



SLOVENSKI STANDARD

SIST HD 624.3 S1:1996

01-maj-1996

Materials used in communication cables - Part 3: PE insulation

Materials used in communication cables -- Part 3: PE insulation

Werkstoffe für Kommunikationskabel -- Teil 3: PE-Isoliermischungen

Matériaux utilisés dans les câbles de communication -- Partie 3: Polyéthylène pour enveloppes isolantes

(standards.iteh.ai)

Ta slovenski standard je istoveten z: **HD 624.3 S1:1996**

<https://standards.iteh.ai/catalog/standards/sist/7e17dad5-5ba5-44b6-86ba-9fce3d3791c4/sist-hd-624-3-s1-1996>

ICS:

29.035.20	Plastični in gumeni izolacijski materiali	Plastics and rubber insulating materials
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HARMONIZATION DOCUMENT

HD 624.3 S1

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

March 1994

UDC 621.315.3:621.315.616-036.742

Descriptors: Communication cables, insulation compounds, solid polyethylene

ENGLISH VERSION

Materials used in communication cables
Part 3: PE insulation

Matériaux utilisés dans les câbles de communication
Partie 3: Polyéthylène pour enveloppes isolantes

Werkstoffe für Kommunikationskabel
Teil 3: PE-Isoliermischungen

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This Harmonization Document was approved by CENELEC on 1994-03-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

Up-to-date lists and bibliographical references concerning national implementation may be obtained on application to the Central Secretariat or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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 Harmonization Document was prepared by CENELEC Technical Committee TC 46X/WG 2, Communication cables.

Following a CLC/TC 46X decision during its meeting on 1993-01-13 and with the approval of the 73rd Technical Board, the text was submitted to the Unique Acceptance Procedure (UAP) in March 1993 and was approved by CENELEC as HD 624.3 S1.

A draft amendment to the HD was submitted to the formal vote in December 1993.

At the request of CLC/TC 46X, the text of this draft was approved by CENELEC for inclusion in the HD on 1994-03-08.

The following dates were fixed:

- latest date of announcement of the HD at national level (doa) 1994-09-15
- latest date of publication of a harmonized national standard (dop) 1995-07-15
- latest date of withdrawal of conflicting national standards (dow) 1995-07-15

For products which have complied with the relevant national standard before 1995-07-15, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-07-15.

This document forms part of a series of standards on materials used in communication cables which will include the following parts:

- Part 1: PVC insulation compounds
- Part 2: PVC sheathing compounds
- Part 3: PE insulation
 - Table 1: Solid
 - Table 2: Cellular (including foam-skin)
- Part 4: PE sheathing
- Part 5: Polypropylen insulation
- Part 6: Flame retardant insulation compounds
- Part 7: Halogen free flame retardant thermoplastic sheathing compounds
- Part 8: Filling compounds for filled cables

The different parts include specific requirements for communication cables; common characteristics are aligned as far as possible on existing Harmonization Documents, if any, and in as far as these may apply to communication cables.

Table 1: PE solid insulation compounds

Characteristics		Test method	Unit	Grades	
				L/MD	HD
1	Maximum rated temperature of cable for which the compound can be used		° C	70	80
2	Density *	HD 505.1.3 § 8	g/cm ³	≤ 0,940	>0,940
3	Melt Flow Index *	HD 505.4.1 § 10	g/10 min	≤ 0,5 ≤ 2,5**	≤ 1,0
4	Mechanical characteristics	HD 505.1.1 § 9.1			
4.1	Tensile strength - median,min.		MPa	10	18
4.2	Elongation at break - median,min.		%	300	300
5	Shrinkage - temperature - duration Result to be obtained - max.	HD 505.1.3 § 10	° C h	100 ± 2 1	115 ± 2 1
6	Elongation at break after ageing for unfilled cables - temperature - duration Result to be obtained - median,min.	HD 505.1.2 § 8	° C h %	100 ± 2 10 x 24 300	100 ± 2 10 x 24 300
7	Performances after pre-conditioning for filled cables - temperature - duration	HD 505.4.2 § 8.2	° C h	60/70 ± 2 7 x 24	60/70 ± 2 7 x 24
7.1	Elongation at break Result to be obtained - median,min. - variation,max.	HD 505.4.2 § 8.4/8.6	% %	200 ± 30	200 ± 30
7.2	Wrapping (note 1) Result to be obtained after exposure in wrapped conditions - temperature - duration	HD 505.4.2 § 10.5/10.6	° C h	no crack 70 ± 2 24	no crack 70 ± 2 24

continued

* to be given by the supplier on the basic resin

** for particular application

Table 1 (concluded)

Characteristics		Test method	Unit	Grades	
				L/MD	HD
8	Wrapping after ageing - temperature - duration Result to be obtained	HD 505.4.2 § 10	° C h	100 ± 2 14 x 24 no crack	100 ± 2 14 x 24 no crack
9	Long Term Stability Test (note 2) - temperature - duration Result to be obtained	HD 505.4.2 App. A	° C h	100 ± 2 42 x 24 no crack	100 ± 2 42 x 24 no crack
10	Mass increase for filled cables - temperature - duration Result to be obtained - max.	HD 505.4.2 § 11	° C h %	60/70 ± 2 10 x 24 13	60/70 ± 2 10 x 24 13
<p>Note 1 Only to be carried out if elongation at break cannot be done (<i>i.e. if the insulation cannot be removed from the conductor without damage and/or the insulation thickness is less than 0.8 mm</i>).</p> <p>Note 2 For monitoring both raw materials and cables, OIT test may be performed in accordance with HD 505-4-2 Appendix 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>					