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BSI Standards Publication

Communication cables

Part 2-27: Common design rules and construction — Halogen free polyolefin based sheathing compounds for cables having improved flame and fire properties (HFFR)

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National foreword

This British Standard is the UK implementation of EN 50290-2-27:2021. It supersedes BS EN 50290-2-27:2002+A1:2007, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/46, Cables, wires and waveguides, radio frequency connectors and accessories for communication and signalling.

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

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English Version

Communication cables - Part 2-27: Common design rules and construction - Halogen free polyolefin based sheathing compounds for cables having improved flame and fire properties (HFFR)

Câbles de communication Partie 2-27: Règles de conception communes et construction -

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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Contents

European foreword

This document (EN 50290-2-27:2021) has been prepared by CLC/TC 46X “Communication 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) 2022–01–19
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021–01–19

This document will supersede EN 50290-2-27:2002 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.

1 Scope

This document gives specific requirements for halogen free polyolefin based sheathing compounds used for halogen free communication cables with improved characteristics in the case of fire.

Compounds, described by this document, are commonly also named HFFR or HFFR-LS (halogen free, flame/fire retardant, low smoke), see also EN 50290-2-20.

It is expected to be read in conjunction with EN 50290-2-20, the product standards EN 50288 series, EN 60794 series and other applicable product standards.

Improved characteristics in the case of fire are demonstrated by specific fire tests on cables for flame/fire retardant applications (e.g. single or bunched cable fire test). Additional tests to prove the characteristics in case of fire, e.g. such as smoke emission test, might also be part of the dedicated product standard or specification.

This document describes the compound types as given in Table 1.

Table 1 — Sheathing compounds

Compound grades	Max. operating temperature °C	Comment
Type 1	+70	thermoplastic standard
Type 2	+90	thermoplastic, higher temperature
Type 3	+90	crosslinked, higher temperature

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.

EN 50290-2-20, *Communication cables - Part 2-20: Common design rules and construction - General*

EN 60754-1, *Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content (IEC 60754-1)*

EN 60754-2, *Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity (IEC 60754-2)*

EN 60684-2:2011, *Flexible insulating sleeving - Part 2: Methods of test (IEC 60684-2:2011)*

EN 60811-402, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 402: Miscellaneous tests - Water absorption tests (IEC 60811-402)*

EN 60811-606, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 606: Physical tests - Methods for determining the density (IEC 60811-606)*

EN ISO 4589-2, *Plastics - Determination of burning behaviour by oxygen index - Part 2: Ambient-temperature test (ISO 4589-2)*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/