SLOVENSKI STANDARD
SIST HD 603 S1:1998

01-februar-1998

Distribucijski kabli za naznačeno napetost 0,6/1 kV

Distribution cables of rated voltage 0,6/1 kV

Energieverteilungskabel mit Nennspannungen 0,6/1 kV

Câbles de distribution de tension nominale 0,6/1 kV

Ta slovenski standard je istoveten z: HD 603 S1:1994

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HARMONIZATION DOCUMENT

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

HD 603 S1

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Descriptors: Electric power distribution, electric cable, insulated cable, polyvinyl chloride, specification, dimension, test, marking

ENGLISH VERSION

Distribution cables of rated voltage 0.6/1 kV

Câbles de distribution de tension assignée 0,6/1 kV

Energieverteilungskabel mit Nennspannung 0,6/1 kV

This Harmonization Document was approved by CENELEC on 1993-12-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document 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 Harmonization Document exists in three official versions (English, French, 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

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HD 603 S1

DISTRIBUTION CABLES
OF RATED VOLTAGE 0.6 / 1 kV

PART 0 - CONTENT

FOREWORD

This Harmonisation Document was prepared by WG09 of CENELEC Technical Committee TC 20 , Electric Cables.

The document contains the following Parts, arranged according to the main constructional features of the cables covered :

HD 603 Part 1	-	General Requirements
HD 603 Part 3	-	PVC Insulated cables unarmoured
HD 603 Part 4	-	PVC Insulated cables armoured
HD 603 Part 5	-	XLPE Insulated cables unarmoured
HD 603 Part 6	-	XLPE Insulated cables armoured
HD 603 Part 7	-	EPR Insulated cables unarmoured
HD 603 Part 8	-	EPR Insulated cables armoured

There is no Part 2, which was to have covered Additional Test Methods. These have been combined with the corresponding Part from HD 604 (0.6 / 1 kV Power Cables with Special Fire Performance for use in Power Stations) to form a separate document, HD 605.

Each of Parts 3 - 8 inclusive contains a number of Sections, and the Technical Board has agreed (D68/047), that National Committees need at present only implement in their national language those Sections having national applicability. The obligation remains however to announce the full HD in public by titles and numbers, and also to withdraw any conflicting national standards.

Page numbering reflects the arrangement into Parts and particular sections, e.g. Page 4-C-3 is page 3 of particular section C of part 4.

References to other HDs, ENs and international standards are given in the particular parts or sections.

The following dates were fixed :

latest date of announcement of the HD at national level	(doa)	1994-06-01
latest date of publication of a harmonised national standard	(dop)	1994-12-01
latest date of withdrawal of conflicting national standards	(dow)	1994-12-01

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DISTRIBUTION CABLES OF RATED VOLTAGE 0.6 / 1 kV

PART 1 - GENERAL REQUIREMENTS

CONTENTS

REFERENCES

References are made in this Part 1 to other Parts of HD 603 and to other Harmonisation Documents as follows :

HD 22.	Rubber insulated cables of rated voltages up to and including 450/750 V
HD 186	Marking by inscription for the identification of cores of electric cables having more than five cores
HD 361	System for cable designation
HD 383	Conductors of insulated cables (endorsing IEC 228 and 228A)
HD 405	Test on electric cables under fire condition
HD 505	Common test methods for insulating and sheathing materials of electric cables
HD 605	Electric cables : Additional test methods

DISTRIBUTION CABLES OF RATED VOLTAGE 0.6 / 1 kV

PART 1 - GENERAL REQUIREMENTS

1 General

1.1 Scope

HD 603 applies to cables of rated voltage Uo / U = 0.6 / 1 kV used in underground power distribution systems mainly for public distribution, of nominal voltage not exceeding 0.6 / 1 kV A.C.

This part (Part 1) specifies the general requirements applicable to these cables, unless otherwise specified in the particular sections of this HD.

Test methods are specified in HD 605 and in HD 383, HD 405 and HD 505.

The particular types of cables are specified in Parts 3 to 8.

1.2 Object

The objects of this Harmonization Document are :

- to standardize cables that are safe and reliable when properly used, in relation to the technical requirements of the system of which they form a part,
- to state the characteristics and manufacturing requirements which have a direct or indirect bearing on safety,
- and to specify methods for checking conformity with those requirements.

2 Definitions

2.1 Definitions relating to insulating and sheathing materials

2.1.1 - Insulating and sheathing materials

The types of insulating and sheathing compounds covered in this HD are listed below, together with their abbreviated designations :

	Insulating and sheathing compounds	See:
1 : Insulation	a) *Thermoplastic* : Insulating compounds based on: -Polyvinyl chloride or copolymers (PVC)	Table 1
	b) *Crosslinked* Insulating compound based on : -Crosslinked polyethylene (XLPE) -Ethylene propylene rubber (EPR) -Hard ethylene propylene rubber (HEPR)	 Table 2A Table 2B Table 2C
2 : Sheathing	a) *Elastomeric* : Sheathing compound based on : -Polychloroprene (PCP), -Chlorosulfonated polyethylene (CSP) or similar polymer	Table 3
	b) *Thermoplastic* : Sheathing compounds based on : -Polyvinyl chloride (PVC) -Polyethylene (PE)	 Table 4A Table 4B

2.1.2 - Type of compound

The category in which a compound is placed according to its properties is determined by specific tests. The type designation is not directly related to the composition of the compound.

2.2 Definitions relating to the tests

Note - Tests classified as sample (S) or routine (R) may be required as part of any type approval schemes.

2.2.1 - Type tests (Symbol T)

Tests required to be made before supplying a type of cable covered by this HD on a general commercial basis in order to demonstrate satisfactory performance characteristics to meet the intended application. These tests are of such a nature that, after they have been made, they need not be repeated unless changes are made in the cable material, design or type of manufacturing process which might change the performance characteristics.

2.2.2 - Sample tests (Symbol S)

Tests made on samples of completed cable, or components taken from a completed cable adequate to verify that the finished product meets the design specifications.

2.2.3 - Routine tests (Symbol R)

Tests made on all production cable lengths to demonstrate compliance with requirements.

2.2.4 - Tests after installation

Tests intended to demonstrate the integrity of the cable and its accessories as installed.

2.3 Rated voltage

The rated voltage of a cable is the reference voltage for which the cable is designed, and which serves to define the electrical tests.

The rated voltage is expressed by the combination of the following values Uo / U (Um) expressed in kV.

Uo is the rms. value between any insulated conductor and earth (metal covering of the cable or the surrounding medium) ; Uo = 0.6 kV

U is the rms. value between any two phase-conductors of a multicore cable or of a system of single-core cables ; U = 1.0 kV

Um is the maximum rms. value of the highest system voltage for which the equipment may be used ; Um = 1.2 kV.

In an alternating current system, the rated voltage of a cable shall be at least equal to the nominal voltage of the system for which it is intended.

If used in DC Systems, the cables of this HD shall have a maximum voltage against earth not exceeding 1.8 kV.

3 Marking

3.1 Indication of origin

Cables shall be provided with an identification of origin consisting of :

1. Either the manufacturer's identification thread,
2. or the continuous marking of the manufacturer's name or trademark, or (if legally protected) identification number by one of the three following alternative methods :
   a) printed tape within the cable,
   b) printing in a contrasting colour on the insulation of at least one core,
   c) printing, indenting or embossing on the outer surface of the cable.