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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



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Germany

SECRETARY:
Mr Andreas Schüppel

OF INTEREST TO THE FOLLOWING COMMITTEES:
SC 37A, TC 64, SC 121A

HORIZONTAL FUNCTION(S):

ASPECTS CONCERNED:
Electricity transmission and distribution, Energy Efficiency

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TITLE:

Low-Voltage Fuses. Part 100: General requirements and tests

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CONTENTS

CONTENTS	1
FOREWORD	6
INTRODUCTION	8
1 Scope	9
2 Normative references	9
3 Terms and definitions	10
3.1 Fuses and their component parts	10
3.2 General terms	12
3.3 Characteristic quantities	15
4 Conditions for operation in service	19
4.1 General	19
4.2 ambient air temperature (3.2.3.1) (T_a)	19
4.3 Altitude	20
4.4 Atmospheric conditions	20
4.5 Voltage	20
4.6 Current	20
4.7 Frequency, power factor and time constant	20
4.7.1 Frequency	20
4.7.2 Power factor	20
4.7.3 Time constants	20
4.8 Conditions of installation	20
4.8.1 General	20
4.8.2 utilization class (3.2.8)	21
4.8.3 Selectivity	21
4.8.4 Selection of a fuse-link (3.1.3)	21
5 Classification	21
6 Characteristics of fuses (3.1.1)	21
6.1 Summary of characteristics	21
6.1.1 General	21
6.1.2 Fuse-holders	21
6.1.3 fuse-links (3.1.3)	21
6.1.4 Complete fuses (3.1.1)	22
6.2 rated voltage (3.3.24)	22
6.3 Rated current	22
6.3.1 Rated current of the fuse-link (3.1.3)	22
6.3.2 Rated current of the fuse-holder	22
6.4 Rated frequency	22
6.5 Rated power dissipation of a fuse-link (3.3.22) and rated maximum power acceptance of a fuse-holder (3.1.2)	23
6.6 Limits of time-current characteristics	23
6.6.1 General	23
6.6.2 Time-current characteristics, time-current zones	23
6.6.3 Conventional times and currents	23
6.6.4 Gates	24
6.7 utilization class (3.2.8) and rated breaking capacity (3.3.5.1)	24
6.7.1 General	24

6.7.2	breaking range marking (3.2.8.1)	24
6.7.3	application category (3.2.8.4)	24
6.7.4	rated breaking capacity (3.3.5.1)	24
6.8	cut-off current (3.3.7) and I _{2t} (3.3.13) characteristics	24
6.8.1	General	24
6.8.2	cut-off current (3.3.7) characteristics	24
6.8.3	I _{2t} (3.3.13) characteristics	25
7	Markings	25
7.1	General.....	25
7.2	Markings of fuse-holders.....	25
7.3	Markings of fuse-links (3.1.3)	26
8	Standard conditions for construction	26
8.1	Mechanical design	26
8.1.1	Replacement of fuse-links (3.1.3)	26
8.1.2	Connections, including terminals	26
8.1.3	Fuse-contacts.....	26
8.1.4	Construction of a gauge-piece (3.1.11)	27
8.1.5	Mechanical strength of the fuse-link (3.1.3)	27
8.2	Insulating properties and suitability for isolation	27
8.2.1	General	27
8.2.2	Clearances and creepage distances	27
8.2.3	rated impulse withstand voltage (3.3.28).....	28
8.2.4	Leakage currents of fuses (3.1.1) suitable for isolation	29
8.2.5	Additional constructional requirements for fuses (3.1.1) for linked fuse-carriers, suitable for isolation.....	29
8.3	Temperature rise, power dissipation of the fuse-link (3.1.3) and maximum power acceptance of a fuse-holder (3.1.2)	29
8.4	Operation.....	30
8.5	Breaking capacity	31
8.6	cut-off current characteristic (3.3.8)	31
8.7	I _{2t} (3.3.13) characteristics	31
8.8	overcurrent selectivity (3.2.4) of fuse-links (3.1.3) when circuit breakers are used	32
8.9	Protection against electric shock.....	32
8.10	Resistance to heat	32
8.11	Mechanical strength.....	32
8.12	Resistance to corrosion	32
8.12.1	General	32
8.12.2	Resistance to rusting	32
8.12.3	Resistance to season cracking	33
8.13	Resistance to abnormal heat, and fire	33
8.14	Electromagnetic compatibility.....	33
9	Tests	33
9.1	General.....	33
9.1.1	General	33
9.1.2	ambient air temperature (3.2.3.1) (<i>T_a</i>)	33
9.1.3	Condition of the fuse (3.1.1)	33
9.1.4	Arrangement of the fuse (3.1.1) and dimensions	34
9.1.5	Testing of fuse-links (3.1.3)	34

