Irish Standard
I.S. EN 50290-2-24:2021

Communication cables - Part 2-24: Common design rules and construction - Polyethylene sheathing compounds

I.S. EN 50290-2-24:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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This document is based on:	*Published:*
EN 50290-2-24:2021	2021-04-30

This document was published under the authority of the NSAI and comes into effect on:	ICS number:
2021-05-17	29.035.20 33.120.10
	NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN 50290-2-24:2021 is the adopted Irish version of the European Document EN 50290-2-24:2021, Communication cables - Part 2-24: Common design rules and construction - Polyethylene sheathing compounds

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50290-2-24

April 2021

ICS 29.035.20; 33.120.10

Supersedes EN 50290-2-24:2002 and all of its amendments and corrigenda (if any)

English Version

Communication cables - Part 2-24: Common design rules and construction - Polyethylene sheathing compounds

Câbles de communication - Partie 2-24: Règles de conception communes et construction - Mélanges pour gaines en polyéthylène

Kommunikationskabel - Teil 2-24: Gemeinsame Regeln für Entwicklung und Konstruktion - PE-Mantelmischungen

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

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European foreword

This document (EN 50290-2-24:2021) 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• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2024–01–19

This document supersedes EN 50290-2-24:2002 and all of its amendments and corrigenda (if any).

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1 Scope

This document gives specific requirements for polyethylene sheathing compounds, as given in Table 1, for use in inner and outer sheathing of communication cables including fibre optic cables.

It is expected to be read in conjunction with EN 50290-2-20, the product standards EN 50407 series, EN 50117 series, EN 60794 series and other applicable product standards.

Using raw material and type test data as outlined in this document, the raw material supplier will have sufficient data to demonstrate compliance and warrant that the material is suitable for the specified application.

There are several routes used for manufacture of polyethylene and as a consequence a number of different types of polyethylene are defined as given in Table 1.

Table 1 — Polyethylene materials (informative)

Abbreviation	Material type	Reactor process	Polymer structure	Maximum operating temperature[a] °C
LDPE[b]	Low density polyethylene	High pressure/ temperature radical reaction	Long chain branched	+70
LLDPE	Linear low density polyethylene	Low pressure/ temperature catalytic reaction	Significant short chain branching	+80
MDPE	Medium density polyethylene	Low pressure/ temperature catalytic reaction	Short chain branched	+80
HDPE	High density polyethylene	Low pressure/ temperature catalytic reaction	Limited short chain branching	+80

[a] Further guidance on operating temperature is contained in EN 50290-2-20

[b] Upper process capability for density 0,930 g/ml. Normally density range 0,917–0,925 g/ml

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 50289-4-17, *Communication cables - Specifications for test methods - Part 4-17: Test methods for UV resistance evaluation of the sheath of electrical and optical fibre cable*

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

EN 60811-406, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 406: Miscellaneous tests - Resistance to stress cracking of polyethylene and polypropylene compounds (IEC 60811-406)*

EN 60811-407, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 407: Miscellaneous tests - Measurement of mass increase of polyethylene and polypropylene compounds (IEC 60811-407)*

EN 60811-501, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 501: Mechanical tests - Tests for determining the mechanical properties of insulating and sheathing compounds (IEC 60811-501)*

EN 60811-511, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 511: Mechanical tests - Measurement of the melt flow index of polyethylene compounds (IEC 60811-511)*