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Safety requirements for superabrasive products

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 13236:2010+A1:2015 sisaldab Euroopa standardi EN 13236:2010+A1:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 13236:2010+A1:2015 consists of the English text of the European standard EN 13236:2010+A1:2015.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 23.12.2015.	Date of Availability of the European standard is 23.12.2015.
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English Version

## Safety requirements for superabrasive products

Prescriptions de sécurité pour les produits  
superabrasifsSicherheitsanforderungen für Schleifwerkzeuge mit  
Diamant oder Bornitrid

This European Standard was approved by CEN on 16 October 2010 and includes Amendment 1 approved by CEN on 17 November 2015.

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## European foreword

This document (EN 13236:2010+A1:2015) 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of an identical text or by endorsement, at the latest by June 2016 and conflicting national standards shall be withdrawn at the latest by June 2016.

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.

The provisions of this European Standard need not be mandatory to superabrasive products manufactured the first 12 months after publication of this European Standard.

This document includes Amendment 1 approved by CEN on 17 November 2015.

This document supersedes A1 EN 13236:2010 A1.

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

A1 Significant changes between EN 13236:2001 and EN 13236:2010 were as follows: A1

- a) the standard was technically and editorially revised and partly adapted to EN 12413:2007 about bonded abrasive products and EN 13743:2009 about coated abrasive products;
- b) the term "burst speed factor" was included in Table 2, Table 5, Table 7 and Table 13;
- c) in the requirements it is now distinguished between precision and non-precision cutting-off wheels;
- d) new 5.3.5.3 defines restrictions in design and position of cuts and openings in the metal blank of cutting-off wheels for hand-held applications;
- e) changed 5.3.6.2 on dimensional limitations and bending moment for segmented non-precision cutting-off wheels for hand-held applications, with requirements now depending on segment height and segment length;
- f) requirements for reconditioned non-precision cutting-off wheels were included in new 5.3.6.4 and new normative Annex D;
- g) Clause 6 was shortened to verification of safety requirements. The scope of inspection and testing has been deleted because it is the responsibility of the manufacturer to put in place respective test procedures that give them the confidence that all safety requirements defined in this standard are respected;
- h) the requirements for colour code stripes were deleted in Annex A and are now presented in new Annex B;
- i) Table A.3 and Table A.4 about restrictions for use were combined to one table and thereby adapted to EN 12413 and EN 13743;
- j) Clause A.2 about execution of the marking was simplified;

- k) Annex B about blotters was deleted and part of its content was included in 5.2.5;
- l) Annex C about mounted points was completely revised and shortened;
- m) Annex D with the speed conversion table (now Annex E) was editorially revised and maximum operating speeds above 320 m/s were deleted;
- n) Annex E about shapes and dimensions of grinding wheels and cutting-off wheels had become obsolete with publication of ISO 6104 and was therefore deleted;
- o) Annex F about grain sizes and concentration for diamond and cubic boron nitride had become obsolete with publication of ISO 6106 and was therefore deleted.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



## Introduction

This European Standard 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 European Standard is addressed to designers, manufacturers and suppliers of the superabrasive products described in the scope as well as to those who are reconditioning superabrasive cutting-off wheels. In addition, it helps designers, manufacturers and suppliers of grinding machines in the selection of superabrasive products, in order to reduce the risks and achieve conformity of the respective machinery with the Essential Safety Requirements of the Machinery Directive.

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

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## 1 Scope

**A1** This European Standard only applies to superabrasives products containing natural or synthetic diamond or cBN (cubic boron Nitride). It includes precision grinding and cutting-off wheels, non-precision cutting-off wheels, diamond wires, mounted points and other superabrasive products for non-precision grinding. It also applies to reconditioned superabrasive cutting-off wheels. **A1**

This European Standard specifies requirements and/or measures for the removal or reduction of hazards resulting from the design and application of the superabrasive products.

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

The hazards taken into consideration are listed in Clause 4.

This European Standard does not apply to bonded abrasive products, coated abrasive products, rotating dressing tools, truers nor any non-rotating superabrasive products.

## 2 Normative references

**A1** The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. **A1**

EN ISO 286-2:2010, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts (ISO 286-2:2010)*

ISO 22917, *Superabrasives — Limit deviations and run-out tolerances for grinding wheels with diamond or cubic boron nitride*

## 3 Terms, definitions and symbols

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

### 3.1 General

#### 3.1.1

##### **superabrasive product**

abrasive product containing natural or synthetic diamond or cubic boron nitride in a bond

### 3.2 Grinding machines

#### 3.2.1

##### **stationary grinding machine**

grinding machine being fixed in position during operation

**A1** Note 1 to entry: **A1** See for example EN 13218.

#### 3.2.2

##### **mobile grinding machine**

grinding machine not being fixed in position during operation

**A1** Note 1 to entry: **A1** Mobile grinding machines are manually guided (but not supported) by hand during use, e.g. floor grinding machines.