

Australian/New Zealand Standard™

**Hand-held motor-operated electric
tools—Safety**

**Part 2.23: Particular requirements for
die grinders and small rotary tools**



AS/NZS 60745.2.23:2013

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002, Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 2 October 2013 and on behalf of the Council of Standards New Zealand on 20 September 2013.

This Standard was published on 25 October 2013.

The following are represented on Committee EL-002:

Australian Industry Group
Australian Retailers Association
Business New Zealand
Consumer Electronic Suppliers Association, Australia
Consumers' Federation of Australia
Electrical Regulatory Authorities, Australia
Electrical Compliance Testing Association
Electrical consultants
Engineers Australia
International Accreditation New Zealand
Ministry of Business, Innovation and Employment, New Zealand
New Zealand Electric Fence Energizer Manufacturers' Standards Group

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This Standard was issued in draft form for comment as DR 13915.

Australian/New Zealand Standard™

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**Part 2.23: Particular requirements for
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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 60745.2.23:2013**Hand-held motor-operated electric tools –
Safety –****Part 2.23: Particular requirements for die grinders and small rotary tools****Foreword**

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002- Safety of Household and Similar Electrical Appliances and Small Power Transformers.

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with safety requirements designed to give the user protection against hazards that might occur during normal operation and abnormal operation of the tool and which may be used as the basis for approval for sale or for connection to the electricity supply mains in Australia and New Zealand

The text of IEC 60745-2-23 Ed 1, prepared by IEC Technical Committee TC 116, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

This Standard is an adoption with national modifications of the first edition of IEC 60745-2-23, *Hand-held motor-operated electric tools – Safety – Part 2-23: Particular requirements for die grinders and small rotary tools*. It has been varied as indicated to take account of Australian and New Zealand conditions.

This part 2 has to be used in conjunction with the latest edition of AS/NZS 60745.1 Hand-held motor-operated electric tools – Safety – Part 1: General requirements and its Amendments. It was established on the basis of AS/NZS 60745.1:2009.

This part 2 supplements or modifies the corresponding clauses of AS/NZS 60745.1 so as to convert it into the Australian/New Zealand Standard: Safety requirements for die grinders and small rotary tools.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

NOTE 1 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letters AZ.

NOTE 2 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3.

p NOTE 3 In this document, p is used in the margin to indicate instructions for preparing a consolidated version.

The essential safety requirements in AS/NZS 3820¹ that could be applicable to requirements for die grinders and small rotary tools are covered by this standard.

The national variations to IEC 60745-2-23 Ed 1 form the New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

There are no national variations from the IEC Standard from which this standard is adopted, other than those listed in the national variations to AS/NZS 60745.1.

¹ AS/NZS 3820 *Essential safety requirements for electrical equipment*

The text of the International Standard IEC 60745-2-23 Ed 1 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

AUSTRALIAN NATIONAL VARIATIONS

There are no national variations to this Part 2 other than those listed in Annex ZZ to AS/NZS 60745.1:2009.

NEW ZEALAND NATIONAL VARIATIONS

There are no national variations to this Part 2 other than those listed in Annex ZZ to AS/NZS 60745.1:2009.

Annex ANZ (normative)

Normative references to international publications with their corresponding joint Australia/New Zealand publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by national variations the relevant joint Australia/New Zealand publications applies if the national variations are needed to ensure the safety of the appliance for Australia/New Zealand conditions. These international publications are indicated by (mod). If an international publication is not so indicated, then either it or the listed Australia/New Zealand publication may be used.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>AS/NZS</u>	<u>Year</u>
ISO 603-12		<i>Bonded abrasive products – Dimensions – Part 12: Grinding wheels for deburring and fettling on a straight grinder</i>		

CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references	5
3 Terms and definitions	5
4 General requirements.....	6
5 General conditions for the tests	6
6 Void.....	6
7 Classification.....	6
8 Marking and instructions.....	6
9 Protection against access to live parts.....	10
10 Starting	10
11 Input and current	10
12 Heating	10
13 Leakage current	10
14 Moisture resistance	11
15 Electric strength	11
16 Overload protection of transformers and associated circuits	11
17 Endurance.....	11
18 Abnormal operation	11
19 Mechanical hazards.....	11
20 Mechanical strength	12
21 Construction.....	12
22 Internal wiring.....	12
23 Components	12
24 Supply connection and external flexible cords	13
25 Terminals for external conductors.....	13
26 Provision for earthing	13
27 Screws and connections.....	13
28 Creepage distances, clearances and distances through insulation.....	13
29 Resistance to heat, fire and tracking.....	13
30 Resistance to rusting.....	13
31 Radiation, toxicity and similar hazards.....	13
Annexes	15
Annex K (normative) Battery tools and battery packs	15
Bibliography.....	16
Figure 101 – Wheel overhang.....	14

INTERNATIONAL ELECTROTECHNICAL COMMISSION

HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2-23: Particular requirements for die grinders and small rotary tools

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60745-2-23 has been prepared IEC technical committee 116: Safety of motor-operated electric tools.

The text of this standard is based on the following documents:

FDIS	Report on voting
116/111/FDIS	116/120/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This part 2 is to be used in conjunction with the latest edition of IEC 60745-1 and its amendments. It was established on the basis of the fourth edition (2006) of that standard.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to IEC 60745-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60745-1, so as to convert that publication into the IEC standard: Safety requirements for die grinders and small rotary tools.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

NOTE 3 In this standard, the following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

A list of all parts of the IEC 60745 series, under the general title: *Hand-held motor-operated electric tools – Safety*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2-23: Particular requirements for die grinders and small rotary tools

1 Scope

This clause of Part 1 is applicable, except as follows:

Addition:

This standard applies to **die grinders** and small **rotary tools** for mounted accessories not exceeding 55 mm in diameter and mounted sanding accessories not exceeding 80 mm in diameter such as

- threaded cones or plugs that are threaded on a mandrel with an unrelieved shoulder flange,
- mandrel **mounted wheels**, and
- rotary files

with a **rated speed** not exceeding a peripheral speed of the accessory of 80 m/s at **rated capacity**.

This standard does not apply to straight and vertical grinders utilizing flanges for driving an abrasive accessory. Those tools are covered by IEC 60745-2-3.

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

ISO 603-12, *Bonded abrasive products – Dimensions – Part 12: Grinding wheels for deburring and fettling on a straight grinder*

3 Terms and definitions

This clause of Part 1 is applicable, except as follows:

3.1 3.101

cones and plugs

organic or inorganic bonded abrasives of various shapes and sizes with a threaded insert

3.2 3.102

die grinder

tool with the rotating spindle in-line with the motor shaft equipped with a collet or chuck intended for use with **mounted wheels** or threaded mandrel mounted **cones and plugs**

3.3 3.103

mounted wheels

organic or inorganic bonded abrasives of various shapes and sizes that are permanently mounted on a mandrel

3.4 3.104

rated capacity

maximum diameter of the rotating accessory to be fitted on the tool as specified by the manufacturer's instruction