SLOVENSKI STANDARD SIST HD 22.12 S1:1998/A1:1999

> prva izdaja november 1999

Rubber insulated cables of rated voltages up to and including 450/750 V — Part 12: Heat resistant EPR cords and flexible cables - Amendment A1

## iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST HD 22.12 S1:1998/A1:1999 https://standards.iteh.ai/catalog/standards/sist/8ba44e24-20f5-4033-9c29-6c12432e3c60/sist-hd-22-12-s1-1998-a1-1999

> Referenčna številka SIST HD 22.12 S1:1998/A1:1999(en)

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST HD 22.12 S1:1998/A1:1999 https://standards.iteh.ai/catalog/standards/sist/8ba44e24-20f5-4033-9c29-6c12432e3c60/sist-hd-22-12-s1-1998-a1-1999

## HARMONIZATION DOCUMENT DOCUMENT D'HARMONISATION HARMONISIERUNGSDOKUMENT

HD 22.12 S1/A1

January 1999

ICS 29.060.20

Descriptors: Insulated conductor, insulated cable, flexible cable, rubber, ethylene-propylene, heat resistant material, protective sheath, insulation, designation, construction, dimension, test, data table

English version

Rubber insulated cables of rated voltages up to and including 450/750 V Part 12: Heat resistant EPR cords and flexible cables

Conducteurs et câbles isolés au caoutchouc de tension assignée au plus égale à 450/750 V Partie 12: Câbles souples à isolation DARD Schlauchleitungen mit EPR Isolierhülle EPR résistant à la chaleur (standards.iteh.ai)

Gummi-isolierte Leitungen mit Nennspannungen bis 450/750 V Teil 12: Wärmebeständige

SIST HD 22.12 S1:1998/A1:1999 https://standards.iteh.ai/catalog/standards/sist/8ba44e24-20f5-4033-9c29-6c12432e3c60/sist-hd-22-12-s1-1998-a1-1999

This amendment A1 modifies the Harmonization Document HD 22.12 S1:1996; it was approved by CENELEC on 1998-08-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this amendment on a national level.

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

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

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, 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

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#### **Foreword**

This amendment was prepared by the Technical Committee CENELEC TC20, Electric cables, and agreed at the Dublin meeting (April 1997) to go forward to the Unique Acceptance Procedure.

This amendment has been prepared within the regular maintenance programme which covers all Parts of HD 22. Attention is especially drawn to Annex X and Annex Y, which will be incorporated into HD 22.1 and HD 516 at a later date.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to HD 22.12 S1:1996 on 1998-08-01.

The following dates were fixed:

- latest date by which the existence of the amendment has to be announced at national level

(doa) 1996-12-01

 latest date by which the amendment has to be implemented at national level by publication of a harmonized national standard or by endorsement

(dop) 1999-06-01

- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2000-06-01

SIST HD 22:12 S1:1998/A1:1999

https://standards.iteh.ai/catalog/standards/sist/8ba44e24-20f5-4033-9c29-6c12432e3c60/sist-hd-22-12-s1-1998-a1-1999



#### Amendment A1 to HD 22.12 S1

#### Clause 2

Delete HD 405.1

Insert:

EN 50265-2-1 Common test methods for cables under fire conditions - Test for resistance to vertical flame propagation for a single insulated conductor or cable -- Part 2-1: Procedures - 1kW premixed flame

#### Clause 3

Amend title to read:

"Ordinary heat-resistant and low-temperature resistant EPR ....."

Sub-clause 3.3.3

In line 1, amend "El 7" to "El 6"

Sub-clause 3.3.7 iTeh STANDARD PREVIEW

Amend the end of the sub-clause to readtandards.iteh.ai)

" .... Part 1, sub-clause 3:12" | HD 22.12 S1:1998/A1:1999

https://standards.iteh.ai/catalog/standards/sist/8ba44e24-20f5-4033-9c29-6c12432e3c60/sist-hd-22-12-s1-1998-a1-1999

Clause 4

Amend title to read:

"Heavy heat-resistant and low-temperature resistant EPR .... "

Sub-clause 4.3.3

In line 1, amend "EI 7" to "EI 6"

Sub-clause 4.3.8

Amend the end of the sub-clause to read:

" .... Part 1, sub-clause 3.2"

Sub-clause 5.3.7

Amend the end of the sub-clause to read:

" .... Part 1, sub-clause 3.2"

Table VI

Against Ref No.6 put "50265-2-1" in column 4 in place of "405.1"

Page 4

HD 22.12 S1:1996/A1:1999

#### Sub-clause 6.3.8

Amend the end of the sub-clause to read:

" .... Part 1, sub-clause 3.2"

#### **Table VIII**

Against Ref No.6 put "50265-2-1" in column 4 in place of "405.1"

#### Sub-clause 7.3.8

Amend the end of the sub-clause to read:

" .... Part 1, sub-clause 3.2"

#### Table IX

Amend the reference in Note (1) to read "IEC 60502-1, Annex A".

