

Australian/New Zealand Standard™

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

**Part 2.9: Particular requirements for
tappers**



AS/NZS 60745.2.9:2009

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 17 March 2009 and on behalf of the Council of Standards New Zealand on 13 March 2009.

This Standard was published on 29 May 2009.

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
Association of Certification Bodies
Ministry of Consumer Affairs, 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 Standards may also be withdrawn.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 Web Shop at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. 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 organization.

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 either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 08991.

Australian/New Zealand Standard™

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

**Part 2.9: Particular requirements for
tappers**

Originated in Australia as AS C160—1959.
Previous edition AS/NZS 3160:1996.
Jointly revised and redesignated, in part, as AS/NZS 60745.2.9:2003.
Jointly revised and redesignated as AS/NZS 60745.2.9:2009.

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.

Jointly published by Standards Australia, GPO Box 476, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 9108 5

CONTENTS

FOREWORD.....	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 General requirements	5
5 General conditions for the tests	5
6 Void	5
7 Classification.....	5
8 Marking and instructions	6
9 Protection against access to live parts	6
10 Starting	6
11 Input and current	6
12 Heating	6
13 Leakage current	6
14 Moisture resistance	6
15 Electric strength	6
16 Overload protection of transformers and associated circuits	7
17 Endurance.....	7
18 Abnormal operation	7
19 Mechanical hazards.....	7
20 Mechanical strength	7
21 Construction.....	7
22 Internal wiring.....	7
23 Components.....	7
24 Supply connection and external flexible cords	7
25 Terminals for external conductors	7
26 Provision for earthing.....	7
27 Screws and connections	8
28 Creepage distances, clearances and distances through insulation	8
29 Resistance to heat, fire and tracking	8
30 Resistance to rusting	8
31 Radiation, toxicity and similar hazards	8
Annexes	9
Annex K (normative) Battery tools and battery packs	9
Annex L (normative) Battery tools and battery packs provided with mains connection or non-isolated sources	10
Annex ZZ (informative) Variations to IEC 60745-2-9 Ed 2.1 for application in Australia and New Zealand	11
Bibliography	12

AUSTRALIA/NEW ZEALAND STANDARD**HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –****Part 2.9: Particular requirements for tappers**

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 to supersede AS/NZS 60745.2.9:2003, *Hand-held motor-operated electric tools – Safety – Part 2.9: Particular requirements for tappers*, two years from publication. During this period it is anticipated that regulatory authorities will approve tappers to either standard.

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.

This Standard is an adoption with national modifications and contains the full text of the second edition of IEC 60745-2-9, *Hand-held motor-operated electric tools – Safety – Part 2.9: Particular requirements for tappers*, including its amendment 1 (2008) and has been varied as indicated to take account of Australian and New Zealand conditions.

This part is to be used in conjunction with AS/NZS 60745.1:2009 and its amendments. The Parts 2 contain clauses to supplement or modify the corresponding clauses in this part to provide the relevant requirements for each type of tool.

NOTE 1 The following print types are used:

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

The numbering of clauses, subclauses, notes, tables, figures and annexes follows that of IEC 60745-2-9 Ed 2.1. To allow for the introduction of additional material by the IEC, the numbers 101 to 300 have been reserved. To allow for additional material to be introduced by Australia and New Zealand, the numbers 301 to 400 are used to number further clauses, subclauses, notes, tables and figures in part 1. The numbers 401 to 500 are used to number further clauses, subclauses, notes, tables and figures in this part 2. Additional annexes are lettered ZA, ZB and so on

This scheme has been introduced to reduce the likelihood of the IEC and Australia and New Zealand using the same identifier for different purposes.

The use of the word VOID indicates that the IEC text is not used in Australia or New Zealand. The use of this word also avoids the need to renumber, clauses, notes, tables and figure if an earlier clause, note, table or figure is not used.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown on the cover and title page only.

- (b) In the source text "this International Standard" should read "this Australian/New Zealand Standard".
- (c) A full point substitutes for a comma when referring to a decimal marker.

Variations to IEC 60745-2-9 Ed 2.1 are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies IEC tables, figures and passages of text which, for the purposes of this Australian/New Zealand standard are deleted. Where Australian/New Zealand tables, figures or passages of text are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border.

Variations made to IEC 60745-2-9 Ed 2.1 form the New Zealand variations for the purposes of the IECEE scheme for recognition of testing to standards for safety of electrical equipment (the CB scheme). These variations have been incorporated in the body of the standard. They are listed in Annex ZZ for easy reference.

The essential safety requirements in AS/NZS 3820 that could be applicable to tappers are covered by this standard.

**HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS –
SAFETY –****Part 2.9: Particular requirements for tappers****1 Scope**

This clause of Part 1 is applicable except as follows:

Addition:

This standard applies to tappers.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

This clause of Part 1 is applicable except as follows:

Additional definition:

3.101**tapper**

tool intended for cutting internal screw threads

4 General requirements

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable.

6 Void**7 Classification**

This clause of Part 1 is applicable.