9.1.6	Complete tests	34
9.1.7	Testing of fuse-links (3.1.3) of a homogeneous series (3.2.7)	34
9.2	Verification of the insulating properties and of the suitability for isolation	35
9.2.1	Arrangement of the fuse-holder (3.1.2)	35
9.2.2	Verification of the insulating properties	35
9.2.3	Verification of the suitability for isolation	36
9.2.4	Acceptability of test results	37
9.3	Verification of temperature rise and power dissipation	37
9.3.1	Arrangement of the fuse (3.1.1)	37
9.3.2	Measurement of the temperature rise	38
9.3.3	Measurement of the power dissipation of the fuse-link (3.1.3)	38
9.3.4	Temperature rise of the fuse-holder (3.1.2)	38
9.3.5	Test method	39
9.3.6	Acceptability of test results	39
9.4	Verification of operation	39
9.4.1	Arrangement of the fuse (3.1.1)	39
9.4.2	ambient air temperature (3.2.3.1)	39
9.4.3	Test method and acceptability of test results	40
9.5	Verification of the breaking capacity	42
9.5.1	General	42
9.5.2	Arrangement of the fuse	42
9.5.3	Characteristics of the test circuit	43
9.5.4	Measuring instruments	43
9.5.5	Calibration of test circuit	43
9.5.6	Test method	45
9.5.7	Interpretation of oscillograms	46
9.5.8	Acceptability of test results	47
9.6	Verification of the cut-off current (3.3.7) characteristics	47
9.6.1	Test method	47
9.6.2	Acceptability of test results	47
9.7	Verification of I_{2t} (3.3.13) characteristics and overcurrent selectivity (3.2.4)	47
9.7.1	Test method	47
9.7.2	Acceptability of test results	47
9.7.3	Verification of overcurrent selectivity (3.2.4)	48
9.8	Verification of the degree of protection of enclosures	48
9.9	Verification of resistance to heat	48
9.10	Verification of non-deterioration of contacts	48
9.10.1	Arrangement of the fuse (3.1.1)	48
9.10.2	Test method	48
9.10.3	Acceptability of test results	48
9.11	Mechanical and miscellaneous tests	49
9.11.1	Mechanical strength	49
9.11.2	Verification of freedom from season cracking	49
9.11.3	Verification of resistance of insulating materials to abnormal heat and fire	49
9.11.4	Verification of resistance to rusting	50
9.12	Test of durability of markings	50
Annex A (normative)	Measurement of short-circuit power factor	55

