

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 2
AMENDEMENT 2

Low-voltage fuses – **STANDARD PREVIEW**
Part 1: General requirements
(standards.iteh.ai)

Fusibles basse tension –
Partie 1: Exigences générales
[IEC 60269-1:2006/AMD2:2014](https://standards.iteh.ai/catalog/standards/sist/d8f52700-5f1e-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014)
<https://standards.iteh.ai/catalog/standards/sist/d8f52700-5f1e-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014>





THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2014 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 55 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 14 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 55 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.



IEC 60269-1

Edition 4.0 2014-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 2
AMENDEMENT 2

Low-voltage fuses – **STANDARD PREVIEW**
Part 1: General requirements
(standards.iteh.ai)

Fusibles basse tension – [IEC 60269-1:2006/AMD2:2014](https://standards.iteh.ai/catalog/standards/sist/d8f52700-5f1e-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014)
Partie 1: Exigences générales

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX



ICS 29.120.50

ISBN 978-2-8322-1637-8

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

FOREWORD

This amendment has been prepared by subcommittee 32B: Low-voltage fuses, of IEC technical committee 32: Fuses.

The text of this amendment is based on the following documents:

FDIS	Report on voting
32B/626/FDIS	32B/628/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[IEC 60269-1:2006/AMD2:2014](https://standards.iteh.ai/catalog/standards/sist/d8f52700-5f1e-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014)
<https://standards.iteh.ai/catalog/standards/sist/d8f52700-5f1e-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014>

Throughout the standard:

In the notes to Tables and Figures delete references to previous editions of IEC 60269.

Foreword

Delete the "Notes" to the text concerning Part 1 to 5.

Add, after the text concerning Part 5:

Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems

1.2 Normative references

Add the following new references:

IEC 60228:2004, *Conductors of insulated cables*

IEC 60269-6, *Low-voltage fuses – Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems*

Replace "IEC 60695-2-10:2000, *Fire hazard testing – Part 2: Test methods – Section 1/sheet 0: Glow-wire test methods – General*"

by "IEC 60695-2-10, *Fire Hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure*"

Replace "IEC 60695-2-11:2000, *Fire hazard testing – Part 2: Test methods – Section 1/sheet 1: Glow-wire end-product test and guidance*"

by "IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*"

Replace "IEC 60695-2-12:2000, *Fire hazard testing – Part 2: Test methods – Section 1/sheet 2: Glow-wire flammability test on materials*"

by "IEC 60695-2-12:2010, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods – Glow-wire flammability index (GWFI) test method for materials*"

Replace "IEC 60695-2-13:2000, *Fire hazard testing – Part 2: Test methods – Section 1/sheet 3: Glow-wire ignitability test on materials*"

by "IEC 60695-2-13:2010, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials*"

ITeH STANDARD PREVIEW
(standards.iteh.ai)

5.2 Rated voltage

In Table 1 delete the asterisk after 415
IEC 60269-1:2006/AMD2:2014
http://standards.iteh.ai/catalog/standards/sist/d8f52700-5f1e-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014

Add, at the end of the Series I column, "1 000 *" and at the end of the Series II column, "347".

Replace "For d.c., the preferred values for rated voltages are given as follows: 110* – 125* – 220* – 250* – 440* – 460 – 500 – 600* – 750 V."

by the following new text: "For d.c. the preferred values for rated voltages are given in Table 22."

Add, after the note, the new Table 22:

Table 22 – Preferred values of d.c. rated voltages for fuses

Series I V	Series II V
220*	110*
400	250
440*	460
500	600*
750*	
1 000	
1 500*	1 200

5.3.1 Rated current of the fuse-link

Replace Note 1 and Note 2 by the following new paragraph:

If it is necessary to choose lower values or intermediate values or higher values, these values should be selected from the series R10 of ISO 3, and in exceptional cases, from R20 or R40 of ISO 3.

Add 35 as a new value between 32 and 40.

5.6.2 Conventional times and currents

Replace the first paragraph by the following:

The conventional times and currents for "gG" and "gM" fuse-links are given in Table 2.

Table 2 – Conventional time and current for "gG" and "gM" fuse-links

Replace, in the heading of Table 2, "for "gG" and "gM" fuse-links"

by the following new text: "gG", "gK" and "gM" fuse-links".

