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Coupling capacitors and capacitor dividers - Part 1: General rules

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 04/26

Obsahuje: EN IEC 60358-1:2026, IEC 60358-1:2025

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English Version

**Coupling capacitors and capacitor dividers - Part 1: General rules
(IEC 60358-1:2025)**Condensateurs de couplage et diviseurs capacitifs - Partie
1: Règles générales
(IEC 60358-1:2025)Kopplungskondensatoren und kapazitive Teiler - Teil 1:
Allgemeine Bestimmungen
(IEC 60358-1:2025)

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EN IEC 60358-1:2026 (E)**European foreword**

The text of document 33/732/FDIS, future edition 2 of IEC 60358-1, prepared by TC 33 "Power capacitors and their applications" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60358-1:2026.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2027-02-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2029-02-28

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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60060-2	NOTE	Approved as EN IEC 60060-2
IEC 60085	NOTE	Approved as EN 60085
IEC 60358-2	NOTE	Approved as EN 60358-2
IEC 60358-3	NOTE	Approved as EN 60358-3
IEC 60358-4	NOTE	Approved as EN IEC 60358-4
IEC 60422	NOTE	Approved as EN IEC 60422
IEC 61462	NOTE	Approved as EN IEC 61462
IEC 61869-5	NOTE	Approved as EN 61869-5
IEC 62155	NOTE	Approved as EN 62155
IEC 62217:2012	NOTE	Approved as EN 62217:2013 (not modified)
IEC 62271-203	NOTE	Approved as EN IEC 62271-203

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60038	-	IEC standard voltages	EN 60038	-
IEC 60060-1	-	High-voltage test techniques - Part 1: General terminology and test requirements	EN IEC 60060-1	-
IEC 60068-2-11	2021	Environmental testing - Part 2-11: Tests - Test Ka: Salt mist	EN IEC 60068-2-11	2021
IEC 60068-2-17	-	Environmental testing - Part 2-17: Tests - Test Q: Sealing	EN IEC 60068-2-17	-
IEC 60071-1	-	Insulation co-ordination - Part 1: Definitions, principles and rules	EN IEC 60071-1	-
IEC 60071-2	-	Insulation co-ordination - Part 2: Application guidelines	EN IEC 60071-2	-
IEC 60071-11	-	Insulation co-ordination - Part 11 - Definitions, principles and rules for HVDC system	EN IEC 60071-11	-
IEC 60270	-	High-voltage test techniques - Charge-based measurement of partial discharges	EN IEC 60270	-
IEC 60296	-	Fluids for electrotechnical applications - Mineral insulating oils for electrical equipment	EN IEC 60296	-
IEC 60376	-	Specification of technical grade sulphur hexafluoride (SF ₆) and complementary gases to be used in its mixtures for use in electrical equipment	EN IEC 60376	-
IEC 60480	-	Specifications for the re-use of sulphur hexafluoride (SF ₆) and its mixtures in electrical equipment	EN IEC 60480	-
IEC 60721	series	Classification of environmental conditions - Part 1: Environmental parameters and their severities	EN 60721	series

EN IEC 60358-1:2026 (E)

IEC/TS 60815-1	2008	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 1: Definitions, information and general principles	-	-
IEC/TS 60815-2	2008	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 2: Ceramic and glass insulators for a.c. systems	-	-
IEC/TS 60815-3	2008	Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 3: Polymer insulators for a.c. systems	-	-
IEC 60867	-	Insulating liquids - Specifications for unused liquids based on synthetic aromatic hydrocarbons	EN IEC 60867	-
IEC 61099	-	Insulating liquids - Specifications for unused synthetic organic esters for electrical purposes	EN 61099	-
IEC 62271-4	2022	High-voltage switchgear and controlgear - Part 4: Handling procedures for gases for insulation and/or switching	EN IEC 62271-4	2022
IEC 62770	-	Fluids for electrotechnical applications - Unused natural esters for transformers and similar electrical equipment	EN IEC 62770	-
IEC 63012	-	Insulating liquids - Unused modified or blended esters for electrotechnical applications	EN IEC 63012	-
ISO 4628-3	-	Paints and varnishes - Evaluation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting	EN ISO 4628-3	-
ISO 22479	-	Corrosion of metals and alloys - Sulfur dioxide test in a humid atmosphere (fixed gas method)	EN ISO 22479	-
CISPR/TR 18-2	-	Radio interference characteristics of overhead power lines and high-voltage equipment - Part 2: Methods of measurement and procedure for determining limits	-	-



IEC 60358-1

Edition 2.0 2025-12

INTERNATIONAL STANDARD

**Coupling capacitors and capacitor dividers -
Part 1: General rules**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Coupling capacitors and capacitor dividers -
Part 1: General rules**

FOREWORD

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IEC 60358-1 has been prepared by IEC Technical Committee 33: Power capacitors and their applications. It is an International Standard.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

This edition of IEC 60358-1 includes the following significant technical changes with respect to the previous edition:

- a) new terms and definitions are presented in Clause 3;
- b) new definitions in Clause 4 and Clause 5;
- c) gas-insulated coupling capacitors and capacitor dividers are integrated in Clause 6;
- d) new tests in routine, type, special and design test sections are introduced, see Clause 7;
- e) new Clause 8, Clause 9 and Clause 10;

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f) new Annex D, Annex E, Annex F, Annex G and Annex H.

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

Draft	Report on voting
33/732/FDIS	33/737/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.

A list of all parts in the IEC 60358 series, published under the general title *Coupling capacitors and capacitor dividers*, can be found on the IEC website.

