

SLOVENSKI STANDARD
SIST HD 21.3 S3:1998/A1:2000
01-september-2000

**Kabli s polivinilkloridno izolacijo za naznačene napetosti do vključno 450/750 V - 3.
del: Neoplaščeni kabli za stalno pokabljenje**

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part
3: Non-sheathed cables for fixed wiring

Polyvinylchlorid-isolierte Leitungen mit Nennspannungen bis 450/750 V - Teil 3:
Aderleitungen für feste Verlegung

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Conducteurs et câbles isolés au polychlorure de vinyle, de tension assignée au plus
égal à 450/750 V - Partie 3: Conducteurs pour installations fixes

SIST HD 21.3 S3:1998/A1:2000

<https://standards.iteh.ai/catalog/standards/sist/3923a013-11ce-41de-8a3f-e01fac63e32e/sist-hd-21-3-s3-1998-a1-2000>

Ta slovenski standard je istoveten z: HD 21.3 S3:1995/A1:1999

ICS:

29.060.20 Kabli Cables

SIST HD 21.3 S3:1998/A1:2000 **en**

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HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

HD 21.3 S3/A1

October 1999

ICS 29.060.20

UDC 621.315.32/322.027.45/.475-036.742.22-97CO/-97C105-181.1.001.4.002.2 621.316.17-21

English version

**Polyvinyl chloride insulated cables of rated voltages up to
and including 450/750 V**

Part 3: Non-sheathed cables for fixed wiring

Conducteurs et câbles isolés au polychlorure de vinyle, de tension assignée au plus égale à 450/750 V
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Polyvinylchlorid-isolierte Leitungen mit Nennspannungen bis 450/750 V
Teil 3: Aderleitungen für feste Verlegung

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This amendment A1 modifies ~~the Harmonization Document HD 21.3 S3:1995~~; it was approved by CENELEC on ~~1999-08-01~~. 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

Foreword

This amendment was prepared by the Technical Committee CENELEC TC 20, Electric cables.

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 21.3 S3:1995 on 1999-08-01.

The following dates were fixed:

- latest date by which the existence of the amendment has to be announced at national level (doa) 2000-02-01
- latest date by which the amendment has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2000-08-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2001-08-01

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e01fae63e32e/sist-hd-21-3-s3-1998-a1-2000](https://standards.iteh.ai/catalog/standards/sist/3923a013-11ce-41de-8a3fe01fae63e32e/sist-hd-21-3-s3-1998-a1-2000)



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

STANDARDS

Tables I to IV

Delete existing Tables I to IV and replace as attached.

Clause 4

Delete existing clause 4 and replace as attached.

Tables VI and VIII

Delete existing Tables VI and VIII and replace as attached.

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Table I

General data for types H07V-U and H07V-R

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|-----------------------------|--|-----------------------|------------------|---|
| Nominal cross-sectional area of conductors (mm ²) | Class of conductor (HD 383) | Thickness of insulation Specified value (mm) | Mean overall diameter | | Minimum insulation resistance at 70°C (MΩ.km) |
| | | | Lower limit (mm) | Upper limit (mm) | |
| 1,5 | 1 | 0,7 | 2,6 | 3,2 | 0,011 |
| 1,5 | 2 | 0,7 | 2,7 | 3,3 | 0,010 |
| 2,5 | 1 | 0,8 | 3,2 | 3,9 | 0,010 |
| 2,5 | 2 | 0,8 | 3,3 | 4,0 | 0,0099 |
| 4 | 1 | 0,8 | 3,6 | 4,4 | 0,0087 |
| 4 | 2 | 0,8 | 3,8 | 4,6 | 0,0082 |
| 6 | 1 | 0,8 | 4,1 | 5,0 | 0,0074 |
| 6 | 2 | 0,8 | 4,3 | 5,2 | 0,0070 |
| 10 | 1 | 1,0 | 5,3 | 6,4 | 0,0072 |
| 10 | 2 | 1,0 | 5,6 | 6,7 | 0,0067 |
| 16 | 2 | 1,0 | 6,4 | 7,8 | 0,0056 |
| 25 | 2 | SIST EN HD 21.3 S3:1998/A1:2010 | 8,1 | 9,7 | 0,0053 |
| 35 | 2 | https://standards.iteh.ai/catalog/standards/sist/3929/013-11ce-41d4093e01fae63e14/sist-hd-21-3-s3-1910_61-2000 | | | 0,0046 |
| 50 | 2 | SIST EN HD 21.3 S3:1998/A1:2010 | | | 0,0046 |
| 70 | 2 | 1,4 | 12,1 | 14,6 | 0,0040 |
| 95 | 2 | 1,6 | 14,1 | 17,1 | 0,0039 |
| 120 | 2 | 1,6 | 15,6 | 18,8 | 0,0035 |
| 150 | 2 | 1,8 | 17,3 | 20,9 | 0,0035 |
| 185 | 2 | 2,0 | 19,3 | 23,3 | 0,0035 |
| 240 | 2 | 2,2 | 22,0 | 26,6 | 0,0034 |
| 300 | 2 | 2,4 | 24,5 | 29,6 | 0,0033 |
| 400 | 2 | 2,6 | 27,5 | 33,2 | 0,0031 |

