Australian Standard®

Approval and test specification—Semi-enclosed fuses for a.c. circuits

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The following interests are represented on Committee EL/4:

Australasian Railway Association

Australian Chamber of Commerce and Industry

Australian Electrical and Electronics Manufacturers Association

Consumer Electronics Suppliers Association

Electricity Supply Association of Australia

Ministry of Commerce, New Zealand

National Electrical Contractors Association of Australia

New Zealand Manufacturers Federation

Plastics and Chemical Industries Association Inc

Regulatory authorities (electrical)

Testing interests

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/4, Electrical Accessories, to supersede AS 3135—1980 from the date of publication.

This Standard is the result of a consensus among Australian and New Zealand representatives on the Joint Committee to produce it as an Australian Standard.

This Standard is one of a series of Approval and Test specifications issued by Standards Australia. It is to be read in conjunction with AS 3100, *Approval and test specification—General requirements for electrical equipment*.

The objective of these Standards is to outline the conditions that must be met to secure approval for the sale and use of electrical equipment. Only safety matters and related conditions are covered.

The Standard was revised to incorporate Amendment 1, to introduce a table for the cross-sectional area for the wiring in test circuits (Table 3) and to effect some editorial changes to bring it into line with current Standards Australia practice.

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

This Standard does not provide all the necessary conditions for a contract.

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STANDARDS AUSTRALIA

Australian Standard

Approval and test specification—Semi-enclosed fuses for a.c. circuits

1 SCOPE This Standard specifies essential safety requirements for semi-enclosed electric fuses, with current ratings up to, and including, 100 A, intended for installation as protective devices required under AS 3000 and intended for use in 50 Hz a.c. circuits with voltages not exceeding 650 V.

In general, these fuses are used to protect circuits having a prospective fault current up to 4 kA. Household installations usually come within this category.

NOTE: At currents smaller than rated minimum fusing current, the fuses do not give protection, because they do not blow, or blow only after an indeterminately long time. They may, however, deteriorate if they continuously carry currents greater than rated current.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1152 Specification for test sieves

3000 Electrical installations—Buildings, structures and premises (known as the SAA Wiring Rules)

3100 Approval and test specification—General requirements for electrical equipment

3 DEFINITIONS For the purpose of this Standard, the definitions below apply

3.1 Breaking current—the prospective current that a fuse is capable of breaking when tested in accordance with Clause 10.6.

3.2 Categories of duty—a code reference to the breaking current rating in kiloamperes (kA) and the power factor associated therewith. The code consists of the letter 'A' followed by the breaking current value in kA (see Clause 6.3).

3.3 Conventional fusing current (I_f)—a value of current specified as that which causes operation of the fuse link within a specified time (conventional time).

3.4 Fuse—a device that, by the fusing of one or more of its specially designed and proportioned components, opens the circuit in which it is inserted and breaks the current when it exceeds a given value for a sufficient time. The fuse comprises all the parts that form the complete device (see Figure 1).

3.5 Fuse base—the fixed part of a fuse provided with terminals for connection to the external circuit.

3.6 Fuse-base contact (fixed contact)—a conducting part of a fuse base, connected to a terminal and intended to engage with a fuse-carrier contact.

3.7 Fuse carrier—the removable part of a fuse designed to carry the fuse element.

3.8 Fuse-carrier contact—a conducting part of a fuse carrier intended to engage with a fuse-base contact.

3.9 Fuse element—the part of a fuse designed to melt when the fuse operates.