



SLOVENSKI STANDARD
SIST HD 21.12 S1:1998/A1:2002
01-april-2002

**Kabli s polivinilkloridno izolacijo za naznačene napetosti do vključno 450/750 V -
12. del: Toplotno odporni zvijavi kabli (vrvice)**

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part
12: Heat-resistant flexible cables (cords)

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

Conducteurs et câbles isolés au polychlorure de vinyle de tension assignée au plus
égale à 450/750 V - Partie 12: Câbles souples résistant à la chaleur

<https://standards.iteh.ai/catalog/standards/sist/6de53d81-9d9d-4e9b-84b1-7898f0b4f7bf/sist-hd-21-12-s1-1998-a1-2002>

Ta slovenski standard je istoveten z: HD 21.12 S1:1994/A1:2001

ICS:

29.060.20 Kabli Cables

SIST HD 21.12 S1:1998/A1:2002 en

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HARMONIZATION DOCUMENT

HD 21.12 S1/A1

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

August 2001

ICS 29.060.20

English version

**Polyvinyl chloride insulated cables of rated voltages
up to and including 450/750 V
Part 12: Heat-resistant flexible cables (cords)**

Conducteurs et câbles isolés au
polychlorure de vinyle de tension
assignée au plus égale à 450/750 V
Partie 12: Câbles souples résistant
à la chaleur

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

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SIST HD 21.12 S1:1998/A1:2002

This amendment A1 modifies the Harmonization Document HD 21.12 S1:1994; it was approved by CENELEC on 2001-06-01. 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

Foreword

This amendment was prepared by the Technical Committee CENELEC TC 20, Electric cables, and agreed at the Stresa meeting (April 1999) to go forward to the Unique Acceptance Procedure.

This amendment has been prepared within the regular maintenance programme which covers all Parts of HD 21.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to HD 21.12 S1:1994 on 2001-06-01.

The following dates were fixed:

- latest date by which the existence of the amendment has to be announced at national level (doa) 2002-02-01
- latest date by which the amendment has to be implemented at national level by publication of a harmonised national standard or by endorsement (dop) 2002-08-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2003-08-01

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Subclause 2.3.6

Amend the end of the subclause to read:

“... of 3.2 of Part 1 of this HD”

Table I and Table II

Delete the existing Tables I and II and **replace** as attached.

Subclause 3.3.6

Amend the end of the subclause to read:

“... of 3.2 of Part 1 of this HD”

Table III and Table IV

Delete the existing Tables III and IV and **replace** as attached.

Subclause 4.3.7

Amend the end of the subclause to read:

“... of 3.2 of Part 1 of this HD”

Table VI

Delete the existing Table VI and **replace** as attached.

Informative Annex “Guide to Use”

Delete the annex (pages 14 and 15)

NOTE This information is now incorporated in HD 516 S2:1997.

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Table I - General Data for Types H03V2V2-F and H03V2V2H2-F

1	2	3	4	5	6
Number and nominal cross-sectional area of conductors mm ²	Thickness of insulation	Thickness of sheath	Mean overall dimensions		Minimum insulation resistance at 90 °C MΩ • km
	Specified value mm	Specified value mm	Lower limit mm	Upper limit mm	
2 x 0,5	0,5	0,6	4,6 or 3,0 x 4,9	5,9 or 3,7 x 5,9	0,011
2 x 0,75	0,5	0,6	4,9 or 3,2 x 5,2	6,3 or 3,8 x 6,3	0,010
3 x 0,5	0,5	0,6	4,9	6,3	0,011
3 x 0,75	0,5	0,6	5,2	6,7	0,010
4 x 0,5	0,5	0,6	5,4	6,9	0,011
4 x 0,75	0,5	0,6	5,7	7,3	0,010

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Table II - Tests for Types H03V2V2-F and H03V2V2H2-F

1	2	3	4	5
Ref No.	Tests	Category of test	Test method described in	
			HD/EN	Clause
1	Electrical tests			
1.1	Resistance of conductors	T, S	21.2	2.1
1.2	Voltage test on completed cable at 2 000 V	T, S	21.2	2.2
1.3	Voltage test on cores at 1 500 V	T	21.2	2.3
1.4	Insulation resistance at 90 °C	T, S	21.2	2.4
1.5	Long term resistance of insulation to d.c.	T	21.2	2.5
1.6	Absence of faults on insulation	R	21.2	2.6
2	Provisions covering constructional and dimensional characteristics			
2.1	Checking of compliance with constructional provisions	T, S	21.1	Inspection and manual tests
2.2	Measurement of thickness of insulation	T, S	21.2	1.9
2.3	Measurement of thickness of sheath	T, S	21.2	1.10
2.4	Measurement of overall dimensions			
2.4.1	Mean value	T, S	21.2	1.11
2.4.2	Ovality	T, S	21.2	1.11
3	Mechanical properties of insulation			
3.1	Tensile test before ageing	T	60811-1-1	9.1
3.2	Tensile test after ageing	T	60811-1-2	8.1.3.1
3.3	Loss of mass test	T	60811-3-2	8.1
4	Mechanical properties of sheath			
4.1	Tensile test before ageing	T	60811-1-1	9.2
4.2	Tensile test after ageing	T	60811-1-2	8.1.3.1
4.3	Loss of mass test	T	60811-3-2	8.2
5	Pressure test at high temperature			
5.1	Insulation	T	60811-3-1	8.1
5.2	Sheath	T	60811-3-1	8.2
6	Tests at low temperature			
6.1	Bending test for insulation	T	60811-1-4	8.1
6.2	Bending test for sheath	T	60811-1-4	8.2
6.3	Impact test	T	60811-1-4	8.5
7	Heat shock test			
7.1	Insulation	T	60811-3-1	9.1
7.2	Sheath	T	60811-3-1	9.2
8	Thermal stability at 200 °C			
8.1	Insulation	T	60811-3-2	9
8.2	Sheath	T	60811-3-2	9
9	Mechanical strength of completed Cable			
9.1	Flexing test	T	21.2	3.1
10	Test under fire conditions	T	50265-2-1	-

