



**NSAI**  
Standards

Irish Standard  
I.S. HD 22.10 S2:2007

Cables of rated voltages up to and including 450/750 V and having cross-linked insulation -- Part 10: EPR insulated and polyurethane sheathed flexible cables

## I.S. HD 22.10 S2:2007

*Incorporating amendments/corrigenda issued since publication:*

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HARMONIZATION DOCUMENT  
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**HD 22.10 S2**

February 2007

ICS 29.060.20

Supersedes HD 22.10 S1:1994 + A1:1999

English version

**Cables of rated voltages up to and including 450/750 V  
and having cross-linked insulation -  
Part 10: EPR insulated and polyurethane sheathed flexible cables**

Conducteurs et câbles isolés avec  
des matériaux réticulés de tension  
assignée au plus égale à 450/750 V -  
Partie 10: Câbles souples  
à isolation EPR  
et gaine polyuréthane

Starkstromleitungen mit vernetzter  
Isolierhülle für Nennspannungen  
bis 450/750 V -  
Teil 10: EPR-isolierte flexible  
Starkstromleitungen  
mit Polyurethanmantel

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## 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 22.10 S2 on 2006-12-01.

This Harmonization Document supersedes HD 22.10 S1:1994 + 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 <sup>1)</sup>	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

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<sup>1)</sup> HD 22.2 has been superseded by EN 50395 and EN 50396

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## **1 Scope**

This Part 10 of the HD details the particular requirements for ethylene-propylene rubber insulated, and thermoplastic polyurethane sheathed cable for a maximum conductor temperature of 90 °C and lowest handling temperature of -40 °C.

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 in this part of HD 22 have been calculated in accordance with EN 60719.

## **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.

EN 50363-1	Insulating, sheathing and covering materials for low voltage energy cables – Part 1: Cross-linked elastomeric insulating compounds
EN 50363-10-2	Insulating, sheathing and covering materials for low voltage energy cables – Part 10-2: Miscellaneous sheathing compounds – Thermoplastic polyurethane
EN 50395	Electrical test methods for low voltage energy cables
EN 50396	Non-electrical test methods for low voltage energy cables
EN 60228	Conductors of insulated cables (IEC 60228)
EN 60811 series	Insulating and sheathing materials of electric and optical cables – Common test methods (IEC 60811 series)

## **3 EPR insulated and polyurethane sheathed flexible cable (300/500 V)**

### **3.1 Code designation**

H05BQ-F.

### **3.2 Rated voltage**

300/500 V.

### **3.3 Construction**

#### **3.3.1 Conductor**

Number of conductors: 2, 3, 4 or 5.

The conductors shall be in accordance with the requirements given in EN 60228 for Class 5 conductors. The wires may be plain or tinned.

#### **3.3.2 Separator**

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

#### **3.3.3 Insulation**

The insulation shall be rubber compound of type EI 6 to EN 50363-1 applied around each conductor.

The insulation shall be applied by extrusion.

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