

Test requirements for accessories for use on power cables of rated voltage from 3,6/6(7,2) kV up to 20,8/36(42) kV - Part 1: Accessories for cables with extruded insulation

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-HD 629-1-S3:2019 sisaldab Euroopa standardi HD 629-1-S3:2019 ingliskeelset teksti.	This Estonian standard EVS-HD 629-1-S3:2019 consists of the English text of the European standard HD 629-1-S3:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Test requirements for accessories for use on power cables of
rated voltage from 3,6/6(7,2) kV up to 20,8/36(42) kV - Part 1:
Accessories for cables with extruded insulation

Prescriptions relatives aux essais des accessoires des
câbles d'énergie pour des tensions assignées de
3,6/6(7,2) kV à 20,8/36(42) kV - Partie 1: Accessoires pour
câbles à isolation extrudée

Prüfanforderungen für Kabelgarnituren für Starkstromkabel
mit einer Nennspannung von 3,6/6(7,2) kV bis
20,8/36(42) kV - Teil 1: Garnituren für Kabel mit extrudierter
Kunststoffisolierung

This Harmonization Document was approved by CENELEC on 2019-02-06. 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 CEN-CENELEC Management Centre or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

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Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (HD 629.1 S3:2019) has been prepared by CLC/TC 20, "Electric cables".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-02-06
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2022-02-06

This document supersedes HD 629.1 S2:2006 and its amendment A1:2008.

This Harmonization Document has been written as part of a series of standards to satisfy the Public Procurement Directive, and is complementary to HD 620, which covers extruded insulation 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 extruded insulation power cables covered by HD 620. The equivalent requirements for paper-insulated power cables are given in HD 629.2.

The test methods for these accessories are given in EN 61442:2005.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

1 Scope

1.1 General

This document specifies performance requirements for type tests for cable accessories for use on extruded insulation power cables as specified in HD 620 or other relevant cable standards.

Once type test for an accessory is successfully completed, it is not necessary to repeat the test, unless changes are made in the materials, design or manufacturing process, which might affect the performance characteristics.

Possible extra thermo-mechanical forces due to high current loads from renewable sources of power generation are not covered by these tests (under consideration).

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

Test methods are included in EN 61442:2005.

NOTE 1: This European Standard does not invalidate existing approvals of products achieved on the basis of national standards and specifications and/or the demonstration of satisfactory service performance. However, products approved according to such national standards or specifications cannot directly claim approval to this European standard.

NOTE 2: It may be possible, subject to agreement between supplier and purchaser, and/or the relevant conformity assessment body, to demonstrate that conformity to the earlier standard can be used to claim conformity to this European Standard, provided an assessment is made of any additional type testing that may need to be carried out. Any such additional testing that is part of a sequence of testing cannot be done separately.

1.2 Type of accessories

The accessories covered by this standard are listed below:

- a) indoor and outdoor terminations of all designs, including terminal boxes;
- b) straight-joints, branch-joints, stop ends and loop joints of all designs, suitable for use underground, indoors or outdoors;

NOTE 1 Tests specific for UV and outdoor weather resistance are not included.

- c) 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.

NOTE 2 Joints connecting extruded insulation cables (HD 620) to paper insulated cables (HD 621) are not included. The requirements for these accessories are dealt with in HD 629.2.

1.3 Rated voltage

The rated voltages U_0/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_0 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 is designed;

U_m is the maximum value of the 'highest system voltage' for which the cable accessory is designed.

1.4 Current

The continuous current rating of a termination or joint for extruded insulation power cables is in accordance with the appropriate cable specified in HD 620 or other relevant cable standards and is 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 documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 52 kV and from 250 A to 3,15 kA for liquid filled transformers*

EN 50181, *Plug-in type bushings above 1 kV up to 52 kV and from 250 A to 2.5 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). Test methods and requirements*

EN 61442:2005, *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)*

HD 620, *Distribution cables with extruded insulation for rated voltages from 3,6/6 (7,2) kV to 20,8/36 (42) kV*

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

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

connector (of cable)

device for connecting a conductor to an equipment terminal or for connecting two or more conductors to each other

[SOURCE: IEC 61238-1 (IEV 461-17-03, modified)]

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

[SOURCE: IEV 461-10-01]

3.3

indoor termination

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

[SOURCE: IEV 461-10-13]

3.4

outdoor termination

termination intended for use where it is exposed to either solar radiation or weathering or both

[SOURCE: IEV 461-10-14]

3.5

terminal box

air- or compound-filled box fully enclosing a termination

[SOURCE: IEV 461-10-03, modified]