Annex B (normative) Calculation of pre-arcing I_{2t} (3.3.13) values and calculation of operating I_{2t} (3.3.13) values at reduced voltage	58
B.1 Approximation of the pre-arcing I_{2t} (3.3.13) value at 0,01 s	58
B.2 Calculation of the value of pre-arcing I_{2t}^2 under the conditions of test no. 2	58
B.3 Calculation of the value of operating I_{2t}^2 at reduced voltage	58
Annex C (informative) Effect of change of ambient temperature and surroundings on the performance of fuse-links (3.1.3)	60
C.1 Effect of increase of ambient temperature	60
C.1.1 Effect on current rating	60
C.1.2 Effect on temperature rise	60
C.1.3 Effect on conventional fusing and non-fusing current (I_f and I_{nf})	60
C.1.4 Effects on motor starting conditions	60
C.2 Effects caused by a decrease in ambient air temperature (3.2.3.1)	60
C.3 Influences of installation conditions	60
Annex D (normative) Special test for cable overload protection	61
D.1 General	61
D.2 Arrangement of the fuse (3.1.1)	61
D.2.1 Special test for fuses (3.1.1) according to IEC 60269-301 (NH system) for cable overload protection	61
D.2.2 Special test for fuses (3.1.1) according to IEC 60269-302 (D) for cable overload protection	61
D.3 C.2 Test method and acceptability of test results	62
Bibliography	63
Figure 1 – Overload curve and time-current characteristic (3.3.17) for "a" fuse-links (3.1.3)	41
Figure 2 – General presentation of the cut-off characteristics for a series of AC fuse-links (3.1.3)	51
Figure 3 – Typical diagram of the circuit used for breaking capacity test (see 8.5)	52
Figure 4 – Interpretation of oscillograms taken during the AC breaking-capacity tests (see 9.5.7)	53
Figure 5 – Interpretation of oscillograms taken during the DC breaking-capacity tests (see 9.5.7)	54
Figure A.1 – Determination of circuit-impedance for calculation of power factor in accordance with method I	57
Table 1 – preferred values of rated voltages	22
Table 2 – Conventional times	24
Table 3 – Minimum clearances in air	28
Table 4 – Minimum creepage distances	28
Table 5 – rated impulse withstand voltage (3.3.28)	29
Table 6 – Temperature rise limits $\Delta T = (T - T_a)$ for terminals	30
Table 7 – Maximum arc voltage	31
Table 8 – Test voltages	36
Table 9 – Test voltages across the open contacts of fuses suitable for isolation	37
Table 10 – Cross-sectional area of copper conductors for tests according to 9.3 and 9.4	38

Table 11 – Conventional cable overload protection test parameters	42
Table 12 – Values for breaking-capacity tests on AC fuses	44
Table 13 – Values for breaking capacity tests on DC fuses	44

INTERNATIONAL ELECTROTECHNICAL COMMISSION

Low-Voltage Fuses. Part 100: General requirements and tests

FOREWORD

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IEC 60269-100 has been prepared by subcommittee 32B: Low-voltage fuses, of IEC technical committee 32: Fuses. It is an International Standard.

[IEC 60269-1:2024 \[1\]](#) has been restructured and reissued as IEC 60269-100 and subsequent parts of 200 and 300 series. The documents [IEC 60269-1:2024 \[1\]](#) and its subsequent parts 2 to 7 cannot be used together with IEC 60269-100 and its subsequent parts of IEC 60269-200 series (all parts) and IEC 60269-300 series (all parts), except from part 5, which is an independent guide covering both series of standards.

The restructured IEC 60269 series consist of the following parts, under the general title *Low-voltage fuses*:

- IEC 60269-100: General Rules
- IEC 60269-200 series (all parts): Supplementary requirements for utilization classes
- IEC 60269-300 series (all parts): Supplementary requirements for fuse systems
- [IEC TR 60269-5:2014/AMD1:2020 \[2\]](#): Guidance for the application of low-voltage fuses

A comprehensive list of all parts in the IEC 60269 series, published under the general title *Low-voltage fuses*, can be found on the IEC website.

The text of this International Standard is based on the following documents:

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

1 Scope

This part of IEC 60269 series is applicable to fuses incorporating enclosed current-limiting [fuse-links \(3.1.3\)](#) with rated breaking capacities of not less than 6 kA, intended for protecting power-frequency AC circuits of rated voltages not exceeding 1 000 V or DC circuits of rated voltages not exceeding 1 500 V.

Subsequent parts of this standard cover supplementary or modified requirements for such [fuses \(3.1.1\)](#) intended for specific conditions of use or applications.

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

This standard does not apply to miniature fuses, these being covered e.g. by [IEC 60127 \[3\]](#).

The requirements defined in this document and its subsequent parts are also applicable to [fuse-links \(3.1.3\)](#) intended to be included in fuse-combination units according to [IEC 60947-3:2020/AMD1:2025 \[4\]](#).

