SLOVENSKI STANDARD
SIST EN 50525-2-82:2011

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Električni kabli - Nizkonapetostni energetski kabli z nazivno napetostjo do vključno 450/750 V (U0/U) - 2-82. del: Kabli za splošno uporabo - Kabli z zamreženo elastomerno izolacijo za okrasne verige

Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) - Part 2-82: Cables for general applications - Cables with crosslinked elastomeric insulation for decorative chains

Kabel und Leitungen - Starkstromleitungen mit Nennspannungen bis 450/750 V (U0/U) - Teil 2-82: Starkstromleitungen für allgemeine Anwendungen - Leitungen für Lichterketten mit vernetzter Elastomer-Isolierung

Câbles électriques - Câbles d'énergie basse tension de tension assignée au plus égale à 450/750 V (U0/U) - Partie 2-82: Câbles pour applications générales - Câbles pour guirlandes lumineuses isolés en matériau élastomère réticulé

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29.060.20 Kabli Cables

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EUROPEAN STANDARD

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EN 50525-2-82

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ICS 29.060.20

Supersedes HD 22.8 S2:1994 + A1:1999 + A2:2004

English version

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Kabel und Leitungen -
Starkstromleitungen mit Nennspannungen bis 450/750 V (U_0/U) -
Teil 2-82: Starkstromleitungen für allgemeine Anwendungen -
Leitungen für Lichterketten mit vernetzter Elastomer-Isolierung

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

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

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

The text of the draft was submitted to the formal vote and was accepted by CENELEC as EN 50525-2-82 on 2011-01-17.

This document, which is one of a multipart series, supersedes HD 22.8 S2:1994 + A1:1999 + A2:2004.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-01-17
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-01-17

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1 Scope

This European Standard applies to polychloroprene, or other equivalent synthetic elastomer, sheathed cables.

The cables are of rated voltages U_0/U up to and including 300/500 V.

The cables are intended for use as decorative chains and with designated lampholders.

NOTE 1 Cables to Type H03RN-F are for use with designated lampholders only. The 0,5 mm² size is for use with miniaturised lampholders; the 0,75 mm² size is for use with E 14 lampholders. See also HD 516.

The maximum conductor operating temperature for each of the cables in this standard is 60 °C.

NOTE 2 HD 516 contains extensive guidance on the safe use of cables in this standard.

This EN 50525-2-82 should be read in conjunction with EN 50525-1, which specifies general requirements.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE One or more references to the standards below are in respect of a specific sub-division of that standard, for instance a clause, a table, a class or a type. Cross-references to these standards are undated and, at all times, the latest version applies.

EN 50363-1	Insulating, sheathing and covering materials for low voltage energy cables − Part 1: Cross-linked elastomeric insulating compounds
EN 50363-2-1	Insulating, sheathing and covering materials for low voltage energy cables − Part 2-1: Cross-linked elastomeric sheathing compounds
EN 50395	Electrical test methods for low voltage energy cables
EN 50396	Non electrical test methods for low voltage energy cables
EN 50525-1	Electric cables − Low voltage energy cables of rated voltages up to and including 450/750 V (U_0/U) − Part 1: General requirements
EN 60228	Conductors of insulated cables (IEC 60228)
EN 60332-1-2	Tests on electric and optical fibre cables under fire conditions − Part 1-2: Test for vertical flame propagation for a single insulated wire or cable − Procedure for 1 kW pre-mixed flame (IEC 60332-1-2)
EN 60811-1-2	Insulating and sheathing materials of electric and optical cables − Common test methods − Part 1-2: General application − Thermal ageing methods (IEC 60811-1-2)
EN 60811-1-4	Insulating and sheathing materials of electric and optical cables − Common test methods − Part 1-4: General application − Tests at low temperature (IEC 60811-1-4)

3 Terms and definitions

For the purposes of this document the terms and definitions given in Clause 3 of EN 50525-1 apply.

4 General purpose cables

4.1 Cables used with designated lampholders – H03RN-F

4.1.1 Construction

4.1.1.1 Conductor

The conductor shall be Class 5, in accordance with EN 60228.

4.1.1.2 Sizes of cable

The sizes of conductor shall be 0,5 mm^2 and 0,75 mm^2.

The number of conductors shall be 1.

4.1.1.3 Insulation

The insulation shall be crosslinked elastomeric compound of Type EI 4 to EN 50363-1.

4.1.1.4 Sheath

The sheath shall be crosslinked elastomeric compound of Type EM 2 to EN 50363-2-1.

