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Údarás um Chaighdeáin Náisiúnta na hÉireann

IRISH STANDARD

**I.S. HD 631.2 S1:2007**

ICS 29.035.20

**ELECTRIC CABLES - ACCESSORIES -  
MATERIAL CHARACTERISATION -- PART  
2: FINGERPRINTING AND TYPE TESTS  
FOR HEAT SHRINKABLE COMPONENTS  
FOR LOW VOLTAGE APPLICATIONS**

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ICS 29.035.20

English version

**Electric cables -  
Accessories -  
Material characterisation -  
Part 2: Fingerprinting and type tests for heat shrinkable components  
for low voltage applications**

Câbles électriques -  
Accessoires -  
Caractérisation des matériaux -  
Partie 2: Essais d'identification et essais  
de type pour les composants  
thermorétractables pour les applications  
basse tension

Kabel und isolierte Leitungen -  
Garnituren -  
Materialcharakterisierung -  
Teil 2: Fingerprint- und Typprüfungen  
für wärmeschrumpfende Komponenten  
für Niederspannungsanwendungen

This Harmonization Document was approved by CENELEC on 2007-09-01. 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**

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## Foreword

This Harmonization Document was prepared by a task force under the direction of WG 11 of CENELEC TC 20, Electric cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as HD 631.2 S1 on 2007-09-01.

The following dates were fixed:

- latest date by which the existence of the HD has to be announced at national level (doa) 2008-03-01
- latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2008-09-01
- latest date by which the national standards conflicting with the HD have to be withdrawn (dow) 2010-09-01

HD 631 will have 4 parts:

Part 1: Fingerprinting and type tests for resinous compounds

Part 2: Fingerprinting and type tests for heat shrinkable components for low voltage applications

Part 3: Fingerprinting for heat shrinkable components for medium voltage applications from 3,6/6 (7,2) kV up to 20,8/36 (42) kV

Part 4: Fingerprinting for cold shrinkable components for low and medium voltage applications up to 20,8/36 (42) kV

NOTE It has been assumed in the preparation of this document that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

**WARNING** This Harmonization Document calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

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## 1 Scope

This Harmonisation Document specifies the test methods and requirements for

- a) fingerprinting (as defined in 3.7),
- b) type testing (as defined in 3.8).

of heat shrinkable components intended to be used for electrical insulation or electrical insulation and mechanical protection in cable accessories for low voltage, as defined in EN 50393.

Fingerprinting and type testing of materials do not have a mandatory link to type testing of accessories. They shall be regarded as stand-alone tests, but can be carried out in combination with the accessory type tests.

NOTE Information on health and safety is given in Annex A.

## 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 50393, *Test methods and requirements for accessories for use on distribution cables of rated voltage 0,6/1,0 (1,2) kV*

EN 60243-1, *Electrical strength of insulating materials — Test methods — Part 1: Test at power frequencies (IEC 60243-1)*

EN 60296, *Fluids for electrotechnical applications - Unused mineral insulating oils for transformers and switchgear (IEC 60296)*

EN 60684-2, *Flexible insulating sleeving - Part 2: Methods of test (IEC 60684-2)*

EN 60811-2-1, *Insulating and sheathing materials of electric and optical cables – Common test methods – Part 2-1: Methods specific to elastomeric compounds – Ozone resistance, hot set and mineral oil immersion tests (IEC 60811-2-1)*

HD 429, *Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials (IEC 60093)*

EN 1426, *Bitumen and bituminous binders - Determination of needle penetration*

EN 1465, *Adhesives. Determination of tensile lap-shear strength of rigid-to-rigid bonded assemblies (ISO 4587, mod.)*

EN ISO 62, *Plastics - Determination of water absorption (ISO 62)*

EN ISO 527-2, *Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

EN ISO 868, *Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868)*

EN ISO 1183 series, *Plastics - Method for determining the density of noncellular plastic (ISO 1183 series)*

EN ISO 11358, *Plastics - Thermogravimetry (TG) of polymers - General principles (ISO 11358)*

IEC 60050-461, *International Electrotechnical Vocabulary – Chapter 461: Electric cables*

ISO 8013, *Rubber, vulcanized - Determination of creep in compression*

ISO 11357-3, *Plastics - Differential scanning calorimetry (DSC) - Part: 3 Determination of temperature and enthalpy of melting and crystallisation*

ASTM E28-99:2004, *Standard test methods for softening point of resins derived from naval stores by ring-and-ball apparatus*

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