BS EN 50655-1:2023

BSI Standards Publication

Electric cables — Accessories — Material characterization

Part 1: Fingerprinting for resinous compounds

bsi.

National foreword

This British Standard is the UK implementation of EN 50655-1:2023. It supersedes BS EN 50655-1:2017, which will be withdrawn on 16 October 2026.

The UK participation in its preparation was entrusted to Technical Committee GEL/20/11, Electric Cable accessories.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

Electric cables - Accessories - Material characterization - Part 1: Fingerprinting for resinous compounds

Câbles électriques - Accessoires - Caractérisation des matériaux - Partie 1: Essais d'identification pour les composés résineux

Kabel und isolierte Leitungen - Garnituren - Materialcharakterisierung - Teil 1: Fingerprintprüfungen für Reaktionsharzmassen

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European foreword

This document (EN 50655-1:2023) has been prepared by CLC/TC 20 "*Electric cables*".

The following dates are fixed:

– latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2024–10–16
– latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2026–10–16

This document supersedes EN 50655-1:2017.

EN 50655-1:2023 includes the following significant technical changes with respect to EN 50655-1:2017:

a) Description of sample preparation (4.3.2);

b) Introduction of separate tables for Polyurethane, Polybutadiene, Epoxy and Silicone resins for fingerprinting tests;

c) Detailed definition of test parameters, e.g. determination of the spindle for the viscosity measurement, valid measurement range for Shore hardness;

d) Revision of max. acceptable deviation (Tables 1-4).

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.

EN 50655 series consists of the following:

– EN 50655-1, *Electric cables - Accessories - Material characterization - Part 1: Fingerprinting for resinous compounds*;

– EN 50655-2, *Electric cables - Accessories - Material characterization - Part 2: Fingerprinting for heat shrinkable components for low and medium voltage applications up to 20,8/36 (42) kV*;

– EN 50655-3, *Electric cables - Accessories - Material characterization - Part 3: Fingerprinting for cold shrinkable components for low and medium voltage applications up to 20,8/36 (42) kV*.

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.

Introduction

It has been assumed in the preparation of this document that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

WARNING This European Standard calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

1 Scope

This document specifies the test methods and requirements of tests for fingerprinting (as defined in 3.9) of solvent-free polymerizable, reacting resinous compound intended to be used for electrical insulation and/or mechanical protection in cable accessories covered by EN 50393, HD 629.1 and HD 629.2, for low and medium voltage up to 20,8/36 (42) kV.

Fingerprinting testing of materials does not have a mandatory link to type testing of accessories. It is regarded as stand-alone tests, but it can be carried out in combination with the accessory type tests.

NOTE Information on health and safety is given in Annex A.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 60455-1, *Resin based reactive compounds used for electrical insulation — Part 1: Definitions and general requirements (IEC 60455-1)*

EN 60455-2, *Resin based reactive compounds used for electrical insulation — Part 2: Methods of test (IEC 60455-2)*

EN ISO 291, *Plastics — Standard atmospheres for conditioning and testing (ISO 291)*

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

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

EN 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 2555)*

IEC 60050-461, *International Electrotechnical Vocabulary — Part 461: Electric cables*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-461 and EN 60455-1 and the following apply.

3.1
resinous compound
compound for cable accessories made by the mixture of at least two components (resin and reactive component)

Note 1 to entry: For some applications, additional components such as filler may be needed.

3.2
resin
liquid organic material that cures as a result of polymerization by means of reactive component (e.g. hardener or accelerator) without releasing additional volatile products

3.3
reactive component
substance or compound of substances which causes, when added to resin, hardening of resin by cross-linking of molecules or accelerates hardening of resin