The object of this standard is to establish the characteristics of [fuses \(3.1.1\)](#) or parts of [fuses \(3.1.1\)](#) ([fuse-base \(3.1.2.1\)](#), [fuse-carrier \(3.1.2.2\)](#), [fuse-link \(3.1.3\)](#)) in such a way that they can be replaced by other [fuses \(3.1.1\)](#) or parts of [fuses \(3.1.1\)](#) having the same characteristics provided, that they are interchangeable as far as their dimensions are concerned. For this purpose, this standard and its subsequent parts refer to

- the following characteristics of [fuses \(3.1.1\)](#):
 - their rated values
 - their dielectric properties
 - their temperature rise in normal service
 - the power dissipation of the [fuse-link \(3.1.3\)](#) and the maximum power acceptance of a [fuse-base \(3.1.2.1\)](#).
 - their time/current characteristics
 - their breaking capacity
 - their [cut-off current \(3.3.7\)](#) characteristics and their [I_{2t} \(3.3.13\)](#) characteristics.
- type test for verification of the characteristics of [fuses \(3.1.1\)](#)
- the marking of [fuses \(3.1.1\)](#).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-441:1984, *International Electrotechnical Vocabulary (IEV) - Part 441: Switchgear, controlgear and fuses*

IEC 60050-441:1984/AMD1:2000,

IEC TR 60269-5:2014, *Low-voltage fuses - Part 5: Guidance for the application of low-voltage fuses*

IEC TR 60269-5:2014/AMD1:2020,

IEC 60269-200 series (all parts), *Low voltage fuses: utilization classes*

IEC 60269-300 series (all parts), *Low voltage fuses: fuse systems*

IEC 60364-5-52:2009, *Low-voltage electrical installations - Part 5-52: Selection and erection of electrical equipment - Wiring systems*

IEC 60364-5-52:2009/AMD1:2024,

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60529:1989/AMD1:1999,

IEC 60529:1989/AMD2:2013,

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests*

IEC 60664-1:2020/AMD1:2025,

IEC 60695-2-10:2021, *Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2021, *Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end products (GWEPT)*

IEC 61140:2016, *Protection against electric shock - Common aspects for installation and equipment*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 Fuses and their component parts

3.1.1 fuse fuses

device that by the fusing of one or more of its specially designed and proportioned components opens the circuit in which it is inserted by breaking the current when this exceeds a given value for a sufficient time

Note 1 to entry: The **fuse (3.1.1)** comprises all the parts that form the complete device.

[SOURCE: IEC 60050 Chapter 441-18-01]

3.1.2 fuse-holder

combination of the **fuse-base (3.1.2.1)** with its **fuse-carrier (3.1.2.2)**

Note 1 to entry: Where, in this standard and its subsequent parts, the term [fuse-holder \(3.1.2\)](#) is used, it covers both [fuse-base \(3.1.2.1\)](#) and/or [fuse-carrier \(3.1.2.2\)](#), if no clearer distinction is necessary.

[SOURCE: IEC 60050 Chapter 441-18-14, modified (added note to entry)]

3.1.2.1

fuse-base

fuse-mount

fixed part of a [fuse \(3.1.1\)](#) provided with contacts and terminals

Note 1 to entry: Where applicable, covers are considered as part of the [fuse-base \(3.1.2.1\)](#).

[SOURCE: IEC 60050 Chapter 441-18-02, modified (added note to entry)]

3.1.2.2

fuse-carrier

movable part of a [fuse \(3.1.1\)](#) designed to carry a [fuse-link \(3.1.3\)](#)

[SOURCE: IEC 60050 Chapter 441-18-13]

3.1.3

fuse-link

fuse-links

part of a [fuse \(3.1.1\)](#) including the [fuse-element \(3.1.5\)](#)(s), intended to be replaced after the [fuse \(3.1.1\)](#) has operated

[SOURCE: IEC 60050 Chapter 441-18-09 modified (brackets removed)]

3.1.4

fuse-contact

two or more conductive parts designed to ensure circuit continuity between a [fuse-link \(3.1.3\)](#) and the corresponding [fuse-holder \(3.1.2\)](#)

Note 1 to entry: a [fuse-contact \(3.1.4\)](#) can either be a [fuse-base \(3.1.2.1\)](#) contact according to IEC 60050 Chapter 441-18-03, or a [fuse-link \(3.1.3\)](#) contact according to IEC 60040 chapter 441-15-04, or a [fuse-carrier \(3.1.2.2\)](#) contact according to IEC 60050 Chapter 441-18-05.