Table III - General Data for Types H05V2V2-F and H05V2V2H2-F

1 Number and nominal cross-sectional area of conductors mm ²	2 Thickness of insulation		3 Thickness of sheath		4 Mean overall dimensions		5 Minimum Insulation Resistance at 90 °C MΩ • km
	Specified value mm	Specified value mm	Lower limit mm	Upper limit mm	Lower limit mm	Upper limit mm	
2 x 0,5	0,6	0,7	5,2 or 3,4 x 5,5	6,6 or 4,1 x 6,6			0,013
2 x 0,75	0,6	0,8	5,7 or 3,7 x 6,0	7,2 or 4,5 x 7,2			0,011
2 x 1	0,6	0,8	5,9 or 3,9 x 6,2	7,5 or 4,7 x 7,5			0,010
2 x 1,5	0,7	0,8	6,8	8,6			0,010
2 x 2,5	0,8	1,0	8,4	10,6			0,0095
2 x 4,0	0,8	1,1	9,7	12,1			0,0078
3 x 0,5	0,6	0,7	5,5	7,0			0,013
3 x 0,75	0,6	0,8	6,0	7,6			0,011
3 x 1	0,6	0,8	6,3	8,0			0,010
3 x 1,5	0,7	0,9	7,4	9,4			0,010
3 x 2,5	0,8	1,1	9,2	11,4			0,0095
3 x 4,0	0,8	1,2	10,5	13,1			0,0078
4 x 0,5	0,6	0,8	6,2	7,9			0,013
4 x 0,75	0,6	0,8	6,6	8,3			0,011
4 x 1	0,6	0,9	7,1	9,0			0,010
4 x 1,5	0,7	1,0	8,4	10,5			0,010
4 x 2,5	0,8	1,1	10,1	12,5			0,0095
4 x 4,0	0,8	1,2	11,5	14,3			0,0078
5 x 0,75	0,6	0,9	7,4	9,3			0,011
5 x 1	0,6	0,9	7,8	9,8			0,010
5 x 1,5	0,7	1,1	9,3	11,6			0,010
5 x 2,5	0,8	1,2	11,2	13,9			0,0095
5 x 4	0,8	1,4	13,0	16,1			0,0078

Table IV - Tests for Types H05V2V2-F and H05V2V2H2-F

1 Ref No.	2 Tests	3 Category of test	4 Test method described in		5 Clause
			HD/EN		
1	Electrical tests				
1.1	Resistance of conductors	T, S	21.2		2.1
1.2	Voltage test on completed cable at 2 000 V	T, S	21.2		2.2
1.3	Voltage test on cores according to Specified insulation thickness				
1.3.1	- at 1 500 V up to and including 0,6 mm	T	21.2		2.3
1.3.2	- at 2 000 V exceeding 0,6 mm	T	21.2		2.3
1.4	Insulation resistance at 90 °C	T, S	21.2		2.4
1.5	Long term resistance of insulation to d.c.	T	21.2		2.5
1.6	Absence of faults on insulation	R	21.2		2.6
2	Provisions covering constructional and dimensional characteristics				
2.1	Checking of compliance with constructional provisions	T, S	21.1		Inspection and manual tests
2.2	Measurement of thickness of insulation	T, S	21.2		1.9
2.3	Measurement of thickness of sheath	T, S	21.2		1.10
2.4	Measurement of overall dimensions				
2.4.1	Mean value	T, S	21.2		1.11
2.4.2	Ovality	T, S	21.2		1.11
3	Mechanical properties of insulation				
3.1	Tensile test before ageing	T	60811-1-1		9.1
3.2	Tensile test after ageing	T	60811-1-2		8.1.3.1
3.3	Loss of mass test	T	60811-3-2		8.1
3.4	Compatibility test ¹⁾	T	60811-1-2		8.1.4
4	Mechanical properties of sheath				
4.1	Tensile test before ageing	T	60811-1-1		9.2
4.2	Tensile test after ageing	T	60811-1-2		8.1.3.1
4.3	Loss of mass test	T	60811-3-2		8.2
5	Pressure test at high temperature				
5.1	Insulation	T	60811-3-1		8.1
5.2	Sheath	T	60811-3-1		8.2
6	Tests at low temperature				
6.1	Bending test for insulation	T	60811-1-4		8.1
6.2	Bending test for sheath ²⁾	T	60811-1-4		8.2
6.3	Elongation test for sheath ³⁾	T	60811-1-4		8.4
6.4	Impact test	T	60811-1-4		8.5
7	Heat shock test				
7.1	Insulation	T	60811-3-1		9.1
7.2	Sheath	T	60811-3-1		9.2
8	Thermal stability at 200 °C				
8.1	Insulation	T	60811-3-2		9
8.2	Sheath	T	60811-3-2		9