SVENSK STANDARD SS-EN IEC 60455-3-8

Utgåva 2

2021-10-20

REDLINE VERSION

Hartsbaserade reaktiva material för elektrisk isolering – Del 3-8: Specifikationer för enskilda material – Hartser för kabeltillbehör

Resin based reactive compounds used for electrical insulation – Part 3-8: Specifications for individual materials – Resins for cable accessories

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IEC 60455-3-8

Edition 2.0 2021-06
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Resin based reactive compounds used for electrical insulation – Part 3-8: Specifications for individual materials – Resins for cable accessories

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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RESIN BASED REACTIVE COMPOUNDS USED FOR ELECTRICAL INSULATION –

Part 3-8: Specifications for individual materials – Resins for cable accessories

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60455-3-8:2013. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

International Standard IEC 60455-3-8 has been prepared by IEC technical committee 15: Solid electrical insulating materials.

This second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Clause 1: a link to assemblies according to IEC 60502-4 and EN 50393 was introduced;
b) designation: the categories, especially the mechanical ones, were redefined;
c) type tests: the testing was updated based on the chemical basis of the material;
d) type tests: additional materials were introduced;
e) Annex A: an examination grid was established.

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

FDIS	Report on voting
15/937/FDIS	15/941/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/standardsdev/publications.

A list of all parts in the IEC 60455 series, published under the general title *Resin based reactive compounds used for electrical insulation*, can be found on the IEC website.

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

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- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This part of IEC 60455 is one of a series which deals with specifications for reactive compounds and their components for electrical insulation. This series consists of three parts:

Part 1: Definitions and general requirements (IEC 60455-1);

Part 2: Methods of test (IEC 60455-2);

Part 3: Specifications for individual materials (IEC 60455-3)

IEC 60455-3-8 is one of the specification sheets comprising Part 3 as follows:

Sheet 8: Resins for cable accessories

RESIN BASED REACTIVE COMPOUNDS USED FOR ELECTRICAL INSULATION –

Part 3-8: Specifications for individual materials – Resins for cable accessories

1 Scope

This part of IEC 60455 gives the requirements for resins for power cable accessories that conform to this specification and meet established levels of performance. However, the selection of a material by a user for a specific application ~~should~~ will be based on the actual requirements necessary for adequate performance in that application and not on this specification alone.

These materials are designed to be used in low and medium voltage cable accessories and as such, electrical performance is proven as part of the assembly. Examples of this are described in EN 50393 and IEC 60502-4.

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 60093, *Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials*~~

IEC 60212, *Standard conditions for use prior to and during the testing of solid electrical insulating materials*

IEC 60243-1, *Electric strength of insulating materials – Test methods – Part 1: Tests at power frequencies*

~~IEC 60250, *Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths*~~

IEC 60455-2:2015, *Resin based reactive compounds used for electrical insulation – Part 2: Methods of test*~~[1]~~

IEC 62631-2-1, *Dielectric and resistive properties of solid insulating materials – Part 2-1: Relative permittivity and dissipation factor – Technical Frequencies (0,1 Hz – 10 MHz) – AC Methods*

IEC 62631-3-1, *Dielectric and resistive properties of solid insulating materials – Part 3-1: Determination of resistive properties (DC methods) – Volume resistance and volume resistivity – General method*

~~[1] Third edition to be published.~~

IEC 62631-3-2, *Dielectric and resistive properties of solid insulating materials – Part 3-2: Determination of resistive properties (DC methods) – Surface resistance and surface resistivity*

ISO 179 (all parts), *Plastics – Determination of Charpy impact properties*

ISO 527 (all parts), *Plastics – Determination of tensile properties*

ISO 868, *Plastics and ebonite – Determination of indentation hardness by means of a durometer (Shore hardness)*

ISO 1183-1, *Plastics – Methods for determining the density of non-cellular plastics – Part 1: Immersion method, liquid pycnometer method and titration method*

ISO 2137, *Petroleum products and lubricants – Determination of cone penetration of lubricating greases and petrolatum*

ISO 2555, *Plastics — Resins in the liquid state or as emulsions or dispersions — Determination of apparent viscosity ~~by the Brookfield Test~~ using a single cylinder type rotational viscometer method*

ISO 4895, *Plastics – Liquid epoxy resins – Determination of tendency to crystallize*

SVENSK STANDARD SS-EN IEC 60455-3-8

Fastställd	Utgåva	Sida	Ansvarig kommitté
2021-10-20	2	1 (1+24)	SEK TK 15/112

Hartsbaserade reaktiva material för elektrisk isolering – Del 3-8: Specifikationer för enskilda material – Hartser för kabeltillbehör

Resin based reactive compounds used for electrical insulation – Part 3-8: Specifications for individual materials – Resins for cable accessories

Som svensk standard gäller europastandarden EN IEC 60455-3-8:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60455-3-8:2021.

Nationellt förord

Europastandarden EN IEC 60455-3-8:2021

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60455-3-8, Second edition, 2021 - Resin based reactive compounds used for electrical insulation - Part 3-8: Specifications for individual materials - Resins for cable accessories**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60455-3-8, utgåva 1, 2013, gäller ej fr o m 2024-07-21.