3.1.5

fuse-element

part of the [fuse-link \(3.1.3\)](#) designed to melt under the action of current exceeding some definite value for a definite period

Note 1 to entry: The [fuse-link \(3.1.3\)](#) may comprise several fuse-elements in parallel.

[SOURCE: IEC 60050 Chapter 441-18-08, modified (added note to entry)]

3.1.6

indicating device

indicator

part of a [fuse \(3.1.1\)](#) provided to indicate whether the [fuse-link \(3.1.3\)](#) has operated

[SOURCE: IEC 60050 Chapter 441-18-17]

3.1.7

striker

mechanical device forming part of a [fuse-link \(3.1.3\)](#) which, when the [fuse-link \(3.1.3\)](#) operates, releases the energy required to cause operation of other apparatus or indicators or to provide interlocking

[SOURCE: IEC 60050 Chapter 441-18-18]

3.1.8

terminal

conductive part of a [fuse \(3.1.1\)](#) provided for electric connection to external circuits

3.1.9

dummy fuse-link

test [fuse-link \(3.1.3\)](#) with defined power dissipation and dimensions

3.1.10

test rig

defined [fuse-base \(3.1.2.1\)](#) for testing purposes

3.1.11

gauge-piece

additional part of a [fuse-base \(3.1.2.1\)](#) intended to achieve a degree of [non-interchangeability \(3.2.11\)](#)

3.1.12

linked fuse-carrier

[fuse-carrier \(3.1.2.2\)](#) which is mechanically linked to the [fuse-base \(3.1.2.1\)](#) and gives a defined insertion and withdrawal movement to the [fuse-link \(3.1.3\)](#)

3.2 General terms

3.2.1

enclosed fuse-link

[fuse-link \(3.1.3\)](#) in which the [fuse-element \(3.1.5\)](#)(s) is (are) totally enclosed, so that during operation within its [rating \(3.3.1\)](#) it cannot produce any harmful external effects

Note 1 to entry: Such harmful external effects are, for example, effects due to development of an arc, the release of gas or the ejection of flame or metallic particles.

[SOURCE: IEC 60050 Chapter 441-18-12, modified (added note to entry)]

3.2.2

current-limiting fuse-link

[fuse-link \(3.1.3\)](#) that during and by its operation in a specified current range, limits the current to a substantially lower value than the peak value of the [prospective current \(3.3.2\)](#)

[SOURCE: IEC 60050 Chapter 441-18-10]

3.2.3

Temperatures

temperature of the relevant fuse component ([fuse-contact \(3.1.4\)](#), [terminal \(3.1.8\)](#), etc.)

3.2.3.1

ambient air temperature

T_a

temperature of the air surrounding the [fuse \(3.1.1\)](#)

Note 1 to entry: Requirements for the measurement of the [ambient air temperature \(3.2.3.1\)](#), e.g. the distance from the test specimen, are given in [9.1.2](#).

3.2.3.2

fuse-component temperature

T

temperature of the relevant fuse component ([fuse-contact \(3.1.4\)](#), [terminal \(3.1.8\)](#), etc.)

3.2.4

overcurrent selectivity

co-ordination of the operating characteristics of two or more over-current protective devices such that, on the incidence of over-current within stated limits, the device intended to operate within these limits does so, while the other(s) do(es) not

Note 1 to entry: Distinction is made between series selectivity, involving different over-current protective devices passing substantially the same over-current, and network selectivity involving identical protective devices passing different proportions of the over-current.

[SOURCE: IEC 60050 Chapter 441-17-15, modified (used "selectivity" instead of "discrimination")]

3.2.5

fuse system

family of [fuses \(3.1.1\)](#) following the same physical design principles with respect to the shape of the [fuse-links \(3.1.3\)](#), type of contact, etc.

3.2.6

size

specified set of dimensions of [fuses \(3.1.1\)](#) within a [fuse system \(3.2.5\)](#)

Note 1 to entry: Each individual [size \(3.2.6\)](#) covers a given range of rated currents for which the specified dimensions of the [fuses \(3.1.1\)](#) remain unchanged.

