

Australian/New Zealand Standard™

**Bonded abrasive products—Permissible
unbalances of grinding wheels as
delivered—Testing**



Standards Australia



STANDARDS
NEW ZEALAND
Te Kaitiaki Take Kōwhiri

AS/NZS 4820:2001

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Abrasives Institute of Australia
Australian Association of Certification Bodies
Australian Business
Australian Chamber of Commerce and Industry
Industrial Diamond Association
New Zealand Institute of Engineering Science
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-033, Abrasives.

This Standard is identical with and has been reproduced from, ISO 6103:1999, *Bonded abrasive products—Permissible unbalances of grinding wheels as delivered—Testing*.

The objective of this Standard is to provide manufacturers and users of bonded abrasive products with details of maximum permissible values of unbalance for various types of grinding wheels, in ‘as delivered’ condition, with outside diameters equal to or greater than 125 mm with a peripheral speed greater than or equal to 16 m/s.

Statements expressed in mandatory terms in notes to tables, figures or clauses are deemed to be requirements of this Standard.

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- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
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<i>Reference to International Standards</i>		<i>Australian or Joint Australian/New Zealand Standard</i>	
ISO		AS/NZS	
603	Bonded abrasive products— Dimensions	4524	Bonded abrasive products— Dimensions
603-1	Part 1: Grinding wheels for external cylindrical grinding between centres	4524.1	Part 1: Grinding wheels for external cylindrical grinding between centres
603-2	Part 2: Grinding wheels for centreless external cylindrical grinding	4524.2	Part 2: Grinding wheels for centreless external cylindrical grinding
603-3	Part 3: Grinding wheels for internal cylindrical grinding	4524.3	Part 3: Grinding wheels for internal cylindrical grinding
603-4	Part 4: Grinding wheels for surface grinding/peripheral grinding	4524.4	Part 4: Grinding wheels for surface grinding/peripheral grinding
603-5	Part 5: Grinding wheels for surface grinding/face grinding	4524.5	Part 5: Grinding wheels for surface grinding/side grinding
603-6	Part 6: Grinding wheels for tool and tool room grinding	4524.6	Part 6: Grinding wheels for tool and tool room grinding
603-7	Part 7: Grinding wheels for manually grinding	4524.7	Part 7: Grinding wheels for off- hand grinding
603-8	Part 8: Grinding wheels for deburring and fettling/snagging	4524.8	Part 8: Grinding wheels for deburring and fettling/snagging
603-9	Part 9: Grinding wheels for high- pressure grinding	4524.9	Part 9: Grinding wheels for high- pressure grinding
603-12	Part 12: Grinding wheels for deburring and fettling on a straight grinder	4524.12	Part 12: Grinding wheels for deburring and fettling on a straight grinder

ISO		AS/NZS	
603-13	Part 13: Grinding wheels for deburring and fettling on a vertical grinder	4524.13	Part 13: Grinding wheels for deburring and fettling on a vertical grinder
603-14	Part 14: Grinding wheels for deburring and fettling/snagging on an angle grinder	4524.14	Part 14: Grinding wheels for deburring and fettling/snagging on an angle grinder
603-15	Part 15: Grinding wheels for cutting-off on stationary and mobile cutting-off machines	4524.15	Part 15: Grinding wheels for cutting-off on cutting-off machines or swing frame machines
603-16	Part 16: Grinding wheels for cutting-off on hand held power tools	4524.16	Part 16: Grinding wheels for cutting-off on an angle grinder

CONTENTS

	<i>Page</i>
1 SCOPE.....	1
2 NORMATIVE REFERENCES	1
3 TERMS AND DEFINITIONS	2
4 PERMISSIBLE UNBALANCE, U_a	3
5 MEASUREMENT OF THE INTRINSIC UNBALANCE.....	4
6 CHECKING THE INTRINSIC UNBALANCE	4
BIBLIOGRAPHY	8

AUSTRALIAN/NEW ZEALAND STANDARD

Bonded abrasive products — Permissible unbalances of grinding wheels as delivered — Testing

1 Scope

This International Standard specifies the maximum permissible values of unbalance for various grinding wheels of ISO 603-1 to ISO 603-9 and ISO 603-12 to ISO 603-16 in the as-delivered condition, with outside diameter equal to or greater than 125 mm and with a maximum operating speed, v_s , equal to or greater than 16 m/s.

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 applies to bonded abrasive grinding wheels in the as-delivered condition.

This International Standard does not apply to

- diamond, cubic boron nitride or natural stone grinding wheels;
- 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;
- increased operator fatigue.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 603-1, *Bonded abrasive products — Dimensions — Part 1: Grinding wheels for external cylindrical grinding between centres.*

ISO 603-2, *Bonded abrasive products — Dimensions — Part 2: Grinding wheels for centreless external cylindrical grinding.*

ISO 603-3, *Bonded abrasive products — Dimensions — Part 3: Grinding wheels for internal cylindrical grinding.*

ISO 603-4, *Bonded abrasive products — Dimensions — Part 4: Grinding wheels for surface grinding/peripheral grinding.*