

**Test requirements on accessories for use  
on power cables of rated voltage from  
3,6/6(7,2) kV up to 20,8/36(42) kV Part 2:  
Cables with impregnated paper insulation**

Test requirements on accessories for use on power  
cables of rated voltage from 3,6/6(7,2) kV up to  
20,8/36(42) kV Part 2: Cables with impregnated  
paper insulation

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-HD 629.2 S2:2006 sisaldab Euroopa standardi HD 629.2 S2:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 19.05.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-HD 629.2 S2:2006 consists of the English text of the European standard HD 629.2 S2:2006.</p> <p>This document is endorsed on 19.05.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This standard specifies performance requirements for type tests for cable accessories for use on impregnated paper insulated power cables as specified in HD 621. Formerly, approvals of such products have been achieved on the basis of national standards and specifications and/or the demonstration of satisfactory service performance.</p>	<p><b>Scope:</b></p> <p>This standard specifies performance requirements for type tests for cable accessories for use on impregnated paper insulated power cables as specified in HD 621. Formerly, approvals of such products have been achieved on the basis of national standards and specifications and/or the demonstration of satisfactory service performance.</p>
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**Võtmesõnad:** accessories, definition, electric cable, electric power transmission, electrical insulating paper, insulated cable, solid electrical insulation, specification, test

English version

**Test requirements on accessories for use on power cables  
of rated voltage from 3,6/6(7,2) kV up to 20,8/36(42) kV  
Part 2: Cables with impregnated paper insulation**

Prescriptions relatives aux essais  
sur les accessoires des câbles d'énergie  
pour des tensions assignées  
de 3,6/6(7,2) kV à 20,8/36(42) kV  
Partie 2: Câbles isolés au papier  
imprégné

Prüfanforderungen für Kabelgarnituren für  
Starkstromkabel mit einer Nennspannung  
von 3,6/6(7,2) kV bis 20,8/36(42) kV  
Teil 2: Kabel mit massegetränkter  
Papierisolierung

This Harmonization Document was approved by CENELEC on 2005-09-01. 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, 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 formal vote and was approved by CENELEC as HD 629.2 S2 on 2005-09-01.

This Harmonization Document supersedes HD 629.2 S1:1997 and its amendment A1:2001; it also includes the changes proposed by CLC/TC 20 WG 11 as draft amendment A2.

The following dates were fixed:

- latest date by which the existence of the HD has to be announced at national level (doa) 2006-03-01
- latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2006-09-01
- latest date by which the national standards conflicting with the HD have to be withdrawn (dow) 2008-09-01

This Harmonization Document has been written as part of a series of standards to satisfy the Public Procurement Directive, and is complementary to HD 621, which covers impregnated paper insulated power cables from 3,6/6(7,2) kV to 20,8/36(42) kV, inclusive.

This standard defines the requirements, which may be called up for joints, stop ends, separable connectors, indoor and outdoor terminations when used with impregnated paper insulated power cables covered by HD 621. The equivalent requirements for extruded power cables are given in HD 629.1 S2.

The test methods for these accessories are given in EN 61442.

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## 1 Scope

### 1.1 General

This standard specifies performance requirements for type tests for cable accessories for use on impregnated paper insulated power cables as specified in HD 621.

Formerly, approvals of such products have been achieved on the basis of national standards and specifications and/or the demonstration of satisfactory service performance. The publication of this CENELEC standard does not invalidate existing approvals. However, products approved to such earlier standards or specifications shall not claim approval to this CENELEC standard unless specifically tested to it.

It is not necessary to repeat these tests, once successfully completed, unless changes are made in the materials, design or manufacturing process, which might affect the performance characteristics.

Accessories for special applications such as submarine cables, ships cables or hazardous situations (explosive environments, fire resistant cables or seismic conditions) are not included.

Test methods are included in EN 61442.

### 1.2 Type of accessories

The accessories covered by this standard are listed below:

- indoor and outdoor terminations of all designs, including terminal boxes;
- straight joints, branch joints and stop ends and transition joints of all designs, suitable for use underground or in air;
- screened or unscreened plug-in type or bolted type separable connectors capable of interfacing with bushing profiles as specified in EN 50180 and EN 50181.

### 1.3 Rated voltage

The rated voltages  $U_o/U$  ( $U_m$ ) of the accessories covered by this standard are 3,6/6(7,2) - 3,8/6,6(7,2) - 6/10(12) - 6,35/11(12) - 8,7/15(17,5) - 12/20(24) - 12,7/22(24) - 18/30(36) - 19/33(36) - 20,8/36(42) kV where:

$U_o$  is the rated power-frequency voltage between conductor and earth or metallic screen, for which the cable accessory is designed;

$U$  is the rated power-frequency voltage between conductors for which the cable accessory may be used;

$U_m$  is the maximum value of the 'highest system voltage' for which the cable accessory may be used.

### 1.4 Current

The continuous current rating of a termination or joint for impregnated paper insulation power cables shall be in accordance with the appropriate cable specified in HD 621 and shall be suitable for operation at the rated current and under short circuit fault conditions at the temperatures stated therein.

The current rating of a separable connector is governed by the current rating of the mating bushing, (see EN 50180 and EN 50181).

## 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 50180	Bushings above 1 kV up to 36 kV and from 250 A to 3,15 kA for liquid filled transformers
EN 50181	Plug-in type bushings above 1 kV up to 36 kV and from 250 A to 1,25 kA for equipment other than liquid filled transformers
EN 61238-1	Compression and mechanical connectors for power cables for rated voltages up to 36 kV ( $U_m = 42$ kV) - Part 1: Test methods and requirements (IEC 61238-1:2003, mod.)
EN 61442	Test methods for accessories for power cables with rated voltages from 6 kV ( $U_m = 7,2$ kV) up to 36 kV ( $U_m = 42$ kV) (IEC 61442)
HD 428.2.2	Three-phase oil-immersed distribution transformers 50 Hz, from 50 to 2 500 kVA with highest voltage for equipment not exceeding 36 kV – Part 2: Distribution transformers with cable boxes on the high-voltage and/or low-voltage side – Section 2: Cable boxes type 1 for use on distribution transformers meeting the requirements of HD 428.2.1 S1
HD 620	Distribution cables with extruded insulation for rated voltages from 3,6/6 (7,2) kV to 20,8/36 (42) kV
HD 621	Medium voltage impregnated paper insulated distribution cables
HD 631 (series) <sup>1)</sup>	Electrical cables - Accessories - Material characterisation
IEC 60050-461	International Electrotechnical Vocabulary - Chapter 461: Electric cables

## 3 Definitions

For the purposes of this document, the following terms and definitions apply together with those given in IEC 60050-461.

### 3.1

#### **connector**

metallic device to connect cable conductors together (IEV 461-17-03)

### 3.2

#### **termination**

device fitted to the end of a cable to ensure electrical connection with other parts of the system and to maintain the insulation up to the point of connection (IEV 461-10-01)

### 3.3

#### **indoor termination**

termination intended for use where it is not exposed to either solar radiation or weathering

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<sup>1)</sup> At draft stage.