Note 2 to entry: See IEC 60269-300 series (all parts) for definitions of sizes for each [fuse system \(3.2.5\)](#).

3.2.7

homogeneous series

series of [fuse-links \(3.1.3\)](#), within a given [size \(3.2.6\)](#), deviating from each other only in such characteristics that for a given test, the testing of one or a reduced number of [fuse-links \(3.1.3\)](#) of that series may be taken as representative for all the [fuse-links \(3.1.3\)](#) of the [homogeneous series \(3.2.7\)](#)

Note 1 to entry: The characteristics by which the [fuse-links \(3.1.3\)](#) of a [homogeneous series \(3.2.7\)](#) may deviate and details on which of the [fuse-links \(3.1.3\)](#) shall be tested are specified in association with the tests concerned (see [Table 12](#) and [Table 13](#)).

[SOURCE: IEC 60050 Chapter 441-18-34, modified (changed note to entry in respect to this document)]

3.2.8

utilization class

combination of [breaking range marking \(3.2.8.1\)](#) and [application category \(3.2.8.4\)](#) of a [fuse-link \(3.1.3\)](#)

EXAMPLE "gG"

Note 1 to entry: Utilization classes describe specified requirements related to the conditions in which the [fuse-link \(3.1.3\)](#) fulfils its purpose, selected to represent a characteristic group of practical applications (see [6.7](#)).

3.2.8.1

breaking range marking

first letter of the [utilization class \(3.2.8\)](#) that indicates the [breaking range \(3.3.6\)](#)

EXAMPLE "g..." for full-range breaking capacity [fuse-links \(3.1.3\)](#)

Note 1 to entry: The letter specifying the [breaking range \(3.3.6\)](#) shall be lower case text.

3.2.8.2

"g" fuse-link

full-range breaking-capacity fuse-link

[current-limiting fuse-link \(3.2.2\)](#) capable of breaking under specified conditions all currents, which cause melting of the [fuse-element \(3.1.5\)](#) up to its [rated breaking capacity \(3.3.5.1\)](#)

3.2.8.3

"a" fuse-link

partial-range breaking-capacity fuse-link

[current-limiting fuse-link \(3.2.2\)](#) capable of breaking under specified conditions all currents between the lowest current indicated on its operating [time-current characteristic \(3.3.17\)](#) and its [rated breaking capacity \(3.3.5.1\)](#)

Note 1 to entry: "a" [fuse-links \(3.1.3\)](#) are generally used to provide short-circuit protection. Where protection is required against over-currents, they are used in conjunction with a suitable switching device designed to interrupt such small over-currents.

3.2.8.4

application category

second and following letter(s) of the [utilization class \(3.2.8\)](#) indicating the type of equipment or system to be protected

EXAMPLE 1 "...G" for general protection

EXAMPLE 2 "...Bat" for battery protection

Note 1 to entry: The first letter of the [application category \(3.2.8.4\)](#) shall be upper case text.

Note 2 to entry: The term "[application category \(3.2.8.4\)](#)" as defined in this document is equivalent to the term "utilization category" as it is used in IEC 60269-1:2024 [1].

3.2.9

fuses for use by authorized persons

[fuses \(3.1.1\)](#) intended to be used in installations where the [fuse-links \(3.1.3\)](#) are accessible to and intended to be replaced by authorized persons only

Note 1 to entry: Authorized person is used in this document and its subsequent parts to have the meaning defined for instructed persons as in IEC 60050 Chapter 195-04-02 and/or skilled persons as in IEC 60050 Chapter 651-26-11.

Note 2 to entry: [non-interchangeability \(3.2.11\)](#) and protection against accidental contact with live parts need not necessarily be ensured by constructional means.

Note 3 to entry: Instructed persons are persons adequately advised or supervised by skilled persons to enable them to avoid dangers which electricity may create (operating and maintenance staff). Skilled persons have technical knowledge or sufficient experience to enable them to avoid dangers which electricity may create (engineers and technicians). For example, dangers for persons may come from touching live parts during operation and from replacing [fuse-links \(3.1.3\)](#) under load.

