# SLOVENSKI STANDARD
# SIST HD 307.3.11 S1:1998

**01-oktober-1998**

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**Specification for solventless polymerisable resinous compounds used for electrical insulation - Part 3: Specifications for individual materials - Sheet 5: Epoxy resin-based coatin powders (IEC 60455-3-11:1988)**

Specification for solventless polymerisable resinous compounds used for electrical insulation -- Part 3: Specifications for individual materials -- Sheet 11: Epoxy resin-based coating powders

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Bestimmung für lösemittelfreie härtbare Reaktionsharzmassen für die Elektroisolierung -- Teil 3: Anforderungen an einzelne Werkstoffe -- Blatt 11: Beschichtungspulver auf Basis von Epoxidharz

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Spécification relative aux composés résineux polymérisables sans solvant utilisés comme isolants électriques -- Partie 3: Spécifications pour les matériaux particuliers -- Feuille 11: Poudres de revêtement à base de résines époxydes

**Ta slovenski standard je istoveten z: HD 307.3.11 S1:1990**

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**ICS:**

| | | |
|---|---|---|
| 29.035.01 | Izolacijski materiali na splošno | Insulating materials in general |

**SIST HD 307.3.11 S1:1998** **en**

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# SPECIFICATION FOR SOLVENTLESS POLYMERISABLE RESINOUS COMPOUNDS USED FOR ELECTRICAL INSULATION PART 3: SPECIFICATIONS FOR INDIVIDUAL MATERIALS SHEET 11 : EPOXY RESIN-BASED COATING POWDERS

Spécification relative aux composés résineux polymérisables sans solvant utilisés comme isolants électriques
Troisième partie: Spécifications pour les matériaux particuliers
Feuille 11 : Poudres de revêtement à base de résines époxydes

Bestimmung für lösemittelfreie härtbare Reaktionsharzmassen für die Elektroisolierung
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Blatt 11: Beschichtungspulver auf Basis von Epoxidharz

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BODY OF THE HD

The Harmonization Document consists of:

- IEC 455-3-11:1988; IEC/SC 15C, not appended

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This Harmonization Document was approved by CENELEC on 1990-12-01.

The English and French versions of this Harmonization Document are provided by the text of the IEC publication and the German version is the official translation of the IEC text.

According to the CEN/CENELEC Internal Regulations the CENELEC member National Committees are bound:

to announce the existence of this Harmonization Document at national level by or before 1991-06-01

to publish their new harmonized national standard by or before 1991-12-01

to withdraw all conflicting national standards by or before 1991-12-01.

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# NORME INTERNATIONALE

# INTERNATIONAL STANDARD

**CEI**
**IEC**
**60455-3-11**

Première édition
First edition
1988-04

## Spécification relative aux composés résineux polymérisables sans solvant utilisés comme isolants électriques

## Troisième partie:
## Spécifications pour les matériaux particuliers
Feuille 11: Poudres de revêtement à base de résines époxydes

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## Specification for solventless polymerisable resinous compounds used for electrical insulation

## Part 3:
## Specifications for individual materials
Sheet 11: Epoxy resin-based coating powders

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

# SPECIFICATION FOR SOLVENTLESS POLYMERISABLE RESINOUS COMPOUNDS USED IN ELECTRICAL INSULATION

## Part 3: Specifications for individual materials

## Sheet 11: Epoxy resin-based coating powders

### 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.
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### PREFACE

This standard has been prepared by Sub-Committee 15C: Specifications, of IEC Technical Committee No. 15: Insulating materials.

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

| Six Months' Rule | Report on Voting |
|---|---|
| 15C(CO)213 | 15C(CO)228 |

Full information on the voting for the approval of this standard can be found in the Voting Report indicated in the above table.

SIST HD 307.3.11 S1:1998



*The following IEC publications are quoted in this standard:*

| | |
|---|---|
| Publications Nos. 79-7 (1969): | Electrical apparatus for explosive gas atmospheres. Part 7: Construction and test of electrical apparatus, type of protection "e". |
| 216-1 (1974): | Guide for the determination of thermal endurance properties of electrical insulating materials. Part 1: General procedures for the determination of thermal endurance properties, temperature indices and thermal endurance profiles. |
| 216-2 (1974): | Part 2: List of materials and available tests. |
| 216-3 (1980): | Part 3: Statistical methods. |
| 216-4 (1980): | Part 4: Instructions for calculating the thermal endurance profile. |
| 455-1 (1974): | Specification for solventless polymerisable resinous compounds used for electrical insulation, Part 1: Definitions and general requirements. |
| 455-2-2 (1984): | Part 2: Methods of test. Test methods for coating powders for electrical purposes. |

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# SPECIFICATION FOR SOLVENTLESS POLYMERISABLE RESINOUS COMPOUNDS USED IN ELECTRICAL INSULATION

## Part 3: Specifications for individual materials

## Sheet 11: Epoxy resin-based coating powders

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## INTRODUCTION

This standard is one of a series which deals with solventless polymerisable resinous compounds used for electrical insulation.

The series consists of the following three parts:

Part 1: Definitions and general requirements (IEC Publication 455-1).

Part 2: Methods of test (IEC Publication 455-2).

Part 3: Specifications for individual materials.

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## 1. Scope

This sheet 11 of Part 3 of the standard contains the general and special requirements for thermosetting epoxy resin-based coating powders being applied by coating processes such as fluidized air bed, powder spraying and electrostatic coating. The base of the polymer in the composition of the three types is epoxy resin.

## 2. Designation

The products supplied according to this standard shall be classified as:

Type EP-1: Rigid coating after cure to be used where high scratch hardness and superior cut-through resistance are required.

Type EP-2: General purpose coating with medium-rigid or semi-flexible properties.

Type EP-3: Flexible coating after cure to be used where high impact strength and superior adhesion between the coating and the supporting metal is required.

Accordingly the three products shall be designated:

- for the rigid-coating type: IEC 455-3/11-EP-1
- for the general-purpose type: IEC 455-3/11-EP-2
- for the flexible-coating type: IEC 455-3/11-EP-3.

SIST HD 307.3.11 S1:1998



## 3. Requirements

### 3.1 *General requirements*

All materials in a consignment shall comply with the requirements of IEC Publication 455-1, as well as with the requirements of Table I of this sheet according to the respective type.

### 3.2 *Special requirements*

The following properties according to the test listed in Section One: Tests for materials before cure, of IEC Publication 455-2-2 shall be subject to agreement between supplier and user.

| *Properties* | *Test methods in IEC Publication 455-2-2* Sub-clause |
|---|---|
| Bulk density | 1.1 |
| Particle size distribution | 1.3 (1.3.1 or 1.3.2) |
| Softening temperature | 1.4 |
| Gel time | 1.5 |
| Non-volatile matter content | 1.6 |

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### 3.3 *Conditions of supply*

The coating powders should be supplied in dry containers which ensure adequate protection against humidity during transport and storage. Each container shall be marked with:

- the supplier's/manufacturer's name or trade mark;
- the coating designation according to Clause 2;
- the mass of the powder content in the container;
- the recommended minimum application temperature;
- the batch number;
- the date by which the resinous coating powder should be used;
- the maximum storage temperature;
- any national requirements for marking packages containing hazardous materials.

### 3.4 *Thermal endurance*

When required by the purchaser the manufacturer shall provide evidence that when tested in accordance with the following test conditions and instructions of IEC Publications 216-1, 216-2, 216-3 and 216-4 the appropriate coating powder types have a temperature index of not less than 130.