



NSAI
Standards

Irish Standard
I.S. HD 22.9 S3:2007

Cables of rated voltages up to and including 450/750 V and having cross-linked insulation -- Part 9: Single core halogen-free non-sheathed cables for fixed wiring having low emission of smoke

I.S. HD 22.9 S3:2007

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HARMONIZATION DOCUMENT
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HD 22.9 S3

February 2007

ICS 29.060.20

Supersedes HD 22.9 S2:1995 + A1:1999

English version

**Cables of rated voltages up to and including 450/750 V
and having cross-linked insulation -
Part 9: Single core halogen-free non-sheathed cables
for fixed wiring having low emission of smoke**

Conducteurs et câbles isolés
avec des matériaux réticulés de tension
assignée au plus égale à 450/750 V -
Partie 9: Câbles monoconducteurs
sans gaine pour installation fixe,
ayant une faible émission de fumée
et de gaz corrosifs

Starkstromleitungen mit vernetzter
Isolierhülle für Nennspannungen
bis 450/750 V -
Teil 9: Einadrige Leitungen ohne
Mantel für feste Verlegung mit
geringer Entwicklung von Rauch
und korrosiven Gasen im Brandfall

This Harmonization Document was approved by CENELEC on 2006-12-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document at national level.

Up-to-date lists and bibliographical references concerning such national implementations 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

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Foreword

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 22.9 S3 on 2006-12-01.

This Harmonization Document supersedes HD 22.9 S2:1995 + A1:1999.

The following dates were fixed:

- latest date by which the existence of the HD has to be announced at national level (doa) 2007-06-01
- latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2007-12-01
- latest date by which the national standards conflicting with the HD have to be withdrawn (dow) 2008-12-01

HD 22, *Cables of rated voltages up to and including 450/750 V and having cross-linked insulation*, now has the following parts:

HD 22.1 S4	General requirements
HD 22.2 S3 ¹⁾	Test methods
HD 22.3 S4	Heat resistant silicone rubber insulated cables
HD 22.4 S4	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 S3	Single core halogen-free non-sheathed cables for fixed wiring having low emission of smoke
HD 22.10 S2	EPR insulated and polyurethane sheathed flexible cables
HD 22.11 S2	EVA cords and flexible cables
HD 22.12 S2	Heat resistant EPR cords and flexible cables
HD 22.13 S2	Halogen-free flexible cables having low emission of smoke
HD 22.14 S3	Cords for applications requiring high flexibility
HD 22.15 S2	Multicore cables insulated and sheathed with heat resistant silicone rubber
HD 22.16 S2	Water resistant polychloroprene or equivalent synthetic elastomer sheathed cables

In order that this revision of Part 9 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.

¹⁾ HD 22.2 has been superseded by EN 50395 and EN 50396

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1 Scope

This particular Part (Part 9) of the HD details the specifications for single core halogen-free non-sheathed cables for fixed wiring of rated voltage up to and including 450/750 V, insulated with cross-linked compound and having low emission of smoke.

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

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

2 Single core non-sheathed cable with rigid conductors for general purposes

2.1 Code designation

H07Z-U for cables with solid conductors.

H07Z-R for cables with stranded rigid conductors.

2.2 Rated voltage

450/750 V

NOTE 600/1 000 V when this cable is used in fixed installations with mechanical protection, within switchgear and control gear - see HD 516.

2.3 Construction

2.3.1 Conductor

Number of conductors : 1

The conductors shall comply with the requirements of EN 60228:

Class 1 Solid conductor

Class 2 Stranded conductors

The wires may be plain or tinned.

2.3.2 Separator

A separator of suitable material may be applied around the conductor.

2.3.3 Insulation

The insulation shall be a polyolefin cross-linked material, Type EI 5 to EN 50363-5, applied around the conductor. The insulation shall be applied by extrusion. It may consist of one or two layers. All tests shall be applied to the complete insulation, which shall meet the requirements for Type EI 5.

The insulation thickness shall comply with the specified value given in Table 1, column 3.

The insulation resistance shall not be less than the value given in Table 1, column 6.

2.3.4 Overall diameter

The mean overall diameter shall be within the limits given in Table 1, columns 4 and 5.

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