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BS EN ISO 6103:2014



BSI Standards Publication

Bonded abrasive products — Permissible unbalances of grinding wheels as delivered — Static testing

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This British Standard is the UK implementation of EN ISO 6103:2014. It supersedes BS EN ISO 6103:2005 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MTE/13, Grinding wheels, abrasive tools, paper and cloths, and powders.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

Bonded abrasive products - Permissible unbalances of grinding wheels as delivered - Static testing (ISO 6103:2014)

Produits abrasifs agglomérés - Balourds admissibles des meules en état de livraison - Contrôle statique (ISO 6103:2014)

Schleifkörper aus gebundenem Schleifmittel - Zulässige Unwucht von Schleifscheiben im Lieferzustand - Statische Prüfung (ISO 6103:2014)

This European Standard was approved by CEN on 6 September 2014.

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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Foreword

This document (EN ISO 6103:2014) has been prepared by Technical Committee ISO/TC 29 "Small tools" in collaboration with 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of an identical text or by endorsement, at the latest by April 2015, and conflicting national standards shall be withdrawn at the latest by April 2015.

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 supersedes EN ISO 6103:2005.

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.

Endorsement notice

The text of ISO 6103:2014 has been approved by CEN as EN ISO 6103:2014 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 5, *Grinding wheels and abrasives*.

This fourth edition cancels and replaces the third edition (ISO 6103:2005), which has been technically revised to introduce the following significant changes:

- a) the scope has been amended with respect to minimum outside diameters;
- b) the normative references to ISO 603 series have been deleted;
- c) types of bonded abrasive products for hand-held grinding machines in [Table 1](#) have been amended;
- d) diameter ranges in [Table 1](#) have been corrected;
- e) a bibliography has been added.

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Bonded abrasive products — Permissible unbalances of grinding wheels as delivered — Static testing

1 Scope

This International Standard specifies the maximum permissible values of unbalances for bonded abrasive wheels with an outside diameter $D \geq 125$ mm and maximum operating speed $v_s \geq 16$ m/s, in the as-delivered condition.

It also specifies the method for measuring the unbalance and the practical method for testing whether a grinding wheel is acceptable or not.

This International Standard is applicable to bonded abrasive wheels in the as-delivered condition.

This International Standard is not applicable to

- diamond, cubic boron nitride or natural stone grinding wheels, or
- centreless control wheels, lapping and disc wheels, ball wheels or glass grinding wheels.

NOTE 1 The values given refer to the grinding wheel itself, independent of any unbalance which may exist in the balancing arbor or in the means of fastening it to this arbor. These various elements, together with the flanges or hub-flanges, are assumed to be balanced, homogeneous and free from geometrical defects.

NOTE 2 The effects of unbalance are basically

- additional stresses on the arbor, the machine and its mounting,
- excessive wear of the bearings,
- vibration prejudicial to the quality of machining and increased internal stresses in the grinding wheel, and increased operator fatigue.

2 Terms and definitions

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

2.1

unbalance

product of radius and mass

Note 1 to entry: Radius is expressed in millimetres. Mass is expressed in grams. The product of radius and mass is expressed in grams multiplied by millimetres.

2.2

intrinsic unbalance of a grinding wheel

U_i

product of the mass m_1 of the grinding wheel and the distance e between its centre of mass G (centre of gravity) and the axis O of its bore

Note 1 to entry: See [Figure 1](#).