Note 4 to entry: National regulations might supersede these definitions.

3.2.10

fuses for use by ordinary persons

[fuses \(3.1.1\)](#) intended to be used in installations where the [fuse-links \(3.1.3\)](#) are accessible to and can be replaced by ordinary persons

Note 1 to entry: Ordinary person is defined in IEC 60050 Chapter 195-04-03.

Note 2 to entry: For these [fuses \(3.1.1\)](#), [non-interchangeability \(3.2.11\)](#) and protection against direct contact with live parts is given in subsequent parts.

Note 3 to entry: Ordinary persons do not have technical knowledge or sufficient experience. To avoid dangers, which electricity may create, the subsequent parts of 300 series shall provide requirements for maximum safety in service.

Note 4 to entry: National regulations might supersede these definitions.

3.2.11

non-interchangeability

limitations on shape and/or dimensions with the object of avoiding in a specific [fuse-base \(3.1.2.1\)](#) the inadvertent use of [fuse-links \(3.1.3\)](#) having electrical properties other than those ensuring the desired degree of protection

[SOURCE: IEC 60050 Chapter 441-18-33]

3.2.12

replacement of a fuse-link

exchange of a [fuse-link \(3.1.3\)](#)

3.2.13

product documentation

information required for proper selection, installation, service, maintenance, decommissioning dismantling and end-of-life treatment of equipment provided in printed, electronic or other formats

Note 1 to entry: Information is often made available in digital format.

Note 2 to entry: Regulations can apply to the provision of the [product documentation \(3.2.13\)](#).

3.3 Characteristic quantities

3.3.1

rating

general term employed to designate the characteristic values that together define the working conditions upon which the tests are based and for which the equipment is designed

Note 1 to entry: Rated values usually stated for low-voltage [fuses \(3.1.1\)](#) are voltage, current, breaking capacity, power dissipation and maximum power acceptance, and frequency, where applicable. In the case of AC [rated voltage \(3.3.24\)](#) and rated current are stated as RMS symmetrical values; in the case of DC when ripple is present, the [rated voltage \(3.3.24\)](#) is stated as a mean value, the rated current as an RMS value. The above applies to any value of voltage and current, if not indicated otherwise.

3.3.2

prospective current

current that would flow in the circuit containing a [fuse \(3.1.1\)](#), if each pole of the [fuse \(3.1.1\)](#) were replaced by a conductor of negligible impedance

Note 1 to entry: For AC, the [prospective current \(3.3.2\)](#) is expressed by the RMS value of the AC component

[SOURCE: IEC 60050 Chapter 441-17-01, modified (with respect to a fuse, note to entry changed)]

3.3.3

gates

limiting values within which the characteristics of a [fuse-link \(3.1.3\)](#) are defined

EXAMPLE [gates \(3.3.3\)](#) for time-current characteristics

3.3.4

breaking capacity of a fuse

value of [prospective current \(3.3.2\)](#) that a [fuse \(3.1.1\)](#) is capable of breaking at a stated voltage under prescribed conditions of use and behaviour

[SOURCE: IEC 60050 Chapter 441-17-08, modified (with respect to a fuse, notes to entry deleted)]

3.3.5

minimum rated breaking capacity

minimum value of a required rated [breaking capacity of a fuse \(3.3.4\)](#)'s [utilization class \(3.2.8\)](#)

3.3.5.1

rated breaking capacity

value of breaking capacity at [rated voltage \(3.3.24\)](#), given in the [product documentation \(3.2.13\)](#)

3.3.6

breaking range

range of prospective currents, under specified conditions, within which a [fuse-link \(3.1.3\)](#) is capable of current interruption

Note 1 to entry: Minimum value of [breaking range \(3.3.6\)](#) is the minimum value of fault current the [fuse \(3.1.1\)](#) can interrupt at [rated voltage \(3.3.24\)](#).

