SLOVENSKI STANDARD

SIST HD 22.3 S3:1999

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Rubber insulated cables of rated voltages up to and including 450/750 V -- Part 3: Heat resistant silicone rubber insulated cables (IEC 60245-31980, modified)

ICS 29.060.20

Referenčna številka
SIST HD 22.3 S3:1999(en)

HARMONIZATION DOCUMENT

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

HD 22.3 S3

September 1995

CLC/TC 20

ICS 29.060.20

Supersedes HD 22.3 S2:1992

Descriptors: Conductor, cable, flexible cable, rigid cable, single core cable, multicore cable, conductor material, flat cable, compound, polychloroprene, rubber, elastomer, insulation compound, type test, sample test, routine test, nominal voltage, mark, common marking, identification, colour scheme, construction, insulation, separator, filler, sheath, braid, inner layer, outer layer, thickness, mean value, specified value, electrical resistance, test, tensile strength, elongation at break, ageing, air oven, oxygen bomb, hot set, complete cable, overall dimensions, bending, flexing, voltage test, absence of short circuits, spark (test), insulation resistance, wear resistance, test (under) fire (conditions), guide to use, solderability test, silicone, heat resistant

English version

Rubber insulated cables of rated voltages up to and including 450/750 V
Part 3: Heat resistant silicone rubber insulated cables
(IEC 245-3:1980, modified)

Conducteurs de câbles isolés au caoutchouc de tension assignée au plus égale à 450/750 V
Partie 3: Conducteurs isolés au silicone résistant à la chaleur
(CEI 245-3:1980, modifiée)

Isolierte Starkstromleitungen mit einer Isolierung aus Gummi mit Nennspannungen bis 450/750 V
Teil 3: Wärmebeständige Silikonaderleitungen
(IEC 245-3:1980, modifiziert)

This Harmonization Document was approved by CENELEC on 1995-05-15. 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 such 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

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Foreword

HD 22 was originally adopted by CENELEC on 9th July 1975.

Edition 2 of HD 22 was implemented on 1st January 1984, and at that time contained four parts.

Since 1984, new parts have been published, original parts amended, and in addition HD 505 has superseded HD 385 as the cross-reference for test methods.

This edition 3 of HD 22.3 has been introduced to cover the complete revision of the overall dimensions in line with EN 60719, and was approved by TC 20 at its Helsinki meeting in May 1994.

HD 22 now has the following parts:

HD 22.1 S2	-	General requirements (with A1 to A10 inclusive)
HD 22.2 S2	-	Test methods (with A1 to A4 inclusive)
HD 22.3 S3	-	Heat resistant silicone rubber insulated cables
HD 22.4 S3	-	Cords and flexible cables
HD 22.5	-	(Spare)
HD 22.6 S2	-	Arc welding cables
HD 22.7 S2	-	Cables with increased heat resistance for internal wiring for a conductor temperature of 110 °C
HD 22.8 S2	-	Polychloroprene or equivalent synthetic elastomer sheathed cable for decorative chains
HD 22.9 S2	-	Single core non-sheathed cables for fixed wiring having low emission of smoke and corrosive gases
HD 22.10 S1	-	EPR insulated and polyurethane sheathed flexible cables
HD 22.11 S1	-	EVA cords and flexible cables
HD 22.14 S1	-	Cords for applications requiring high flexibility

In order that this revision of Part 3 of HD 22 does not introduce unnecessary changes to long-established clause numbers, the normative references (which would otherwise be inserted as clause 2) are given in annex A.

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

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as HD 22.3 S3 on 1995-05-15.

The following dates were fixed:

– latest date by which the existence of the HD has to be announced at national level	(doa)	1996-01-01
– latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement	(dop)	1996-07-01
– latest date by which the national standards conflicting with the HD have to be withdrawn	(dow)	1996-07-01

For products which have complied with HD 22.3 S2:1992 before 1996-07-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-07-01.

CONTENTS

1. Scope

This part (Part 3) of the HD details the particular specifications for silicone rubber-insulated cables of rated voltage of 300/500 V.

Each cable shall comply with the appropriate requirements given in Part 1 and the particular requirements of this part.

