



Australian/New Zealand Standard

**Electric motor-operated hand-held tools,  
transportable tools and lawn and garden  
machinery – Safety –**

**Part 3.4: Particular requirements for transportable bench  
grinders**

Includes IEC 62841-3-4 Ed 1

**AS/NZS 62841.3.4:2017**



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 December 2016 and by the New Zealand Standards Approval Board on 9 December 2016.

This standard was published on 13 January 2017.

---

**The following are represented on Committee EL-002:**

Australian Industry Group  
National Retailers Association (Australia)  
Business New Zealand  
Consumer Electronic Suppliers Association, Australia  
Consumers' Federation of Australia  
Electrical Regulatory Authorities, Australia  
Electrical consultants  
Engineers Australia  
JAS-ANZ  
Testing Interests New Zealand  
WorkSafe, New Zealand  
New Zealand Electric Fence Energizer Manufacturers' Standards Group

---

**Keeping standards up to date**

Standards are living documents which reflect progress in science, technology, and systems. To maintain their currency, all standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current standard, which should include any amendments which may have been published since the standard was purchased.

Detailed information about joint Australian/New Zealand standards can be found by visiting the standards webshop in Australia at [www.saiglobal.com](http://www.saiglobal.com) or Standards New Zealand's website at [www.standards.govt.nz](http://www.standards.govt.nz).

For more frequent listings or notification of revisions, amendments, and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national standards organisation.

We also welcome suggestions for improvement in our standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the title page.

---

*This standard was issued in draft form for comment as DR 16908*

AS/NZS 62841.3.4:2017  
(IEC 62841-3-4 Ed 1, IDT)

## Australian/New Zealand Standard™

---

Electric motor-operated hand-held  
tools, transportable tools and lawn and  
garden machinery –  
Safety –  
Part 3.4: Particular requirements for  
transportable bench grinders

(IEC 62841-3-4 Ed 1, IDT)

---

|                                     |
|-------------------------------------|
| Originated as AS/NZS 62841.3.4:2017 |
|-------------------------------------|

### **COPYRIGHT**

© Standards Australia/ Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher

Published jointly by:  
Standards Australia Ltd  
GPO Box 476, Sydney, NSW 2001 Australia, and  
Standards New Zealand  
Private Bag 2439, Wellington 6140, New Zealand

ISBN 978-1-77664-743-9 (PRINT)

ISBN 978-1-77664-744-6 (PDF)

## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

## AS/NZS 62841.3.4:2017

**ELECTRIC MOTOR-OPERATED HAND-HELD TOOLS, TRANSPORTABLE TOOLS  
AND LAWN AND GARDEN MACHINERY –  
SAFETY –****Part 3.4: Particular requirements for transportable bench grinders****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 appliance 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 62841-3-4 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 62841-3-4, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety – Part 3-4 Particular requirements for transportable bench grinders*. It has been varied as indicated to take account of Australian and New Zealand conditions.

This part 3 has to be used in conjunction with the latest edition of AS/NZS 62841.1 Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery – Safety – Part 1: General requirements and its Amendments. It was established on the basis of AS/NZS 62841.1:2015.

This part 3 supplements or modifies the corresponding clauses of AS/NZS 62841.1 so as to convert it into the Australian/New Zealand Standard: Safety requirements for appliances for transportable bench grinders.

When a particular subclause of Part 1 is not mentioned in this part 3, 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.

COPYRIGHT

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 3820<sup>1</sup> that could be applicable to requirements for transportable bench grinders are covered by this standard.

The national variations to IEC 62841-3-4 Ed 1 form the Australian and 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).

---

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

The text of the International Standard IEC 62841-3-4 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 3 other than those listed in the national variations in AS/NZS 62841.1:2015.

#### **NEW ZEALAND NATIONAL VARIATIONS**

There are no national variations to this Part 3 other than those listed in the national variations in AS/NZS 62841.1:2015.

**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> |
|--------------------|-------------|--------------|---------------|-------------|
|--------------------|-------------|--------------|---------------|-------------|



## CONTENTS

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| FOREWORD .....                                                           | 4  |
| 1 Scope .....                                                            | 6  |
| 2 Normative references .....                                             | 6  |
| 3 Terms and definitions .....                                            | 6  |
| 4 General requirements .....                                             | 7  |
| 5 General conditions for the tests .....                                 | 7  |
| 6 Radiation, toxicity and similar hazards .....                          | 7  |
| 7 Classification .....                                                   | 7  |
| 8 Marking and instructions .....                                         | 7  |
| 9 Protection against access to live parts .....                          | 9  |
| 10 Starting .....                                                        | 9  |
| 11 Input and current .....                                               | 9  |
| 12 Heating .....                                                         | 9  |
| 13 Resistance to heat and fire .....                                     | 9  |
| 14 Moisture resistance .....                                             | 9  |
| 15 Resistance to rusting .....                                           | 9  |
| 16 Overload protection of transformers and associated circuits .....     | 9  |
| 17 Endurance .....                                                       | 10 |
| 18 Abnormal operation .....                                              | 10 |
| 19 Mechanical hazards .....                                              | 10 |
| 20 Mechanical strength .....                                             | 14 |
| 21 Construction .....                                                    | 16 |
| 22 Internal wiring .....                                                 | 17 |
| 23 Components .....                                                      | 17 |
| 24 Supply connection and external flexible cables and cords .....        | 17 |
| 25 Terminals for external conductors .....                               | 17 |
| 26 Provision for earthing .....                                          | 17 |
| 27 Screws and connections .....                                          | 17 |
| 28 Creepage distances, clearances and distances through insulation ..... | 17 |
| Annexes .....                                                            | 22 |
| Annex I (informative) Measurement of noise and vibration emissions ..... | 22 |
| Bibliography .....                                                       | 23 |
| Figure 101 – Bench grinder .....                                         | 18 |
| Figure 102 – Opening angles and dimensions for a guard .....             | 19 |
| Figure 103 – Transparent screen .....                                    | 20 |
| Figure 104 – Bench grinder with inclinable work rest .....               | 20 |
| Figure 105 – Flange dimensions .....                                     | 21 |
| Table 4 – Required performance levels .....                              | 10 |
| Table 101 – Minimum flange dimensions (see Figure 105) .....             | 10 |

|                                                             |    |
|-------------------------------------------------------------|----|
| Table 102 – Test torque for flanges .....                   | 13 |
| Table 103 – Guard thickness for steel.....                  | 15 |
| Table 104 – Guard thickness for aluminium .....             | 15 |
| Table 105 – Minimum tool spindle diameter .....             | 16 |
| Table I.101 – Operating conditions for bench grinders ..... | 22 |