

Australian/New Zealand Standard™

**Safety of household and similar  
electrical appliances**

**Part 2.34: Particular requirements—  
Motor-compressors  
(IEC 60335-2-34:1999, IDT)**



### **AS/NZS 3350.2.34:2001**

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 3 November 2000 and on behalf of the Council of Standards New Zealand on 10 November 2000.

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The following are represented on Committee EL-002:

Association of Certification Bodies  
Australian Chamber of Commerce and Industry  
Australian Electrical and Electronic Manufacturers Association  
Canterbury Manufacturers Association New Zealand  
Consumer Electronic Suppliers Association, Australia  
Electrical regulatory authorities, Australia  
Electrical test laboratories  
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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002, to supersede AS/NZS 3350.2.34:1997.

This Standard incorporates Amendment No. 1 (May 2007). The changes required by the amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected. Where an application date other than immediate is applicable to an amendment the date of application (DOA) is indicated by the marginal bar against the part affected or by a footnote relating to the part affected.

The objective of this Standard is to provide manufacturers and regulatory bodies with minimum safety requirements, designed to give 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 supply in Australia and New Zealand.

This Standard forms the second edition of AS/NZS 3350.2.34, *Safety of household and similar electrical appliances, Part 2.34: Particular requirements—Motor-compressors*.

This Standard is identical with and has been reproduced from, IEC 60335-2-34:1999, *Safety of household and similar electrical appliances, Part 2-34: Particular requirements for motor-compressors*. It is to be used in conjunction with the latest edition of AS/NZS 3350.1, *Safety of household and similar electrical appliances, Part 1: General requirements* and its Amendments. It was established on the basis of AS/NZS 3350.1:2002.

This Standard (Part 2) supplements or modifies the corresponding clauses in AS/NZS 3350.1 (referred to as Part 1 in this Part 2) so as to convert it into the Australian/New Zealand Standard for the safety of motor-compressors.

Where a particular clause of Part 1 is not mentioned in this Part 2, that clause applies as far as is reasonable. Where this Standard states 'addition' or 'modification' or 'replacement' the relevant text of Part 1 is to be adopted accordingly.

In this Standard, the following print types are used:

- requirements proper: in arial type;
- *test specifications: in italic type;*
- explanatory matter: in smaller arial type.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex to which they apply. A normative annex is an integral part of a Standard, whereas an informative annex is only for information and guidance.

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

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

In the source text 'this standard' should read 'this Standard'.

A full point should be substituted for a comma when referring to a decimal marker.

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## INTRODUCTION

Testing according to this standard is an option and cannot be required as a precondition for testing the complete appliance, for example by reference in clause 24 of a part 2 to IEC 60335-1. However, testing of the appliance should be reduced if an incorporated **motor-compressor** including its protection system or control system, if any, complies with this standard.

If testing of the **motor-compressor** includes testing according to annex AA, temperatures of the **motor-compressor** windings, **housing** and other parts related to the **motor-compressor** such as terminals, internal wiring and insulating materials, are not measured when the complete appliance, in which the **motor-compressor** is used, is tested.

These requirements apply to sealed (hermetic and semi-hermetic type) **motor-compressors** with their associated starting, cooling capacity control and protection systems, tested separately under the most severe conditions of the refrigerating system operation which, within reasonable limits, could occur in the applications for which they are used.

In particular, the construction detail inspection and locked-rotor testing may be done separately on the **motor-compressor**, thereby eliminating the need for inspection and testing when the **motor-compressor** is applied to many different appliances and factory built assemblies.

Operational tests may also be conducted on the **motor-compressor** separately in certain circumstances. The specification for this type testing is provided in annex AA. However, the tests of the existing standards relevant to the kind of application, such as IEC 60335-2-24 and IEC 60335-2-40, may need to be conducted on the final application and used as the final determination of acceptability.

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**Australian/New Zealand Standard****Safety of household and similar electrical appliances  
Part 2.34: Particular requirements – Motor-Compressors****1 Scope**

This clause of part 1 is replaced by the following.

This standard deals with the safety of sealed (hermetic and semi-hermetic type) **motor-compressors**, their protection and control systems, if any, which are intended for use in equipment for household and similar purposes and which conform with the standards applicable to such equipment. It applies to **motor-compressors** tested separately, under the most severe conditions that may be expected to occur in normal use, their **rated voltage** being not more than 250 V for single-phase **motor-compressors** and 480 V for other **motor-compressors**.

NOTE 1 Examples of equipment which contain motor-compressors are

- refrigerators, food freezers and ice makers (IEC 60335-2-24),
- air-conditioners, electric heat pumps and dehumidifiers (IEC 60335-2-40),
- commercial dispensing appliances and vending machines (IEC 60335-2-75),
- factory-built assemblies for transferring heat in applications for refrigerating, air-conditioning or heating purposes or a combination of such purposes.

NOTE 2 This standard does not supersede the requirements of standards relevant to the particular appliance in which the **motor-compressor** is used. However, if the **motor-compressor** type used complies with this standard, the tests for the **motor-compressor** specified in the particular appliance standard may not need to be made in the particular appliance or assembly. If the **motor-compressor control system** is associated with the particular appliance control system, additional tests may be necessary on the final appliance.

So far as is practical, this standard deals with the common hazards presented by **motor-compressors** used in appliances which are encountered by all persons in and around the home. However, it does not in general take into account playing with appliances by young children.

NOTE 3 Attention is drawn to the fact that

- for **motor-compressors** intended to be used in appliances in vehicles or on board ships, additional requirements may be necessary,
- in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities.

NOTE 4 This standard does not apply to

- **motor-compressors** designed exclusively for industrial purposes,
- **motor-compressors** used in appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas).

NOTE 5 This standard does not take into consideration failure of software. If the safety of the **motor-compressor** is dependent on the correct functioning of software, this hazard is addressed by the necessary software analysis. Requirements for this analysis are under consideration.