# SLOVENSKI STANDARD
# SIST HD 21.8 S1:1998/A2:1998

**01-februar-1998**

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**Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 8: Single core non-sheathed cables for decorative chains - Amendment 2**

Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V -- Part 8: Single core non-sheathed cables for decorative chains

Polyvinylchlorid-isolierte Leitungen mit Nennspannungen bis 450/750 V -- Teil 8: Einadrige Leitungen ohne Mantel für Lichterketten



Conducteurs et câbles isolés au polychlorure de vinyle, de tension assignée au plus égale à 450/750 V -- Partie 8: Conducteurs souples pour guirlandes lumineuses



**Ta slovenski standard je istoveten z:** **HD 21.8 S1:1990/A2:1994**

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**ICS:**

29.060.20 Kabli Cables

**SIST HD 21.8 S1:1998/A2:1998** **en**

HARMONIZATION DOCUMENT

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

HD 21.8 S1/A2

June 1994

UDC 621.315.2:621.315.616-036.743:628.974.6

Descriptors: Electrical installation, insulated cable, flexible cable, polyvinyl chloride, lighting chain



ENGLISH VERSION

# Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V Part 8: Single core non-sheathed cables for decorative chains

Conducteurs et câbles isolés au polychlorure de vinyle, de tension assignée au plus égale à 450/750 V
Partie 8: Monoconducteurs pour guirlandes lumineuses

Polyvinylchlorid-isolierte Leitungen mit Nennspannungen bis 450/750 V - Teil 8: Einadrige Leitungen ohne Mantel für Lichterketten



This amendment A2 modifies the Harmonization Document HD 21.8 S1:1990. It was approved by CENELEC on 1994-05-15. CENELEC members are bound to comply with the CEN/CENELEC Inernal Regulations which stipulate the conditions for implementation of this amendment 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 amendment exists in three official versions (English, French and 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

Following a decision taken by CENELEC Technical Committee TC 20, Electric cables, an amendment to HD 21.8 S1:1990 was submitted to the CENELEC Members for formal vote in November 1993.

The text of the draft was approved by CENELEC as amendment A2 to HD 21.8 S1 on 15 May 1994.

The following dates were fixed:

- latest date of announcement of the amendment at national level (doa) 1995-01-15

- 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 HD 21.8 S1:1990 before 1995-07-15, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1996-07-15.

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## Amendment A2 to HD 21.8 S1



Clause 1 : Scope

Amend first sentence to read:

'This part (Part 8) of the HD details the particular requirements for PVC insulated cables of rated voltage Uo/U 300/300V for use indoors as decorative chains.'

Clause 2

Delete Clause 2 completely.

Clause 3:
Replace the text of clause 3 by:

3. Single core insulated cables for indoor decorative lighting chains

3.1 Code designation

H03VH7-H

3.2 Rated voltage

300/300 V

3.3 Construction

3.3.1 Conductor

Number of conductors: 1

The conductor shall comply with requirements given in HD 383 for Class 6 conductors.



3.3.2 Insulation



The insulation shall be polyvinyl chloride compound of the Type TI 2, applied by dual extrusion around the conductor.

The outer layer of insulation shall be a contrasting colour to that of the inner layer, but shall adhere to the inner layer.

The minimum and mean overall values of the combined thickness of inner and outer layer of insulation shall comply with the overall thickness specified in Table III, columns 3 and 4 of this Part, but at no point shall the thickness of either layer be less than 0.2mm.

The insulation resistance at 70°C shall be not less than the values given in Table III, column 5 of this Part.

3.3.3 Cable identification

Bi-colours shall not be used.
Preferred outer layer colour: green.

3.4 Tests

Compliance with the requirements of sub-clause 3.3 of this Part shall be checked by inspection and by the tests given in Table IV of this Part.

3.5 Guide to use

See HD 516.

Table III : General data for Type H03VH7-H

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Nominal cross-sectional areas of conductors | Thickness of each layer of insulation Minimum value | Overall thickness Minimum value | Overall thickness Mean value | Insulation resistance at 70°C Minimum value |
| $mm^2$ | mm | mm | mm | Mohm.km |
| 0.5<br>0.75 | 0.2<br>0.2 | 0.6<br>0.6 | 0.7<br>0.7 | 0.014<br>0.012 |

Table IV : Tests for Type H03VH7-H

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Ref. No. | Tests | Category of test | Test Method described in | |
| | | | HD | Clause |
| 1. | Electrical Tests | | | |
| 1.1 | Resistance of conductors | T, S | 21.2 | 2.1 |
| 1.2 | Voltage test on completed cable at 2000V | T, S | 21.2 | 2.2 |
| 1.3 | Insulation resistance at 70°C (Note 1) | T, S | 21.2 | 2.4 |
| 1.4 | Resistance of insulation to d.c. (Note 1) | T | 21.2 | 2.5 |
| 1.5 | Absence of faults on insulation (Note 1) | R | 21.2 | 2.6 |
| 2. | Constructional/dimensional characteristics | | | |
| 2.1 | Compliance with contructional provisions | T, S | 21.1 | Inspection and manual tests |
| | | | 21.8 | 3.3 |
| 2.2 | Measurement of insulation thickness of inner layer (min. only) | T, S | 21.2 | 1.9 |
| 2.3 | Measurement of insulation thickness of outer layer (min. only) | T, S | 21.2 | 1.9 |
| 2.4 | Measurement of overall thickness (Note 1) | T, S | 21.2 | 1.9 |
| 3. | Mechanical properties of insulation | | | |
| 3.1 | Tensile test before ageing (Note 1) | T | 505.1.1 | 9.1 |
| 3.2 | Tensile test after ageing (Note 1) | T | 505.1.2 | 8.1.3.1 |
| 3.3 | Loss of mass test (Note 1) | T | 505.3.2 | 8.1 |
| 4. | Pressure test at high temperature (Note 1) | T | 505.3.1 | 8.1 |
| 5. | Tests at low temperature | | | |
| 5.1 | Bending test for insulation (Note 1) | T | 505.1.4 | 8. |
| 6. | Heat shock test (Note 1) | T | 505.3.1 | 9.1 |
| 7. | Test under fire conditions | T | 405.1 | - |

*NOTE 1*: Because of the simultaneous extrusion of the same compound for both layers of insulation, the composite layer shall be tested as one layer and evaluated accordingly.