IEC 60358-1, *Coupling capacitors and capacitor dividers - Part 1: General rules*

IEC 60358-2, *Coupling capacitors and capacitor dividers - Part 2: AC or DC single-phase coupling capacitor connected between line and ground for power line carrier-frequency (PLC) application*

IEC 60358-3, *Coupling capacitors and capacitor dividers - Part 3: AC or DC single-phase coupling capacitor for harmonic-filters applications*

IEC 60358-4, *Coupling capacitors and capacitor dividers - Part 4: DC or AC single-phase capacitor dividers*

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.

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INTRODUCTION

This document is the first revision of IEC 60358-1, defining general rules for coupling capacitors and capacitor dividers.

The main modifications of this revision are listed below:

- terms and definitions:
 - new terms and definitions are presented in Clause 3;
- normal and special environmental conditions:
 - new definitions in Clause 4 are introduced;
- ratings:
 - addition of HV insulation levels above 800 kV;
 - new definition on rated voltage U_r for AC and DC applications;
 - Clause 5, new definitions for DC application are integrated;
 - new standard values of rated voltages are defined;
- design and construction:
 - clarification of the altitude correction for external insulation and dielectric tests;
 - external insulation requirements for DC application;
 - gas-insulated coupling capacitors and capacitor dividers are integrated in Clause 6;
 - new test with its requirements on capacitor element ageing is defined;
- type tests:
 - temperature rise test: more accurate definition of the test duration;
 - lightning impulse test: new test procedure (15 impulses) for $U_m \geq 300$ kV;
 - mechanical test: moved from special test to type test;
 - new enclosure tightness test for gas-insulated coupling capacitors and dividers;
- routine tests:
 - tightness tests for gas-insulated equipment;
 - gas dew point measurements;
 - new flowchart of routine tests presented in Figure 3;
- special tests:
 - determination of temperature coefficient of the capacitor element;
 - new enclosure tightness test on low and hot temperature;
 - information about internal arc tests;
 - information about multiple chopped impulse tests;
 - new test on impedance measurements depending on frequency;
 - new test on thermal stability;
 - new test on corrosion;
 - new flowchart of type tests presented in Figure 4;
- design tests (new clause):
 - ageing tests of capacitor elements;

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- commissioning tests (new clause):
 - new installation inspection;
 - gas dew point test moved from special test to commissioning tests;
- rules for transport, storage, erection, operation and maintenance:
 - new mandatory rules for user and manufacturer;
 - new conditions for transportation and storage;
- new annexes:
 - Annex D (informative): provide information about superimposed impulse voltages;
 - Annex E (informative): provide information on test setups for superimposed impulse voltage tests;
 - Annex F (informative): is introduced on high-frequency characteristic measurements;
 - Annex G (informative): provide information about composite AC/DC voltages;
 - Annex H (informative): present a summary of all voltages used in DC application.

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1 Scope

This part of IEC 60358 applies to:

- Coupling capacitors and capacitor dividers, with rated voltage > 1 000 V, connected line to ground with the low-voltage terminal either permanently earthed or connected to devices, for applications listed hereunder and other similar uses.

This document serves as a basic standard for the coupling capacitors and capacitor dividers. The different parts of this standard series will present the supplementary specifications and tests, for example IEC 60358-2, IEC 60358-3 or IEC 60358-4.

Diagrams of coupling capacitor and capacitor divider to which this standard series applies are given in Figure A.1 and Figure A.2 (see Annex A).

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 60038, *IEC standard voltages*

IEC 60060-1, *High-voltage test techniques - Part 1: General definitions and test requirements*

IEC 60068-2-11:2021, *Environmental testing - Part 2-11: Tests - Test Ka: Salt mist*

IEC 60068-2-17, *Environmental testing - Part 2-17: Tests - Test Q: Sealing*

IEC 60071-1, *Insulation co-ordination - Part 1: Definitions, principles and rules*

IEC 60071-2, *Insulation co-ordination - Part 2: Application guidelines*

IEC 60071-11, *Insulation co-ordination - Part 11 : Definitions, principles and rules for HVDC system*

IEC 60270, *High-voltage test techniques - Charge-based measurement of partial discharges*

IEC 60296, *Fluids for electrotechnical applications - Mineral insulating oils for electrical equipment*

IEC 60376, *Specification of technical grade sulphur hexafluoride (SF₆) and complementary gases to be used in its mixtures for use in electrical equipment*

IEC 60480, *Specifications for the re-use of sulphur hexafluoride (SF₆) and its mixtures in electrical equipment*

IEC 60721 (all parts), *Classification of environmental conditions*

IEC TS 60815-1:2008, *Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 1: Definitions, information and general principles*

IEC TS 60815-2:2008, *Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 2: Ceramic and glass insulators for a.c. systems*

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IEC TS 60815-3:2008, *Selection and dimensioning of high-voltage insulators intended for use in polluted conditions - Part 3: Polymer insulators for a.c. systems*

IEC 60867, *Insulating liquids - Specifications for unused liquids based on synthetic aromatic hydrocarbons*

IEC 61099, *Insulating liquids - Specifications for unused synthetic organic esters for electrical purposes*

IEC 62271-4:2022, *High-voltage switchgear and controlgear - Part 4: Handling procedures for gases for insulation and/or switching*

IEC 62770, *Fluids for electrotechnical applications - Unused natural esters for transformers and similar electrical equipment*

IEC 63012, *Insulating liquids - Unused modified or blended esters for electrotechnical applications*

ISO 4628-3, *Paints and varnishes - Evaluation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting*

ISO 22479, *Corrosion of metals and alloys - Sulfur dioxide test in a humid atmosphere (fixed gas method)*

CISPR/TR 18-2, *Radio interference characteristics of overhead power lines and high-voltage equipment - Part 2: Methods of measurement and procedure for determining limits*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN