permissible unbalances of grinding wheels as delivered - Static testing (ISO 6103)*

ISO 525, *Bonded abrasive products — General requirements*

ISO 13942, *Bonded abrasive products — Limit deviations and run-out tolerances*

## 3 Terms, definitions and symbols

For the purposes of this document, the following terms and definitions apply.

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

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

### 3.1 General

#### 3.1.1

##### **bonded abrasive product**

product consisting of abrasive grains held together by a bond

EXAMPLE Typical abrasive grains are aluminium oxide or silicon carbide

Note 1 to entry: Types of bonded abrasive products are defined in ISO 525.

### 3.2 Grinding and cutting-off machines

#### 3.2.1

##### **stationary machine**

machine being fixed in position during operation

Note 1 to entry: See for example EN ISO 16089.

Note 2 to entry: Included are fixed swing frame machines and mobile machines clamped firmly in position during use.

Note 3 to entry: Transportable machines are fixed in position during operation and therefore considered to be stationary machines.