3.3.7

cut-off current

let-through current

maximum instantaneous value reached by the current during the breaking operation of a [fuse-link \(3.1.3\)](#) when it operates in such a manner as to prevent the current from reaching the otherwise attainable maximum

3.3.8

cut-off current characteristic

let-through current characteristic

curve giving the [cut-off current \(3.3.7\)](#) as a function of the [prospective current \(3.3.2\)](#) under stated conditions of operation

Note 1 to entry: In the case of AC, the values of the cut-off currents are the maximum values which can be reached whatever the degree of asymmetry. In the case of DC, the values of the cut-off currents are the maximum values reached related to the time constants as specified.

[SOURCE: IEC 60050 Chapter 441-17-14]

3.3.9

peak withstand current of a fuse-holder

value of [cut-off current \(3.3.7\)](#) that the [fuse-holder \(3.1.2\)](#) can withstand

Note 1 to entry: The peak withstand current is not less than the highest [cut-off current \(3.3.7\)](#) of any [fuse-link \(3.1.3\)](#) with which the [fuse-holder \(3.1.2\)](#) is intended to be associated.

3.3.10

pre-arcing time

melting time

interval of time between the beginning of a current large enough to cause a break in the [fuse-element \(3.1.5\)](#)(s) and the instant when an arc is initiated

[SOURCE: IEC 60050 Chapter 441-18-21]

3.3.11

arcing time of a fuse

interval of time between the instant of the initiation of the arc in a [fuse \(3.1.1\)](#) and the instant of final arc extinction in that [fuse \(3.1.1\)](#)

[SOURCE: IEC 60050 Chapter 441-17-37, modified (in respect of a fuse)]

3.3.12

operating time

total clearing time

sum of the [pre-arcing time \(3.3.10\)](#) and the [arcing time of a fuse \(3.3.11\)](#)

[SOURCE: IEC 60050 Chapter 441-18-22]

3.3.13

Joule integral

I^2t

integral of the square of the current over a given time interval $I^2t = \int_{t_0}^{t_1} i^2 dt$

Note 1 to entry: The pre-arcing I^2t is the I^2t integral extended over the [pre-arcing time \(3.3.10\)](#) of the [fuse \(3.1.1\)](#).

Note 2 to entry: The operating I^2t is the I^2t integral extended over the [operating time \(3.3.12\)](#) of the [fuse \(3.1.1\)](#).

Note 3 to entry: The energy, in joules, released in 1Ω of resistance in a circuit protected by a [fuse \(3.1.1\)](#) is equal to the value of the operating I^2t expressed in A^2s .

[SOURCE: IEC 60050 Chapter 441-18-23]

3.3.14

I^2t characteristic

curve giving I ([\(3.3.13\)2t \(3.3.13\)](#)) values (pre-arcing I ([\(3.3.13\)2t \(3.3.13\)](#)) and/or operating I ([\(3.3.13\)2t \(3.3.13\)](#))) as a function of [prospective current \(3.3.2\)](#) under stated conditions of operation

3.3.15

I^2t zone

range contained by the minimum pre-arcing I ([\(3.3.14\)2t characteristic \(3.3.14\)](#)) and the maximum operating I ([\(3.3.14\)2t characteristic \(3.3.14\)](#)) under specified conditions

3.3.16

rated current of a fuse-link

I_n

value of current that the [fuse-link \(3.1.3\)](#) can carry continuously without deterioration under specified conditions

3.3.17

time-current characteristic

curve giving the time, e.g. [pre-arcing time \(3.3.10\)](#) or [operating time \(3.3.12\)](#) as a function of the [prospective current \(3.3.2\)](#) under stated conditions of operation

Note 1 to entry: For times longer than 0,1 s, for practical purposes the difference between [pre-arcing time \(3.3.10\)](#) and [operating time \(3.3.12\)](#) is negligible.

[SOURCE: IEC 60050 Chapter 441-17-13]

3.3.18

time-current zone

range contained by the minimum [pre-arcing time \(3.3.10\)](#)-current characteristics and the maximum [operating time \(3.3.12\)](#)-current characteristics, under specified conditions

3.3.19

conventional non-fusing current

I_{nf}

value of current specified as that which the [fuse-link \(3.1.3\)](#) can carry for a specified time (conventional time) without melting

[SOURCE: IEC 60050 Chapter 441-18-27]