

**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

Käesolev Eesti standard EVS-HD 629.2 S1:2002 sisaldab Euroopa standardi HD 629.2 S1:1997+A1:2001 ingliskeelset teksti.

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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 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 1997-07-01. 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).

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CENELEC

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

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FOREWORD

HD 629.2 was prepared by WG11 of the Technical Committee of CENELEC TC20, Electric cables, and has been written as part of a series of standards to satisfy the Public Procurement Directive. It 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.

The 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 insulation power cables are given in HD 629.1.

The test methods for these accessories are given in HD 628.

This draft was submitted to the CENELEC Formal Vote (3MV) in November 1996 and was approved by CENELEC as HD 629.2 S1 on 1997-07-01.

The following dates were fixed:

- | | | | |
|---|--|-------|------------|
| - | latest date by which the existence of the HD has to be announced at national level | (doa) | 1997-12-01 |
| - | latest date by which the HD has to be implemented at national level by publication of a harmonised national standard or by endorsement | (dop) | 1998-06-01 |
| - | latest date by which the national standards conflicting with the HD have to be withdrawn | (dow) | 1998-06-01 |

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**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

1. Scope

1.1 General

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

Accessories which the manufacturer can demonstrate to have provided satisfactory service experience do not need to be type tested.

After they have been made, these tests need not be repeated, unless changes are made in the materials, design or manufacturing process which might affect the performance characteristics.

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

1.2 Types 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 of all designs, suitable for use underground or in air;
- screened or unscreened plug-in type or belted-type separable connectors capable of interfacing with bushing profiles as specified in EN 50180 and EN 50181.

NOTE: Transition joints connecting extruded insulation cables (HD 620) to impregnated paper insulated cables (HD 621) are included.

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 rms where:

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

U is the rated power-frequency voltage between conductors for which the 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 insulated 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. (EN 50180 and EN 50181.)

2. Normative references

This Part 2 of HD 629 incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of any these publications, apply to this Part 2 of HD 629 only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

| | |
|-------------|---|
| 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 36kV 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 |
| HD 620 | Distribution cables with extruded insulation for rated voltages from 3,6/6 (7,2)kV up to and including 20,8/36(42)kV |
| HD 621 | Medium voltage impregnated paper insulated distribution cables |
| HD 628 | Test methods for accessories for power cables with rated voltage from 3,6/6kV ($U_m = 7,2kV$) up to and including 20,8/36kV ($U_m = 42kV$) |
| HD 631 | Materials characterisation |
| IEC 50(461) | International electrotechnical vocabulary Chapter 461 Electric cables |
| EN 50180 | Bushings above 1kV up to 36kV and from 250A to 3150A for liquid filled transformers |
| EN 50181 | Plug-in type bushings above 1kV up to 36kV and from 250A to 1250A for equipment other than liquid filled transformers |

3. Definitions

For the purpose of this standard the following definitions apply:

- 3.1 **connector**: a metallic device to connect cable conductors together (IEV 461-17-03)
- 3.2 **termination**: a 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**: a termination intended for use where it is not exposed to either solar radiation or weathering
- 3.4 **outdoor termination**: a termination intended for use where it is exposed to either solar radiation or weathering or both
- 3.5 **terminal box**: an air- or compound-filled box fully enclosing a termination (IEV 461-10-03 modified)
- 3.6 **shrouded termination**: an indoor termination with additional insulation at the bushing connection and used in an air-filled terminal box