Table II

Tests for Types H07V-U and H07V-R

| 1 | 2 | 3 | 4 | 5 |
|-------------|---|---------------------|--------------------------|-----------------------------|
| Ref. No. | Tests | Category of test | Test Method described in | |
| | | | HD/EN | Clause |
| 1. | <u>Electrical tests</u> | | | |
| 1.1 | Resistance of conductors | T, S | 21.2 | 2.1 |
| 1.2 | Voltage test at 2500V | T, S | 21.2 | 2.2 |
| 1.3 | Insulation resistance at 70°C | T, S | 21.2 | 2.4 |
| 1.4 | Long term resistance of insulation to d.c. | T | 21.2 | 2.5 |
| 1.5 | Absence of faults in insulation | R | 21.2 | 2.6 |
| 2. | <u>Provisions covering constructional and dimensional characteristics</u> | | | |
| 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 overall diameter | T, S | 21.2 | 1.11 |
| 3. | <u>Mechanical properties of insulation</u> | | | |
| 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. | <u>Pressure test at high temperature</u> | T | 60811-3-1 | 8.1 |
| 5. | <u>Tests at low temperature</u> | | | |
| 5.1 | Bending test for insulation (1) | T | 60811-1-4 | 8.1 |
| 5.2 | Elongation test for insulation (2) | T | 60811-1-4 | 8.3 |
| 5.3 | Impact test for insulation | T | 60811-1-4 | 8.5 |
| 6. | <u>Heat shock test</u> | T | 60811-3-1 | 9.1 |
| 7. | <u>Test under fire conditions</u> | T | 50265-2-1 | - |

(1) Only applicable to cores having mean overall diameters up to and including 12,5mm
 (2) Only applicable if the mean overall outer diameter of the core exceeds 12,5mm

Table III

General data for Type H07V-K

| 1 Nominal cross-sectional area of conductors (mm ²) | 2 Thickness of insulation Specified value (mm) | 3 Mean overall diameter | | 5 Minimum insulation resistance at 70°C (MΩ.km) |
|--|---|----------------------------|------------------|--|
| | | Lower limit (mm) | Upper limit (mm) | |
| 1,5 | 0,7 | 2,8 | 3,4 | 0,010 |
| 2,5 | 0,8 | 3,4 | 4,1 | 0,0095 |
| 4 | 0,8 | 3,9 | 4,8 | 0,0078 |
| 6 | 0,8 | 4,4 | 5,3 | 0,0068 |
| 10 | 1,0 | 5,7 | 6,8 | 0,0065 |
| 16 | 1,0 | 6,7 | 8,1 | 0,0053 |
| 25 | 1,2 | 8,4 | 10,2 | 0,0050 |
| 35 | 1,2 | 9,7 | 11,7 | 0,0043 |
| 50 | 1,4 | 11,5 | 13,9 | 0,0042 |
| 70 | 1,4 | 13,2 | 16,0 | 0,0036 |
| 95 | 1,6 | 15,1 | 18,2 | 0,0036 |
| 120 | 1,6 | 16,7 | 20,2 | 0,0032 |
| 150 | 1,8 | 18,6 | 22,5 | 0,0032 |
| 185 | 2,0 | 20,6 | 24,9 | 0,0032 |
| 240 | 2,2 | 23,5 | 28,4 | 0,0031 |

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Table IV
Tests for Type H07V-K

| 1 | 2 | 3 | 4 | 5 |
|-------------|---|---------------------|--------------------------|-----------------------------|
| Ref. No. | Tests | Category of test | Test Method described in | |
| | | | HD/EN | Clause |
| 1. | <u>Electrical tests</u> | | | |
| 1.1 | Resistance of conductors | T, S | 21.2 | 2.1 |
| 1.2 | Voltage test at 2500V | T, S | 21.2 | 2.2 |
| 1.3 | Insulation resistance at 70°C | T, S | 21.2 | 2.4 |
| 1.4 | Long term resistance of insulation to d.c. | T | 21.2 | 2.5 |
| 1.5 | Absence of faults in insulation | R | 21.2 | 2.6 |
| 2. | <u>Provisions covering constructional and dimensional characteristics</u> | | | |
| 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 overall diameter | T, S | 21.2 | 1.11 |
| 3. | <u>Mechanical properties of insulation</u> | | | |
| 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. | <u>Pressure test at high temperature</u> | T | 60811-3-1 | 8.1 |
| 5. | <u>Tests at low temperature</u> | | | |
| 5.1 | Bending test for insulation (1) | T | 60811-1-4 | 8.1 |
| 5.2 | Elongation test for insulation (2) | T | 60811-1-4 | 8.3 |
| 6. | <u>Heat shock test</u> | T | 60811-3-1 | 9.1 |
| 7. | <u>Test under fire conditions</u> | T | 50265-2-1 | - |
| (1) | Only applicable to cores having mean overall diameters up to and including 12,5mm | | | |
| (2) | Only applicable if the mean overall diameter of the core exceeds 12,5mm | | | |