

SLOVENSKI STANDARD

SIST EN 50290-2-25:2002

01-september-2002

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SIST HD 624.5 S1:1996

Communication cables - Part 2-25: Common design rules and construction - Polypropylene insulation compounds (Note: Applies only in conjunction with EN 50290-2-20)

Communication cables -- Part 2-25: Common design rules and construction - Polypropylene insulation compounds

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Kommunikationskabel -- Teil 2-25: Gemeinsame Regeln für Entwicklung und Konstruktion - Polypropylen-Isoliermischungen

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Câbles de communication - Partie 2-25 Règles de conception communes et construction - Polypropylène pour enveloppes isolantes

Ta slovenski standard je istoveten z: EN 50290-2-25:2002

ICS:

29.035.20	Účelne určené plasty a kaučukové izolujúce materiály	Plastics and rubber insulating materials
33.120.10	Koaxialni kabli. Valovodi	Coaxial cables. Waveguides

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en

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EUROPEAN STANDARD

EN 50290-2-25

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2002

ICS 29.035.20; 33.120.10

Supersedes HD 624.5 S1:1995

English version

Communication cables
Part 2-25: Common design rules and construction –
Polypropylene insulation compounds

Câbles de communication
Partie 2-25: Règles de conception
communes et construction -
Polypropylène pour enveloppes
isolantes

Kommunikationskabel
Teil 2-25: Gemeinsame Regeln
für Entwicklung und Konstruktion -
Polypropylen-Isoliermischungen

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by a joint working group of the Technical Committees CENELEC TC 46X, Communication cables, and CENELEC TC 86A, Optical fibres and optical fibre cables

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50290-2-25 on 2001-11-01.

This European Standard supersedes HD 624.5 S1:1995.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2002-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2004-08-01

This European Standard has been prepared under the European Mandate M/212 given to CENELEC by the European Commission and the European Free Trade Association.

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1 Scope

This Part 2-25 of EN 50290 gives specific requirements for polypropylene insulation compounds used in communication cables.

It is to be read in conjunction with Part 2-20 of EN 50290.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

- | | |
|-------------------|---|
| EN 60811-1-1:1995 | Insulating and sheathing materials of electric and optical cables - Common test methods -- Part 1-1: General application - Measurement of thickness and overall dimensions - Tests for determining the mechanical properties (IEC 60811-1-1:1993) |
| EN 60811-1-2:1995 | Insulating and sheathing materials of electric cables - Common test methods Part 1-2: General application -- Thermal ageing methods (IEC 60811-1-2:1985 + corr. May 1986 + A1:1989) |
| EN 60811-1-3:1995 | Insulating and sheathing materials of electric and optical cables - Common test methods -- Part 1-3: General application - Methods for determining the density - Water absorption tests - Shrinkage test (IEC 60811-1-3:1993) |
| EN 60811-1-4:1995 | Insulating and sheathing materials of electric and optical cables - Common test methods -- Part 1-4: General application - Tests at low temperature (IEC 60811-1-4:1985 + corr. May 1986 + A1:1993) |
| EN 60811-4-1:1995 | Insulating and sheathing materials of electric cables - Common test methods -- Part 4: Methods specific to polyethylene and polypropylene compounds -- Section 1: Resistance to environmental stress cracking - Wrapping test after thermal ageing in air - Measurement of the melt flow index - Carbon black and/or mineral content measurement in PE (IEC 60811-4-1:1985) |
| EN 60811-4-2:1999 | Insulating and sheathing materials of electric and optical fibre cables - Common test methods -- Part 4: Methods specific to polyethylene and polypropylene compounds -- Section 2: Tensile strength and elongation at break after pre-conditioning - Wrapping test after thermal ageing in air - Measurement of mass increase - Long - term stability test - Test method for copper - catalysed oxidative degradation (IEC 60811-4-2:1990, mod.) |

3 Requirements

In case of specific applications, additional performances could be needed. Relevant test methods and requirements shall be included in the detail specification of the cables.

Table 1 - Polypropylene insulation compounds
(Application for unfilled cables)

Characteristics		Test method	Unit	Grades	
				Solid	Cell (including foam-skin)
1	Maximum rated temperature of cable for which the compound can be used		° C	90	70
2	Density ¹⁾	EN 60811-1-3 clause 8	g/cm ³	0,895 to 0,915	To be recorded
3	Melt flow index ¹⁾	EN 60811-4-1 clause 10	g/10 min	To be recorded	To be recorded
4	Mechanical characteristics In state of delivery	EN 60811-1-1 9.1			
4.1	Tensile strength – median, min.		MPa	15	5
4.2	Elongation at break – median, min.		%	300	125
5	Shrinkage Test conditions – temperature – duration Result to be obtained, max.	EN 60811-1-3 clause 10	° C h %	130 ± 2 1 5	130 ± 2 1 5
6	Elongation at break after ageing Test conditions – temperature – duration Result to be obtained – median, min.	EN 60811-1-2 8.1	° C h %	100 ± 2 10 x 24 300	100 ± 2 10 x 24 125
7	Wrapping after ageing Test conditions – temperature – duration Result to be obtained	EN 60811-4-2 clause 10	° C h	100 ± 2 14 x 24 No crack	100 ± 2 14 x 24 No crack

Table 1 (continued)

Characteristics		Test method	Unit	Grades	
				Solid	Cell (including foam-skin)
8	Long term stability test (see note) Test conditions - temperature - duration Result to be obtained	EN 60811-4-2 Annex A	° C h	100 ± 2 42 x 24 No crack	100 ± 2 ²⁾ 42 x 24 No crack
9	Bending test at low temperature Test conditions - temperature - duration Result to be obtained	EN 60811-1-4 8.1	° C h	- 30 ± 2 1 No crack	- 30 ± 2 1 No crack
<p>NOTE For monitoring both raw materials and cables, OIT test may be performed in accordance with EN 60811-4-2 annex B with typical minimum value of 15 min. Alternatively, the test may be carried out prior to extrusion on granules in presence of a piece of copper conductor with typical minimum value of 30 min. For information only, OIT after pre-conditioning may be recorded.</p> <p>1) to be given by the supplier on the basic resins (cellular and skin). 2) provisional value - Temperature to be confirmed.</p>					

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