SLOVENSKI STANDARD

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Low-voltage fuses - Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) (IEC 269-2:1986)

ICS 29.120.50

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Descriptors: Low-voltage fuses, industrial application, supplementary requirements, authorized persons, characteristics, marking, tests

English version

Low-voltage fuses
Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)
(IEC 269-2:1986)

Fusibles basse tension
Deuxième partie: Règles supplémentaires pour les fusibles destinés à être utilisés par des personnes habilitées (fusibles pour usages essentiellement industriels)
(CEI 269-2:1986)

Niederspannungssicherungen
Teil 2: Zusätzliche Anforderungen an Sicherungen zum Gebrauch durch Elektrofachkräfte bzw. elektrotechnisch unterwiesene Personen (Sicherungen hauptsächlich für den industriellen Gebrauch)
(IEC 269-2:1986)

This European Standard was approved by CENELEC on 1994-12-06. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 269-2:1986, prepared by SC 32B, Low-voltage fuses, of IEC TC 32, Fuses, was submitted to the formal vote and was approved by CENELEC as EN 60269-2 on 1994-12-06 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1995-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1995-12-01

For products which have complied with the relevant national standard before 1995-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-12-01.

Endorsement notice

The text of the International Standard IEC 269-2:1986 was approved by CENELEC as a European Standard without any modification.

The following editorial changes apply to the text of IEC 269-2:1968

General:

Replace "IEC Publication 269-1" by "EN 60269-1".

Replace "IEC Publication 269-2-1" by "CENELEC Report R032-001:1993".

7.7 *I^2t characteristics*

Replace TABLE C by:

Maximum operating I^2t values for "aM" fuse-links

Rated voltage U_n V	I^2t max A^2s
$U_n \leq 400$	$18\ I_n^2$
$400 < U_n \leq 500$	$24\ I_n^2$
$500 < U_n \leq 660$	$35\ I_n^2$

8.4.3.3 Verification of time-current characteristics and gates

In b) replace "5 s" by "60 s".

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

NORME DE LA CEI

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC STANDARD

Publication 269-2

Deuxième édition — Second edition

1986

Fusibles basse tension

Deuxième partie: Règles supplémentaires pour les fusibles destinés à être utilisés par des personnes habilitées (fusibles pour usages essentiellement industriels)

Low-voltage fuses

Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)

Bureau Central de la Commission Electrotechnique Internationale

3, rue de Varembé

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE FUSES

Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendations and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by IEC Sub-Committee 32B: Low-voltage Fuses, of IEC Technical Committee No. 32: Fuses.

This second edition replaces the first edition of IEC Publication 269-2 published in 1973.

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

Six Months' Rule	Report on Voting
32B(CO)48	32B(CO)58

Further information can be found in the Report on Voting indicated in the table above.

The new edition of IEC Publication 269 is divided into the following parts:

Part 1: General Requirements (Publication 269-1).

Second part: - Part 2: Supplementary Requirements for Fuses for Use by Authorized Persons (Fuses Mainly for Industrial Application) (Publication 269-2).

- *Part 2-1:* Examples of Types of Standardized Fuses for Use by Authorized Persons (Publication 269-2-1) (in preparation).

Third part: - Part 3: Supplementary Requirements for Fuses for Use by Unskilled Persons (Publication 269-3) (in preparation).

- *Part 3-1:* Examples of Standardized Fuses for Use by Unskilled Persons (Publication 269-3-1) (in preparation).

LOW-VOLTAGE FUSES

Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)

EXPLANATORY NOTE

In view of the fact that this standard should be read together with IEC Publication 269-1: Low-voltage fuses, Part 1: General Requirements, the numbering of its clauses and sub-clauses corresponds to the latter. Regarding the tables, their numbering also corresponds to that of IEC Publication 269-1; however, when additional tables appear, they are referred to by capital letters, for example, Table A, Table B, etc.

1. General

Fuses for use by authorized persons* shall comply with all the requirements of IEC Publication 269-1, unless otherwise indicated hereinafter, and shall also comply with the supplementary requirements laid down below.

Note. – If fuses that are designed for use by authorized persons are intended to be used by unskilled persons they should also comply with the requirements of IEC Publication 269-3: Low-voltage Fuses. Supplementary Requirements for Fuses for Use by Unskilled Persons (in preparation).

1.1 *Scope*

These supplementary requirements apply to fuses for use by authorized persons.

Fuses for use by authorized persons are generally designed to be used in installations where the fuse-links are accessible to, and may be replaced by, authorized persons only.

1.2 *Object*

The following characteristics of fuses are specified in addition to IEC Publication 269-1:

- minimum rated breaking capacities;
- time-current characteristics;
- I^2t characteristics;
- standard conditions of construction;
- power dissipation and acceptance.

4. Classification

Fuses for use by authorized persons are classified by the fuse-system to which they belong.

Examples of standardized fuses for use by authorized persons are given in IEC Publication 269-2-1: Low-voltage Fuses, Part 2-1: Examples of Types of Standardized Fuses for Use by Authorized Persons (in preparation).

*See IEC Publication 269-1, Sub-clause 2.2.11.

5. Characteristics of fuses

5.3.2 *Rated currents of the fuse-holder*

The rated currents of the fuse-holder for standardized fuses are specified in IEC Publication 269-2-1.

5.5 *Rated power dissipation of a fuse-link and rated power acceptance of a fuse-holder*

The rated power dissipation and rated power acceptance respectively are particular to fuse-systems.

Values for fuse-systems given in IEC Publication 269-2-1 are specified in the data sheets of that publication.

5.6 *Limits of time-current characteristics*

- Time-current characteristics for "gG" and "gM" fuse-links. The standard limits for time-current characteristics based on reference ambient air temperature of 20 °C are given in Tables II and III of IEC Publication 269-1.
- Time-current characteristics for "aM" fuse-links. The standard limits for time-current characteristics based on reference ambient air temperature of 20 °C are given in Table A and Figure 1, page 14. The standardized *k*-factors are: $k_0 = 1.5$, $k_1 = 4$ and $k_2 = 6.3$.

TABLE A

Gates for "aM" fuse-links (all rated currents)

	$4\ I_n$	$6.3\ I_n$	$8\ I_n$	$10\ I_n$	$12.5\ I_n$	$19\ I_n$
$t_{operating}$	–	60 s	–	–	0.5 s	0.10 s
$t_{pre\text{-}arcing}$	60 s	–	0.5 s	0.2 s	–	–

5.7.2 *Rated breaking capacity*

The minimum rated breaking capacities are specified in Table B.

TABLE B

Minimum rated breaking capacities

Rated voltages U_n	Minimum rated breaking capacities
⩽ 660 V a.c.* ⩽ 750 V d.c.*	50 kA 25 kA

*Other values above 660 V a.c. and 750 V d.c. are under consideration