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## **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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Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

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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.

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 CEN-CENELEC Management Centre has the same status as the official versions.

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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

## 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 (dop) 2022-04-21 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-07-21 document have to be withdrawn

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

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

### Endorsement notice

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

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.cenelec.eu](http://www.cenelec.eu).

| <u>Publication</u> | <u>Year</u> | <u>Title</u>                                                                                                                                                                                 | <u>EN/HD</u>     | <u>Year</u> |
|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------|
| 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   | - |
| ISO 4895   | - | Plastics - Liquid epoxy resins - Determination of tendency to crystallize                                                                                            | EN ISO 4895   | - |

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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

**Composés réactifs à base de résines utilisés comme isolants électriques –  
Partie 3-8: Spécifications pour matériaux particuliers – Résines pour  
accessoires de câble**

INTERNATIONAL  
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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**

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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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://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](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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

## 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 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 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 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)*

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 using a single cylinder type rotational viscometer method*

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