AS 60269.1—2005
IEC 60269-1, Ed.3.0 (1998)

AS 60269.1—2005

Australian Standard™

Low-voltage fuses

Part 1: General requirements

STANDARDS AUSTRALIA

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Australian British Chamber of Commerce
Australian Electrical and Electronic Manufacturers Association
Energy Networks Association
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Low-voltage fuses

Part 1: General requirements

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear to supersede AS/NZS 60269.1:2000.

The objective of this Standard is to provide requirements to establish the characteristics of low-voltage fuses, or parts of low-voltage fuses, in such a way that they are interchangeable as far as their dimensions are concerned.

This Standard is Part 1 of a series which, when complete, will consist of the following:

AS		
60269	Low-voltage fuses	
60269.1	Part 1:	General requirements (this Standard)
60269.2.0	Part 2.0:	Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)
60269.2.1	Part 2.1:	Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)—Sections I to VI: Examples of types of standardized fuses
60269.3.0	Part 3.0:	Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications)
60269.3.1	Part 3.1:	Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications)—Sections I to IV: Examples of types of standardized fuses
60269.4.0	Part 4.0:	Supplementary requirements for fuse-links for the protection of semiconductor devices
60269.4.1	Part 4.1:	Supplementary requirements for fuse-links for the protection of semiconductor devices—Sections I to III: Examples of types of standardized fuse-links

This Standard is identical with, and has been reproduced from, IEC 60269-1, Ed.3.0 (1998), *Low-voltage fuses*—Part 1: *General requirements* incorporating its Corrigendum 1:2000 and Amendment 1:2005. The amendment 1 is added in anticipation of its publication in 2005.

This Standard differs from the Standard it supersedes in the following major areas:

(a) Standard is now Australian only to reflect the withdrawal of New Zealand participation in Committee EL-007.

(b) Normative references IEC 60291 and IEC 60291A have been deleted and IEC 60664-1 has been added.

(c) Definitions (Clause 2 and its subclauses) have been updated.

(d) Discrimination of fuse-links (Subclause 3.9) the second paragraph of the subclause has been replaced.

(e) The term ‘rated acceptance’ has been replaced by ‘rated acceptable power dissipation’ throughout the standard.

(f) Markings (Clause 6) has been replaced.

(g) The requirements for the suitability for isolation (Subclause 7.2) have been added.

(h) Table 13 ‘Rated impulse withstand voltage’ has been added.

(i) New subclauses ‘Clearances and creepage distances’ (Subclause 7.9.1), ‘Leakage currents of equipment for isolation’ (Subclause 7.9.2) and ‘Additional constructional requirements for fuses with non-separable fuse-carriers, suitable for isolation’ (Subclause 7.9.3) are added.

(j) The requirements for the suitability for isolation (Subclause 8.2 and Subclause 8.2.1) have been added.

(k) The Subclauses 8.2.2 to 8.2.5.2 have been replaced.

(l) In Table 12A the first line ‘power-frequency recovery voltage’ has been replaced.

(m) A new Clause B.3 ‘Calculation of operating I^2t at reduced voltage’ has been added.

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

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

(ii) In the source text ‘this international standard’ should read ‘this Australian Standard’.

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

(iv) Any French text on Figures should be ignored.

The terms ‘normative’ and ‘informative’ are used 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.

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1 General

1.1 Scope and object

This standard is applicable to fuses incorporating enclosed current-limiting fuse-links with rated breaking capacities of not less than 6 kA, intended for protecting power-frequency a.c. circuits of nominal voltages not exceeding 1 000 V or d.c. circuits of nominal voltages not exceeding 1 500 V.

Subsequent parts of this standard, referred to herein, cover supplementary requirements for such fuses intended for specific conditions of use or applications.

Fuse-links intended to be included in fuse-switch combinations according to IEC 60947-3 should also comply with the following requirements.

NOTE 1 – For "a" fuse-links, details of performance (see 2.2.4) on d.c. circuits should be subject to agreement between user and manufacturer.

NOTE 2 – Modifications of, and supplements to, this standard required for certain types of fuses for particular applications – for example certain fuses for rolling stock, or fuses for high-frequency circuits – will be covered, if necessary, by separate standards.

NOTE 3 – This standard does not apply to miniature fuses, these being covered by IEC 60127.

The object of this standard is to establish the characteristics of fuses or parts of fuses (fuse-base, fuse-carrier, fuse-link) in such a way that they can be replaced by other fuses or parts of fuses having the same characteristics provided that they are interchangeable as far as their dimensions are concerned. For this purpose, this standard refers in particular to:

– the following characteristics of fuses:
  a) their rated values;
  b) their insulation;
  c) their temperature rise in normal service;
  d) their power dissipation and acceptance;
  e) their time/current characteristics;
  f) their breaking capacity;
  g) their cut-off current characteristics and their I^2t characteristics.
– type test for verification of the characteristics of fuses;
– the marking of fuses.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60269. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60269 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.