5.6.3 Gates

Table 3 – Gates for specified pre-arcing times of "gG" and "gM" fuse-links

Replace, in the heading of Table 3, "for "gG" and "gM" fuse-links"

by the following new text: "gG", "gK" and "gM" fuse-links".

Add a new row for 35 A after the row for 32 A.

1	2	3	4	5
I_n for "gG" I_{ch} for "gM" A	I_{min} (10 s) ^c A	I_{max} (5 s) A	I_{min} (0,1 s) A	I_{max} (0,1 s) A
35	83	175	225	445

Add at the end of Subclause 5.6.3: For "gK" fuse-links, gates are given in IEC 60269-2, fuse system K."

5.7.1 Breaking range and utilization category

The change concerning the second paragraph applies to the French text only.

Add, in the third paragraph, the following new dashed item:

- "“gK” indicates fuse-link with a full-range breaking capacity for general application."

ITEH STANDARD PREVIEW
 (standards.iteh.ai)

7.7 I^2t characteristics

[IEC 60269-1:2006/AMD2:2014](#)

Add at the end of the first paragraph: [http://standards.iteh.ai/catalog/standards/sist/d8f52700-5ffe-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014](#)

"Values for "gK" fuse-links are given in IEC 60269-2, fuse system K."

Table 7 – Pre-arcing I^2t values at 0,01 s for "gG" and "gM" fuse-links

Add a new row for 35 A after the row for 32 A.

I_n for "gG" I_{ch} for "gM" ^a A	I^2t_{min} $10^3 \times (A^2s)$	I^2t_{max} $10^3 \times (A^2s)$
35	2,2	8,0

7.8 Overcurrent discrimination of fuse-links

Replace, in the title and in the text of 7.8, "discrimination" by "selectivity".

Table 17 – Cross-sectional area of copper conductors for tests corresponding to Subclauses 8.3 and 8.4

Add a new row for 35 A after the row for 32 A.

Rated current A	Cross-sectional area mm ² or mm × mm
35	6

Table 18 – Cross-section areas of the copper conductors for the tests of "aM" fuses

Add a new row for 35 A after the row for 32 A.

Rated current A	Cross-section area mm ² or mm × mm
35	16

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Table 19 – Table for test in subclause 8.4.3.5

IEC 60269-1:2006/AMD2:2014

Replace Table 19 by the following new table.
<https://standards.iteh.ai/catalog/standards/sist/d8f52700-5f1e-43ef-8be2-62954e9d2995/iec-60269-1-2006-amd2-2014>

I_n of fuse-link A	Nominal cross-sectional area of copper conductors mm ²	I_z^a A
12	1	15
16 ^b	1,5	19,5
20 ^b and 25	2,5	27
32 ^b and 35	4	36
40 ^b	6	46
50 ^b and 63	10	63
80	16	85
100 ^b	25	112
125 ^b	35	138
160	50	168
200	70	213
250 ^b	120	299
315 ^b	185	392
400 ^b	240	461

^a Current-carrying capacity I_z for two loaded conductors (see Table A52-2 of IEC 60364-5-52).

^b For this current rating it is not necessary to perform this test as the product $1,45 I_z$ is greater than the conventional fusing current I_f .

Table 21 – Values for breaking capacity tests on d.c. fuses

Replace, in the "Time constant" row, "0,5(I)^{0,3}" by "0,5(I)^{0,3} ms".

8.7 Verification of I^2t characteristics and overcurrent discrimination

Replace, in the title, "discrimination" by "selectivity".

8.7.3 Verification of compliance for fuse-links at 0,01 s

Add, at the end of the first sentence, "as shown in Clause B.1".

Replace, in the second sentence, "Annex B" by "Clause B.2".

8.7.4 Verification of overcurrent discrimination

Replace, in the title, the text and the note, "discrimination" by "selectivity".

iTeh STANDARD PREVIEW
(standards.iteh.ai)

B.1 Evaluation of the pre-arcing I^2t value at 0,01 s

Add, in the formula of Annex B.1, a multiplication sign \times after F .

Replace "F=0,7 for "gG" and "gM" fuse-links" by "F = 0,7 for "gG", "gM" and "gK" fuse-links".

Table E.2 – Cross-sections of copper conductors connectable to terminals

Replace, in the first column of the table,

- "Above 16, up to and including 32" by "Above 16, up to and including 35"
- "Above 32, up to and including 63" by "Above 35, up to and including 63"