#### Table X

Delete existing Table X and replace as attached DARD PREVIEW

#### Annex A

(standards.iteh.ai)

Delete reference to IEC 502 and insert: SIST HD 22.12 S1:1998/A1:1999

https://standards.iteh.ai/catalog/standards/sist/8ba44e24-20f5-4033-9c29-

"IEC 60502-1 "Power Cables with extruded insulation and their accessories for rated voltages 1kV ( $U_m=1,2kV$ ) up to 30kV ( $U_m=36kV$ ) -- Part 1: Cables for rated voltages of 1kV ( $U_m=1,2kV$ ) and 3kV ( $U_m=3,6kV$ )"

#### Annex B

Add new Annex B as attached.

#### Annex C

Add new Annex C as attached.

Table X

Tests for Type H07BN4-F

1.1 Res 1.2 Vol 1.3 Vol 1.4 Abs 1.5 Sur 2. Prodim Chopro 2.1 Chopro Me 2.2 Me 2.3 Me 2.4.1 2.4.2 2.5 Sol 3. Me 3.1 Tel 3.2 Tel 3.3 Tel 3.3 Ho 4. Me 4.1 Te 4.2 Te 4.3 Te 4.4 Ho 5. Fle 5.1 Fle	rests  extrical tests existance of conductors oltage test on cores at 2500V oltage test on completed cable at 2500V observe of faults on insulation urface resistance of sheath  ovisions covering constructional and mensional characteristics necking of compliance with constructional ovisions easurement of thickness of insulation easurement of thickness of sheath easurement of overall diameter  Mean value Ovality Teh STANDA olderability test (Plain conductors)  sechanical properties of insulation ensile test before ageing ensile test after ageing in the air oven 22.12 sensile test after ageing in the a	T \$1:1998/A1:19 uds/sist/8ba44	22.2 22.2 22.2 22.2 22.2 22.2 22.1 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.2	Clause  2.1 2.3 2.2 2.6 2.7  Inspection and manual tests 1.9 1.10  1.11 1.11 1.12  9.1 8.1.3.2a 8.2 9
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4.1 Te 4.2 Te 4.3 Te 4.4 Ho 5. Me 5.1 Me we			1	
4.2 Te 4.3 Te 4.4 Ho 5. Me 5.1 Me wa	lechanical properties of sheath	1		
4.3 Te Ho 5. Me Fle wa	ensile test before ageing	T	60811-1-1	9.2
4.4 Ho 5. Me 5.1 Fle wa	ensile test after ageing in the air oven	T	60811-1-2	8.1.3.1
5. <u>Me</u> 5.1 Fle	ensile test after immersion in oil	Т	60811-2-1	10
5.1 Fle	ot set test	T .	60811-2-1	. 9
5.1 Fle	lechanical strength of completed cable			
Wa	lexing test (*) followed after immersion in	T	22.2	3.1 and 2.3
	vater by a voltage test at 2000V on cores			
, l <sub>+</sub>	rater by a voltage test at 2000 v on colos			
6. <u>Te</u>	est under fire conditions	Т	50265-2-1	-
7   7.	cote at low temperature			
	ests at low temperature	Т Т	60811-1-4	8.1
	ending test for insulation	'T	60811-1-4	8.4
7.2   Eld	longation test for sheath	1	00011-1-4	, 0.4
	zone resistance test for insulation and	Т	ļ	
sh	heath (either method may be used)	1		
- I	a) Method A		60811-2-1	8
	b) Method B		22.2	7.3
	- · · · · · · · · · · · · · ·	}		8.1.4
9. <u>C</u>	Compatibility test	1 T	60811-1-2	

#### Annex X to HD 22.12 S1/A1 (Normative)

#### Amendment to HD 22.1 S3

(This annex is Normative. It will be incorporated into HD22.1 S3 for the next amendment.)

#### Sub-clause 5.5.1

Amend wording for Type EM 6 to read:

"Type EM 6 for cables insulated with compound El 6 and sheathed with a compound of ethylene-propylene rubber or equivalent synthetic elastomer for use down to -40°C."

#### Table II

For EM 6 (column 10) amend the following values:

Ref No. 1.1.2 (elongation at break (%) before ageing - median, min.), change from "250" to "200".

Ref No. 5.1.1 (low temperature bending test), change temperature of test from "-35 ± 2°C" to "-50 ± 3°C"

Ref No. 5.2.1 (low temperature elongation test), change temperature of test from "-35  $\pm$  2°C" to "-50 $\pm$  3°C".

<u>SIST HD 22.12 S1:1998/A1:1999</u> https://standards.iteh.ai/catalog/standards/sist/8ba44e24-20f5-4033-9c29-6c12432e3c60/sist-hd-22-12-s1-1998-a1-1999