AS 60269.4.0—2005
IEC 60269-4, Ed.3.0 (1986)

AS 60269.4.0—2005

Australian Standard™

Low-voltage fuses

Part 4.0: Supplementary requirements for fuse-links for the protection of semiconductor devices

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee EL-007, Power Switchgear. It was approved on behalf of the Council of Standards Australia on 20 December 2004.
This Standard was published on 1 February 2005.

The following are represented on Committee EL-007:

Australian British Chamber of Commerce
Australian Electrical and Electronic Manufacturers Association
Energy Networks Association
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This Standard was issued in draft form for comment as DR 04502.

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Low-voltage fuses

Part 4.0: Supplementary requirements for fuse-links for the protection of semiconductor devices

Originated as AS 2005.40—1989.
Previous edition AS/NZS 60269.4.0:2000.
Revised and dejointed as AS 60269.4.0—2005.

Published by Standards Australia GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6461 4

PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear to supersede AS/NZS 60269.4.0:2000.

The objective of this Standard is to provide supplementary requirements for those stated in AS 60269.1 for fuse-links for application in equipment containing semi-conductor devices for circuits of rated voltages up to 1000 V a.c. or circuits of nominal voltages up to 1500 V d.c. and also, in so far as they are applicable, for circuits of higher voltages and so establish the characteristics of semi-conductor fuse-links in such a way that they can be replaced by other fuse links having the same characteristics, provided that their dimensions are identical.

This Standard is Part 4.0 of a series which, when complete, will consist of the following:

AS		
60269	Low-voltage fuses	
60269.1	Part 1:	General requirements
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 (this Standard)
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 60269-4, Ed.3.0(1986), *Low-voltage fuses, Part 4: Supplementary requirements for fuse-links for the protection of semiconductor devices* incorporating its Amendment 1:1995, Amendment 2:2002 and Corrigendum 2003.

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) Definition ‘Semiconductor device’ (Subclause 2.2.14) has been replaced.

(c) A new definition ‘Signalling device’ (Subclause 2.2.16) has been added.

(d) Characteristics of fuses ‘Rated Voltage’ (Clause 5.2) has been replaced.

(e) Characteristics of fuses ‘Conventional times and currents’ (Subclause 5.6.2) has been replaced.

(f) Table 2 – Conventional times and currents for ‘gR’ and ‘gS’ fuse-links has been added.

(g) Characteristics of fuses ‘Breaking range and utilization category’ (Subclause 5.7.1) has been replaced.

(h) Markings on fuse-links (Clause 6.2) has been replaced.

(i) The standard conditions for construction (Clause 7.4) ‘Operation’ has been replaced.

(j) The test ‘Arrangement of the fuse-links’ (Subclause 8.1.4) has been replaced.

(k) Table 7A ‘List of complete tests’ has been replaced.

(l) The test ‘Verification of conventional non-fusing and fusing current’ (Subclause 8.4.3.1) has been added.

(m) ‘Test method’ (Subclauses 8.5.5.1 and 8.5.5.2) have been replaced.

(n) Table 12A ‘Values for breaking-capacity tests on a.c fuses’ has been replaced.

(o) Table 12B ‘Values for breaking-capacity tests on d.c fuses’ has been replaced.

(p) Appendix A and Appendix B have been renamed Annex A and Annex B respectively to reflect recent style changes.

In view of the fact that this Standard should be read together with AS 60269.1 the numbering of its clauses and sub-clauses is made to correspond to the latter. Regarding the tables, their numbering also corresponds to that of AS 60269.1, however, when additional tables appear, they are referred to by capital letters, for example, Table A, Table B, etc.

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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STANDARDS AUSTRALIA

Australian Standard

Low-voltage fuses
Part 4.0: Supplementary requirements for fuse-links for the protection of semiconductor devices

1 General

Fuse-links for the protection of semiconductor devices shall comply with all requirements of IEC Publication 60269-1, if not otherwise indicated hereinafter, and shall also comply with the supplementary requirements laid down below.

1.1 Scope

These supplementary requirements apply to fuse-links for application in equipment containing semiconductor devices for circuits of rated voltages up to 1 000 V a.c. or circuits of nominal voltages up to 1 500 V d.c. and also, in so far as they are applicable, for circuits of higher nominal voltages.

Notes

1. - Such fuse-links are commonly referred to as ‘semiconductor fuse-links’.

2. - In most cases, a part of the associated equipment serves the purpose of a fuse-base. Owing to the great variety of equipment, no general rules can be given; the suitability of the associated equipment to serve as a fuse-base should be subject to agreement between the manufacturer and the user. However, if separate fuse-bases or fuse-holders are used, they should comply with the appropriate requirements of IEC Publication 60269-1.

1.2 Object

The object of these supplementary requirements is to establish the characteristics of semiconductor fuse-links in such a way that they can be replaced by other fuse-links having the same characteristics, provided that their dimensions are identical. For this purpose, this standard refers in particular to:

1.2.1 The following characteristics of fuses:

a) their rated values;

c) their temperature rises in normal service;

d) their power dissipation;

e) their time-current characteristics;

f) their breaking capacity;

g) their cut-off current characteristics and their I^2t characteristics;

h) their arc voltage limits.

1.2.2 Type tests for verification of the characteristics of fuses.

1.2.3 The markings on fuses.

1.2.4 Availability and presentation of technical data (see Annex B).