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Denna standard är fastställd av SEK Svensk Elstandard,
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EUROPEAN STANDARD

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EN IEC 60455-3-8

August 2021

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Supersedes EN 60455-3-8:2013 and all of its amendments and corrigenda (if any)

English Version

Resin based reactive compounds used for electrical insulation - Part 3-8: Specifications for individual materials - Resins for cable accessories (IEC 60455-3-8:2021)

Composés réactifs à base de résines utilisés comme isolants électriques - Partie 3-8: Spécifications pour matériaux particuliers - Résines pour accessoires de câble (IEC 60455-3-8:2021)

Reaktionsharzmassen für die Elektroisolierung - Teil 3: Anforderungen an einzelne Werkstoffe - Blatt 8: Reaktionsharzmassen für Kabelgarnituren (IEC 60455-3-8:2021)

This European Standard was approved by CENELEC on 2021-07-21. 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 CEN-CENELEC Management Centre or to any CENELEC member.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 60455-3-8:2021 E

European foreword

The text of document 15/937/FDIS, future edition 2 of IEC 60455-3-8, prepared by IEC/TC 15 “Solid electrical insulating materials” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60455-3-8:2021.

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) 2022–04–21
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024–07–21

This document supersedes EN 60455-3-8:2013 and all of its amendments and corrigenda (if any).

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The text of the International Standard IEC 60455-3-8:2021 was approved by CENELEC as a European Standard without any modification.

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

IEC 60455-1	NOTE Harmonized as EN 60455-1
IEC 60455-3 (series)	NOTE Harmonized as EN 60455-3 (series)
IEC 61234-2	NOTE Harmonized as EN 61234-2
ISO 291	NOTE Harmonized as EN ISO 291
ISO 2592	NOTE Harmonized as EN ISO 2592
ISO 3521	NOTE Harmonized as EN ISO 3521

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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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.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60212	-	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	-
IEC 60243-1	-	Electric strength of insulating materials - Test methods - Part 1: Tests at power frequencies	EN 60243-1	-
IEC 60455-2	2015	Resin based reactive compounds used for electrical insulation - Part 2: Methods of test	EN 60455-2	2015
IEC 62631-2-1	-	Dielectric and resistive properties of solid insulating materials - Part 2–1: Relative permittivity and dissipation factor - Technical Frequencies (0,1 Hz - 10 MHz) - AC Methods	EN IEC 62631-2-1	-
IEC 62631-3-1	-	Dielectric and resistive properties of solid insulating materials - Part 3–1: Determination of resistive properties (DC methods) - Volume resistance and volume resistivity - General method	EN 62631-3-1	-
IEC 62631-3-2	-	Dielectric and resistive properties of solid insulating materials - Part 3–2: Determination of resistive properties (DC methods) - Surface resistance and surface resistivity	EN 62631-3-2	-
ISO 179	series	Plastics - Determination of Charpy impact-properties		-
ISO 527	series	Plastics - Determination of tensile properties	EN ISO 527	series
ISO 868	-	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)	EN ISO 868	-

ISO 1183-1	-	Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method	EN ISO 1183-1	-
ISO 2137	-	Petroleum products and lubricants -- Determination of cone penetration of lubricating greases and petrolatum		-
ISO 2555	-	Plastics - Resins in the liquid state or as emulsions or dispersions - Determination of apparent viscosity using a single cylinder type rotational viscometer method	EN ISO 2555	-
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IEC 60455-3-8

Edition 2.0 2021-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Resin based reactive compounds used for electrical insulation – Part 3-8: Specifications for individual materials – Resins for cable accessories

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Part 3-8: Specifications for individual materials – Resins for cable accessories

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Sheet 8: Resins for cable accessories

RESIN BASED REACTIVE COMPOUNDS USED FOR ELECTRICAL INSULATION –

Part 3-8: Specifications for individual materials – Resins for cable accessories

1 Scope

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IEC 60243-1, *Electric strength of insulating materials – Test methods – Part 1: Tests at power frequencies*

IEC 60455-2:2015, *Resin based reactive compounds used for electrical insulation – Part 2: Methods of test*

IEC 62631-2-1, *Dielectric and resistive properties of solid insulating materials – Part 2-1: Relative permittivity and dissipation factor – Technical Frequencies (0,1 Hz – 10 MHz) – AC Methods*

IEC 62631-3-1, *Dielectric and resistive properties of solid insulating materials – Part 3-1: Determination of resistive properties (DC methods) – Volume resistance and volume resistivity – General method*

IEC 62631-3-2, *Dielectric and resistive properties of solid insulating materials – Part 3-2: Determination of resistive properties (DC methods) – Surface resistance and surface resistivity*

ISO 179 (all parts), *Plastics – Determination of Charpy impact properties*

ISO 527 (all parts), *Plastics – Determination of tensile properties*

ISO 868, *Plastics and ebonite – Determination of indentation hardness by means of a durometer (Shore hardness)*

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