

SLOVENSKI STANDARD

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Nadomešča:

SIST HD 629.2 S2:2006

SIST HD 629.2 S2:2006/A1:2009

Preskusne zahteve za pribor, ki se uporablja na elektroenergetskih kablji za naznačene napetosti od 3,6/6(7,2) kV do vključno 20,8/36(42) kV - 2. del: Kabli, izolirani z impregniranim papirjem

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 2: Cables with impregnated paper insulation

Prüfanforderungen für Kabelgarnituren für Starkstromkabel 12 mit einer Nennspannung von 3,6/6(7,2) kV bis 20,8/36(42) kV 13 Teil 2: Kabel mit massegetränkter Papierisolierung

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

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29.060.20	Kabli	Cables

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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 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 2023-12-11. 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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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (HD 629.2 S3:2024) 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) 2024-12-11
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2026-12-11

This document partially supersedes HD 629.2 S2:2006 and all of its amendments and corrigenda (if any).

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

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Introduction

This document defines the requirements which can 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 S3.

The equivalent requirements for transition joints, when used between extruded insulated power cables and impregnated paper insulated power cables covered by HD 620 and HD 621 or other relevant standards are given in HD 629.3 S1.

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 document does not invalidate existing approvals. However, products approved to such earlier standards or specifications cannot claim approval to this document unless specifically tested to it.

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1 Scope

1.1 General

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

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 61442:2005.

NOTE It might 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 document, provided an assessment is made of any additional type testing that might 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 document are listed below:

- indoor and outdoor terminations of all designs, including terminal boxes;
- straight joints, branch joints and stop end 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 series and EN 50181.

1.3 Rated voltage

The rated voltages $U_0/U(U_m)$ of the accessories covered by this document 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.

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 IEC 61238-1-3, *Compression and mechanical connectors for power cables - Part 1-3: Test methods and requirements for compression and mechanical connectors for power cables for rated voltages above 1 kV ($U_m = 1,2$ kV) up to 36 kV ($U_m = 42$ kV) tested on non-insulated conductors (IEC 61238-1-3)*

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) (IEC 61442:2005)*

HD 621.S1, *Medium voltage impregnated paper insulated distribution cables*

EN 50655 series, *Electrical cables - Accessories - Material characterization*

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

3 Terms and definitions

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

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

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

3.1

connector

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

[SOURCE: EN 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]

3.6

shrouded termination

indoor termination with additional insulation at the bushing connection and used in an air-filled terminal box

[SOURCE: IEV 461-10-21]

3.7

joint

accessory suitable for use in air or underground which makes a connection between two or more insulated power cables to form a continuous circuit

3.7.1

type I joint

joint suitable for use where an impact resistance withstand is not required

3.7.2

type II joint

joint which has an impact resistance withstand in accordance with this document

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3.8

straight joint

accessory making a connection between two cables to form a continuous circuit

[SOURCE: IEC 461-11-01]

Note 1 to entry: For types of joint see 3.7.1 and 3.7.2.

3.9

branch joint

accessory making a connection of a branch cable to a main cable

[SOURCE: IEC 461-11-17]

Note 1 to entry: For types of joint see 3.7.1 and 3.7.2.

3.10

radial field joint

joint where the individual cores are screened throughout the joint

Note 1 to entry: For types of joint see 3.7.1 and 3.7.2.

3.11

non-radial field joint

joint which does not contain individual core screens

Note 1 to entry: For types of joint see 3.7.1 and 3.7.2.

3.12

stop end

accessory providing a means of insulating the unconnected end of an energized cable

[SOURCE: IEC 461-10-07 modified]

3.13

separable connector

fully insulated termination permitting the connection and the disconnection of a cable to other equipment

3.14

screened separable connector

separable connector which does not have a screened external surface

[SOURCE: IEC 461-10-15]

3.15

unscreened separable connector

separable connector which does not have an external screen

[SOURCE: IEC 461-10-15]

3.16

plug-in type separable connector

separable connector in which the electrical contact is made by a sliding device

[SOURCE: IEC 461-10-17]

3.17**bolted-type separable connector**

separable connector in which the electrical contact is made by a bolted device

[SOURCE: IEC 461-10-18]

3.18**tracking**

progressive formation of conductive paths, which are produced on the surface or within a solid insulating material, due to the combined effects of electric stress and electrolytic contamination

Note 1 to entry: Tracking usually occurs due to surface contamination.

[SOURCE: IEC 212-11-56]

3.19**erosion**

wearing away of insulating material by the action of electric discharges

[SOURCE: IEC 212-11-55]

3.20**metallic housing**

metal enclosure in intimate contact with the outer screen of a separable connector and having at least the same current carrying capacity to earth as the metallic screen of the cable with which the separable connector is to be used

3.21 U_0

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

3.22 U

rated power-frequency voltage between conductors for which the cable accessory is designed

3.23 U_m

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

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.S1 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 series and EN 50181).

5 Components**5.1 Connectors**

Connectors used within the accessory shall comply with EN IEC 61238-1-3 where applicable, or with another relevant standard or specification.