NOTE: The overall dimensions of the cables of this Part of HD 22 have been calculated in accordance with EN 60719.

2. Heat resistant silicone rubber insulated cable for a maximum conductor temperature of 180°C*

2.1 Code designation

H05SJ-K

2.2 Rated voltage

300/500V

2.3 Construction

2.3.1 Conductor

Number of conductors: 1
The conductors shall comply with the requirements of HD 383 : Conductors of Insulated Cables, for Class 5 conductors.

The wires may be plain or tinned or else protected by a metal other than tin, for example silver.

2.3.2 Separator

A separator of suitable material applied around the conductor is optional, even if the wires are not protected by tin or by a metal other than tin.

2.3.3 Insulation

The insulation shall be silicone rubber compound of Type EI 2, applied around the conductor by extrusion in a single layer.

The thickness of insulation shall comply with the specified value given in Part 3, Table I, column 2.

2.3.4 Outer braid

The core shall be covered by a treated glass fibre braid complying with Part 1 sub-clause 5.4.2.

(*) This cable type is similar to 245 IEC 03 but has modified requirements

2.3.5 Overall diameter

The mean overall diameter shall be within the limits given in Part 3, Table I columns 3 and 4.

2.4 Tests

Compliance with the requirements of Part 3, sub-clause 2.3 shall be checked by inspection and by the tests given in Part 3, Table II.

2.5 Guide to use (informative)

See HD 516

Table I

Dimensions of Type H05SJ-K

1	2	3	4
Nominal cross-sectional area of conductors	Thickness of insulation specified value	Mean overall diameter	
		lower limit	upper limit
(mm²)	(mm)	(mm)	(mm)
0.5	0.6	2.7	3.3
0.75	0.6	2.9	3.5
1	0.6	3.1	3.7
1.5	0.7	3.5	4.2
2.5	0.8	4.1	5.0
4	0.8	4.6	5.6
6	0.8	5.1	6.2
10	1.0	6.5	7.8
16	1.0	7.5	9.1

Table II

Tests for Type H05SJ-K

1	2	3	4	5
Ref. No.	Tests	Category of test	Test method described in	
			HD	Clause
1.	Electrical test			
1.1	Resistance of conductors	T, S	22.2	2.1
1.2	Voltage test at 2000V	T, S	22.2	2.2
1.3	Absence of faults on insulation	R	22.2	2.6
2.	Provisions covering constructional and dimensional characteristics			
2.1	Checking of compliance with constructional provisions	T, S	22.1	Inspection and manual tests
2.2	Measurement of thickness of insulation	T, S	22.2	1.9
2.3	Measurement of overall diameter			
2.3.1	Mean value	T, S	22.2	1.11
2.3.2	Ovality	T, S	22.2	1.11
2.4	Solderability test (Untinned conductors)	T	22.2	1.12
3.	Mechanical properties of insulation			
3.1	Tensile test before ageing	T	505.1.1	9.1
3.2	Tensile test after ageing	T	505.1.2	8.1.3.1
3.3	Hot set test	T	505.2.1	9

3. Unbraided heat resistant silicone rubber insulated cable for a maximum permissible conductor temperature of 180°C

3.1 Code designation

H05S-U, H05S-K

3.2 Rated voltage

300/500V

3.3 Construction

3.3.1 Conductor

Number of conductors: 1

The conductors shall comply with the requirements given in HD 383: Conductors of Insulated Cables, for Class 1 conductors or Class 5 conductors.

The wires may be plain or protected by a metal, for example tin or silver.

3.3.2 Separator

A separator of suitable material applied around the conductor is optional.

3.3.3 Insulation

The insulation shall be silicone rubber compound of type EI 2 applied around the conductor by extrusion.

The thickness of insulation shall comply with the specified value given in Part 3, Table III, column 3.

3.3.4 Overall diameter

The mean overall diameter shall be within the limits given in Part 3, Table III, columns 4 and 5.

3.4 Tests

Compliance with requirements of Part 3, sub-clause 3.3 shall be checked by inspection and by the tests given in Part 3, Table IV.

3.5 Guide to use (informatve)

See HD 516