4.1.1.5 Marking

The cable shall be marked with the CENELEC code H03RN-F. The marking shall be on the outer surface of the sheath, and shall comply with Clause 6 of EN 50525-1.

4.1.2 Requirements

Each cable shall comply with the appropriate requirements given in EN 50525-1, and the particular requirements of this Part.

Testing shall be in accordance with Annex A, and the relevant tests indicated in column 6.

The dimensions of the cables shall conform to Table B.1 for the relevant size.

The requirements to be met for the compatibility test shall be as given in Annex C.

4.2 Cables – H05RN-F and H05RNH2-F

4.2.1 Construction

4.2.1.1 Conductor

The conductor shall be Class 5, in accordance with EN 60228.

4.2.1.2 Sizes of cable

The sizes of conductor shall be 0,75 mm^2 to 1,5 mm^2 inclusive for circular single core cable (H05RN-F), and 1,5 mm^2 or 2,5 mm^2 for two core flat cables (H05RNH2-F).

4.2.1.3 Insulation

The insulation shall be crosslinked elastomeric compound of Type EI 4 to EN 50363-1.

4.2.1.4 Core identification and assembly

Each core shall be identified by colour as follows:

- single core cable: brown;

- two core cable: brown and blue.

The cores of the two core cables shall be laid in parallel.

4.2.1.5 Sheath

The sheath shall be crosslinked elastomeric compound of Type EM 2 to EN 50363-2-1.

NOTE The preferred sheath colours are green or black.

For two core cables the sheath shall fill the spaces between the cores, thus forming a filling.

4.2.1.6 Marking

The cable shall be marked with the CENELEC code H05RN-F for circular cables, or H05RNH2-F for flat cables. The marking shall be on the outer surface of the sheath, and shall comply with Clause 6 of EN 50525-1.

4.2.2 Requirements

Each cable shall comply with the appropriate requirements given in EN 50525-1, and the particular requirements of this Part.

Testing shall be in accordance with Annex A, and the relevant tests indicated in column 7.

The dimensions of the cables shall conform to Table B.2 for the relevant size.

For two core flat cables the distance between the centres of the two conductors shall comply with Table B.2, columns 3 and 4. The measured value shall be the distance between the centres of the two conductors, and the mean of the values obtained from measuring three samples shall be taken as the mean distance.

The requirements to be met for the compatibility test shall be as given in Annex C.

Annex A
(normative)

Tests for cables to EN 50525-2-82

Table A.1

1	2	3	4	5	6	7
Ref. No.	Tests [a]	Category of test	Test method described in		Applicability of test – Subclause	
			EN	(Sub)clause	4.1	4.2
					H03RN	H05RN
1	**Electrical tests** [b]					
1.1	Resistance of conductors	T, S	50395	5	X	X
1.2	Voltage test on completed cable at 2 000 V	T, S	50395	6	X	X
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	50395	7	X	-
1.3.2	- at 2 000 V above 0,6 mm	T	50395	7	-	X
1.4	Absence of faults in insulation	R	50395	10	X	X
1.5	Surface resistance of sheath	T	50395	11	X	X
2	**Constructional and dimensional tests**					
2.1	Checking of compliance with constructional provisions	T, S	50525-1	Inspection and manual tests	X	X
2.2	Measurement of thickness of insulation	T, S	50396	4.1	X	X
2.3	Measurement of thickness of sheath	T, S	50396	4.2/4.3	X	X
2.4	Measurement of overall dimensions					
2.4.1	- Mean value	T, S	50396	4.4.1	X	X
2.4.2	- Ovality	T, S	50396	4.4.2	X	X
2.4.3	- Distance between centres of conductors	T, S	This EN	4.2.2	-	X [c]
2.5	Solderability test (plain conductors)	T	50396	8.2	X	X
3	**Insulation material tests**	T	50363-1 [c]	-	X	X
4	**Sheath material tests**	T	50363-2-1 [c]	-	X	X
5	**Compatibility test on cable**	T	60811-1-2	8.1.4	X	X
6	**Impact test on cable at - 25 °C**	T	60811-1-4	8.5	X	X
7	**Mechanical strength of completed cable** Flexing test followed, after immersion in water, by a voltage test at 2 000 V on cores	T	50396 50395	6.2 7	-	X [d]
8	**Test under fire conditions**	T	60332-1-2	-	X	X

[a] The order given does not imply a sequence of testing.

[b] Particular test conditions and requirements are given in Table 1 of EN 50525-1.

[c] This EN includes all the test methods and requirements for the material. Material to be tested is taken from the finished cable.

[d] Only for two core flat cables.