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NSAI Standards

Irish Standard
I.S. EN 13236:2010+A1:2015

Safety requirements for superabrasive products

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I.S. EN 13236:2010+A1:2015

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National Foreword

I.S. EN 13236:2010+A1:2015 is the adopted Irish version of the European Document EN 13236:2010+A1:2015, Safety requirements for superabrasive products

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13236:2010+A1

December 2015

ICS 25.100.70

Supersedes EN 13236:2010

English Version

Safety requirements for superabrasive products

Prescriptions de sécurité pour les produits superabrasifs

Sicherheitsanforderungen 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.

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.

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Contents

Page

European foreword ... 5
Introduction ... 7
1 Scope ... 8
2 Normative references ... 8
3 Terms, definitions and symbols ... 8
3.1 General ... 8
3.2 Grinding machines ... 8
3.3 Grinding method ... 9
3.4 Type of application ... 9
3.5 Symbols ... 11
3.6 Other symbols ... 11
4 List of significant hazards ... 12
5 Safety requirements ... 12
5.1 General requirements ... 12
5.2 Requirements for precision superabrasive grinding and cutting-off wheels ... 13
5.2.1 Bore tolerances ... 13
5.2.2 Sequence of maximum operating speeds ... 13
5.2.3 Safety factors ... 13
5.2.4 Maximum operating speeds ... 13
5.2.5 Blotters ... 14
5.3 Requirements for non-precision cutting-off wheels ... 14
5.3.1 Bore tolerances ... 14
5.3.2 Sequence of maximum operating speeds ... 14
5.3.3 Safety factors ... 15
5.3.4 Maximum operating speeds ... 15
5.3.5 Requirements for the metal blank ... 16
5.3.6 Requirements for the connection of the superabrasive section to the metal blank ... 19
5.3.7 Tensioning of non-precision cutting-off wheels ... 21
5.3.8 Limitation of sides abrasives and/or superabrasives coating ... 21
5.4 Requirements for diamond wires ... 21
5.4.1 General ... 21
5.4.2 Requirements ... 21
5.4.3 Maximum operating speeds ... 22
5.5 Requirements for mounted points ... 22
5.5.1 Spindle diameter tolerances ... 22
5.5.2 Sequence of maximum operating speeds ... 22
5.5.3 Safety factors ... 22
5.6 Requirements for other superabrasive products for non-precision grinding ... 22
5.6.1 Bore diameter tolerances ... 22
5.6.2 Sequence of maximum operating speeds ... 22
5.6.3 Safety factors ... 22
5.6.4 Maximum operating speeds ... 23
5.6.5 Requirements for the connection of the abrasive section to the core ... 23
5.7 Marking ... 24

This is a free page sample. Access the full version online.

6 Verification of the safety requirements ... 24
6.1 Verification of the general requirements ... 24
6.1.1 Visual inspection ... 24
6.1.2 Ring test ... 24
6.2 Verification of the strength requirements ... 24
6.2.1 Verification of the safety factor ... 24
6.2.2 Verification of the bending moment of non-precision cutting-off wheels ... 24
6.2.3 Verification of the strength requirements for other superabrasive products for non-precision grinding ... 27
6.2.4 Verification methods for diamond wires ... 28
6.3 Verification of marking ... 30
6.4 Verification of the requirements for blotters ... 30
6.5 Verification of tensioning of non-precision cutting-off wheels ... 30

7 Information for use ... 31

Annex A (normative) **Marking** ... 32
A.1 Content of the marking ... 32
A.1.1 Marking requirements ... 32
A.1.2 Additional inscriptions ... 34
A.1.3 Multiple or gang mounted wheels ... 34
A.2 Execution of the marking ... 35

Annex B (normative) **Colour codes** ... 36

Annex C (informative) **Mounted points** ... 37
C.1 Example of calculation of the maximum permissible speed of rotation ... 37
C.2 Example for the application of the calculation method ... 40
C.2.1 Types of mounted points ... 40
C.2.2 Assumptions for the calculation ... 41
C.2.3 Maximum permissible speeds of rotation ... 42

Annex D (normative) **Reconditioning of cutting-off wheels according to 5.3.6.4** ... 44
D.1 Preconditions for reconditioning ... 44
D.2 Additional marking requirements ... 44

Annex E (informative) **Speed conversion table** ... 46

Bibliography ... 49

Figures

Figure 1 — Position of cuts and openings in steel blanks ... 18

Figure 2 — Example of cut-outs and openings ... 19

Figure 3 — Segmented cutting-off wheels: Dimensions of segment height X_1 ... 25

Figure 4 — Example of a bending test device for segmented cutting-off wheels ... 25

Figure 5 — Cutting-off wheels with continuous rim: Dimensions of segment height X_1 ... 26

Figure 6 — Example of a bending test device for cutting-off wheels with continuous rim ... 27

Figure 7 — Example of a shearing force test device ... 28

Tables

Table 1 — Grinding method, type of machine, type of application ... 10

This is a free page sample. Access the full version online.

Table 2 — Symbols ... 11
Table 3 — Other symbols ... 12
Table 4 — List of significant hazards ... 12
Table 5 — Safety factors for precision superabrasive grinding and cutting-off wheels ... 13
Table 6 — Maximum operating speeds as a function of the bond type ... 14
Table 7 — Safety factors for non-precision cutting-off wheels ... 15
Table 8 — Maximum operating speeds as a function of the bond type ... 15
Table 9 — Dimensions of blanks for dry cutting-off ... 16
Table 10 — Dimensions of blanks for wet cutting-off ... 17
Table 11 — Bending strength σ_b for cutting-off wheels for the use on hand-held cutting-off machines depending on segment height X_1 and segment length L_2 ... 20
Table 12 — Minimum bending moment M_b ... 20
Table 13 — Safety factors for other superabrasive products for non-precision grinding ... 23
Table 14 — Maximum operating speeds as a function of the bond type ... 23
Table A.1 — Marking of superabrasive products ... 32
Table A.2 — Restrictions of use (RE) ... 34
Table B.1 — Colour codes and design of colour codes ... 36
Table C.1 — Designation of the calculation quantities ... 39
Table C.2 — Designation of mounted points ... 40
Table C.3 — Characteristics for the calculation of maximum speeds of rotation ... 41
Table C.4 — Mounted points, cylindrical shape, plain spindles (ZYN) vitrified bond (V) ... 42
Table C.5 — Mounted points, cylindrical shape, reduced spindles (ZYA), vitrified bond (V) ... 42
Table C.6 — Mounted points, cylindrical shape, plain spindle Schaft (ZYN), electroplated bond (G) ... 43
Table E.1 — Speed conversion ... 46

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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;

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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.

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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.

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