



# SLOVENSKI STANDARD

## SIST HD 624.7 S1:1996

01-maj-1996

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### Materials used in communication cables - Part 7: Halogen free flame retardant thermoplastic sheathing compounds

Materials used in communication cables -- Part 7: Halogen free flame retardant thermoplastic sheathing compounds

Werkstoffe für Kommunikationskabel -- Teil 7: Halogenfreie flammwidrige thermoplastische Mantelmischungen

Matériaux utilisés dans les câbles de communication -- Partie 7: Mélanges de gainage thermoplastiques sans halogène et avec propagation retardée de flamme

<https://standards.iteh.ai/catalog/standards/sist/ee1aaa17-1ba6-47c7-821a-2a7d1f07098f/sist-hd-624-7-s1-1996>

Ta slovenski standard je istoveten z: **HD 624.7 S1:1994**

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#### **ICS:**

33.040.50	Vodi, zveze in tokokrogi	Lines, connections and circuits
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**SIST HD 624.7 S1:1996**

**en**

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HARMONIZATION DOCUMENT

HD 624.7 S1

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

March 1994

UDC 621.315.3:621.315.616

Descriptors: Communication cables, sheathing compounds, halogen free,  
flame retardant

## ENGLISH VERSION

Materials used in communication cables  
Part 7: Halogen free flame retardant thermoplastic  
sheathing compound

Matériaux utilisés dans les  
câbles de communication  
Partie 7: Mélanges de gainage  
thermoplastiques sans halogène  
et avec propagation retardée de  
flamme

Werkstoffe für  
Kommunikationskabel  
Teil 7: Halogenfreie  
flammwidrige thermoplastische  
Mantelmischungen

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This Harmonization Document was approved by CENELEC on 1993-09-22.  
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 1992-07-08 and with the approval of the 73rd Technical Board, the text was submitted to the Unique Acceptance Procedure (UAP) in December 1992 and was approved by CENELEC as HD 624.7 S1 on 1993-09-22.

The following dates were fixed:

- latest date of announcement of the HD at national level (doa) 1994-03-01
- latest date of publication of a harmonized national standard (dop) 1994-09-01
- latest date of withdrawal of conflicting national standards (dow) 1994-09-01

For products which have complied with the relevant national standard before 1994-09-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1999-09-01.

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.

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## Halogen free flame retardant thermoplastic sheathing compounds

Characteristics		Test method	Unit	Requirement
1	Maximum rated temperature at cable for which the compound can be used		°C	70
2	Mechanical characteristics (note 1)			
2.1	In state of delivery	HD 505.1.1 § 9.2		
	Tensile strength - median, min.		MPa	9
	Elongation at break - median, min.		%	125
2.2	After ageing	HD 505.1.2 § 8.1		
	Ageing conditions - temperature - duration		°C h	100 ± 2 7 x 24
	Tensile strength - variation, max.		%	± 30
	Elongation at break - median, min. - variation, max. for thickness		% % mm	100 ± 30 > 0,6
				100* ± 40 ≤ 0,6
3	Heat shock	HD 505.3.1 § 9.2		
	Test conditions - temperature - duration Result to be obtained		°C h	130 ± 2 1 no crack
4	Behaviour at low temperature			
4.1	Bending at low temperature**	HD 505.1.4 § 8.2		
	Test conditions - temperature Result to be obtained		°C	- 15 ± 2 no crack
4.2	Elongation without break***	HD 505.1.4 § 8.4		
	Test conditions - temperature Elongation, min.		°C %	- 15 ± 2 20

\* Provisional value

\*\* For outer diameters up to including 12,5 mm

\*\*\* For outer diameters exceeding 12,5 mm

Characteristics		Test method	Unit	Requirement
5	<b>Pressure at high temperature</b>	HD 505.3.1 § 8.2		
	Test conditions - temperature - duration (for all values of cable diameter) Result to be obtained - depth of indentation median,max.		°C h %	80 ± 2 4 50
6	<b>Oxygen Index (note 2)</b>	HD 405.3		
7	<b>Corrosivity</b>	HD 602		To meet
8	<b>Smoke opacity (note 3)</b>			
9	<b>Toxicity</b>	Under consideration		
Note 1	Guidance for the preparation of samples for tensile and elongation tests before and after ageing. If the samples under test have ridges on the inside caused by the inner components of the cable (cores or wire braid) then these ridges should be removed by buffing, cutting or skiving.			
Note 2	Oxygen index measurement has been found to be a suitable indicator to guide selection and monitoring of materials used in cables which have to meet the fire performance tests specified in the relevant cable specification.			
Note 3	For selection of materials used in cables draft method according to IEC xxx* may be considered.			

**General comments :**

In case of specific application, additional performances (i.e chemical resistance, UV resistance, water absorption...) could be needed. Relevant test methods and requirements shall be included in the relevant cable specification.

Cable fire performances shall be specified in the relevant cable specification (*flame propagation, evolution of corrosive gases, smoke opacity, toxicity*) in accordance with existing Harmonization Documents (i.e. HD 405, HD 602, HD 606,...).

\* presently 89(Secretariat)35