AS/NZS 60745.2.12:2009

Australian/New Zealand Standard™

Hand-held motor-operated electric tools—Safety

Part 2.12: Particular requirements for concrete vibrators (IEC 60745-2-12 Ed 2.1, MOD)

STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

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.
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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
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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.

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Australian/New Zealand Standard™

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Part 2.12: Particular requirements for concrete vibrators (IEC 60745-2-12 Ed 2.1, MOD)

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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 60745.2.12:2003, *Hand-held motor-operated electric tools – Safety – Part 2.12: Particular requirements for concrete vibrators*, two years from publication. During this period it is anticipated that regulatory authorities will approve concrete vibrators 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 60745-2-12, *Hand-held motor-operated electric tools – Safety – Part 2.12: Particular requirements for concrete vibrators*, 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 60745-2-12 Ed 2.1. To allow for the introduction of additional material by the IEC, the numbers 101 to 200 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 60745-2-12 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 60745-2-12 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 concrete vibrators are covered by this standard.

HAND-HELD MOTOR-OPERATED ELECTRIC TOOLS – SAFETY –

Part 2.12: Particular requirements for concrete vibrators

1 Scope

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

Addition:

This standard applies to concrete vibrators.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

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

3.2.9 *Replacement:*

normal load
load obtained when the tool is operated continuously, the hose and vibrator bottle being attached to the tool as for normal use. During the operation the vibrator bottle is immersed centrally in a container filled with an amount of water corresponding to at least 50 times the volume of the vibrator bottle.

The dimensions of the container are such that the diameter is about 50 % of the height of the water inside the container.

The height of the container is such that no water can splash out during the test

3.101
concrete vibrator
tool intended for compacting concrete. The active part (vibrator bottle) of the vibrator performs low-amplitude vibrations and is immersed into the mass of concrete to be vibrated. Concrete vibrators may be of one of the following designs:

a) the motor and the vibrating mechanism are inside the vibrator bottle to which the part containing the mains switch or a power converter and switch handle assembly is connected by means of a long flexible hose containing the interconnecting cable. The long flexible hose may be used as the handle (see Figure 101);

b) only the vibrator mechanism is inside the vibrator bottle to which a separate portable unit, comprising the motor, the handle and the mains switch, is connected by means of a long flexible hose containing a flexible shaft (see Figure 102)