



SLOVENSKI STANDARD
oSIST prEN 50483-1:2024
01-december-2024

Zahteve za preskušanje pribora za nizkonapetostne izolirane nadzemne kable - 1.
del: Glavne točke

Test requirements for low voltage aerial bundled cable accessories - Part 1: Generalities

Prüfanforderungen für Bauteile für isolierte Niederspannungsfreileitungen - Teil 1:
Allgemeines

Prescriptions relatives aux essais des accessoires pour réseaux aériens basse tension
torsadés - Partie 1: Généralités

Ta slovenski standard je istoveten z: prEN 50483-1

<https://standards.iteh.ai/catalog/standards/sist/475901c5-9c80-4175-a06b-d32e1e0e4d26/osist-pren-50483-1-2024>

ICS:

29.240.20 Daljnovodi Power transmission and
distribution lines

oSIST prEN 50483-1:2024 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 50483-1

October 2024

ICS 29.240.20

Will supersede EN 50483-1:2009

English Version

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Niederspannungsfreileitungen - Teil 1: Allgemeines

This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2025-01-03.

It has been drawn up by CLC/TC 20.

If this draft becomes a European Standard, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CENELEC in three official versions (English, French, German).
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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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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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24 European foreword

25 This document [prEN 50483-1:2024] has been prepared by WG 11 of CLC/TC 20 "Electric cables".

26 This document is currently submitted to the Enquiry.

27 The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dav + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dav + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dav + 36 months (to be confirmed or modified when voting)

28 This document will supersede EN 50483-1:2009 and all of its amendments and corrigenda (if any).

29 prEN 50483-1:2024 includes the following significant technical changes with respect to EN 50483-1:2009:

30 This is Part 1 of CENELEC standard EN 50483 "Test requirements for low voltage aerial bundled cable
31 accessories", which has six parts:

32 — Part 1: Generalities;

33 — Part 2: Tension and suspension clamps, fittings and brackets for self supporting system;

34 — Part 3: Tension and suspension clamps for neutral messenger system;

35 — Part 4: Connectors;

36 — Part 5: Electrical ageing test;

37 — Part 6: Environmental testing.

38 Introduction

39 The objective of the EN 50483 series is to provide a method of testing the suitability of accessories when used
40 under normal operating conditions with low voltage aerial bundled cables (ABC) complying with HD 626.

41 There is variation between the different ABC specifications provided by HD 626, and tests carried out on one
42 of the ABC types may not be completely applicable to ABC of a different specification. Therefore, the
43 purchasers of accessories tested to this European Standard, should ensure that all their requirements are
44 met.

45 Climate differs across Europe and in order to meet the differing geographic climatic conditions it is necessary
46 to provide a range of tests to meet these variations. A range of optional, additional tests is provided to meet
47 the varying climatic needs and these should be agreed between the customer and the manufacturer and/or
48 the supplier see Annex C in prEN 50483-6).

49 This European Standard does not invalidate existing approvals of products achieved on the basis of national
50 standards and specifications and/or the demonstration of satisfactory service performance. However, products
51 approved according to such national standards or specifications cannot directly claim approval to this
52 European Standard. It may be possible, subject to agreement between the customer and the manufacturer
53 and/or the supplier, and/or the relevant conformity assessment body, to demonstrate that conformity to the
54 earlier standard can be used to claim conformity to this standard, provided an assessment is made of any
55 additional type testing that may need to be carried out. Any such additional testing that is part of a sequence
56 of testing cannot be done separately.

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57 1 Scope

58 The EN 50483 series applies to overhead line fittings for tensioning, supporting and connecting aerial bundled
59 cables (ABC) of rated voltage $U_0/U(U_m)$: 0,6/1 (1,2) kV.

60 The purpose of this Part 1 is to define the common aspects of the products included in the above scope.

61 2 Normative references

62 The following documents are referred to in the text in such a way that some or all of their content constitutes
63 requirements of this document. For dated references, only the edition cited applies. For undated references,
64 the latest edition of the referenced document (including any amendments) applies.

65 EN 50483 (series), *Test requirements for low voltage aerial bundled cable accessories*

66 EN 60068-1:2014, *Environmental testing - Part 1: General and guidance (IEC 60068-1:1988 + corrigendum*
67 *Oct. 1988 +A1:1992)*

68 HD 626, Overhead distribution cables of rated voltage $U_0/U(U_m)$: 0,6/1 (1,2) kV

69 IEC 60050-461, *International Electrotechnical Vocabulary (IEV) – Part 461: Electric cables*

70 3 Terms and definitions

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

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

73 — ISO Online browsing platform: available at <https://www.iso.org/obp/>

74 — IEC Electropedia: available at <https://www.electropedia.org/>

75 3.1

76 **adiabatic**

77 occurring with no addition or loss of heat from the system under consideration

78 3.2

79 **aerial bundled cable (ABC)**

80 aerial cable consisting of a group of insulated conductors which are twisted together including, or not, a non
81 insulated conductor

82 Note 1 to entry: The terms bundled conductors, bundled cables, bundled cores, conductor bundles and bundle could be
83 used as equivalent to the term aerial bundled cable (ABC).

84 [SOURCE: IEC 461-08-02, modified]

85 3.3

86 **aerial-insulated-cable**

87 insulated cable designed to be suspended overhead and outdoors

88 [SOURCE: IEC 461-08-01]

89 3.4

90 **angle of deviation**

91 complementary angle to the angle defined by the two parts of the cable on both sides of the suspension clamp

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92 **3.5**
93 **branch connector**
94 metallic device for connecting a branch conductor to a main conductor at an intermediate point on the latter

95 [SOURCE: IEV 461-17-05]

96 **3.6**
97 **branch conductor**
98 conductor connected to the main conductor by a connector

99 **3.7**
100 **clamp bolt**
101 bolt which tightens two parts of a clamp together

102 **3.8**
103 **conductor insulation**
104 insulation applied on a conductor

105 [SOURCE: IEV 461-02-02, modified]

106 **3.9**
107 **conductor (of a cable)**
108 part of a cable which has the specific function of carrying current

109 [SOURCE: IEV 461-01-01]

110 **3.10**
111 **connector**
112 metallic device to connect cable conductors together

113 [SOURCE: IEV 461-17-03]

114 **3.11**
115 **core**
116 assembly comprising conductor and its own insulation

117 [SOURCE: IEV 461-04-04, modified]

118 **3.12**
119 **equalizer**
120 arrangement used in the test loop to ensure a point of equipotential and uniform current distribution in a
121 stranded conductor

122 [SOURCE: EN IEC 61238-1-2:2019, 3.5]

123 **3.13**
124 **fixture (or fitting)**
125 device for attaching ABC tension or/and suspension clamps to a pole or to a wall

126 **3.14**
127 **insulation (of a cable)**
128 insulating materials incorporated in a cable with the specific function of withstanding voltage

129 [SOURCE: IEV 461-02-01]

- 130 **3.15**
131 **insulation piercing connector (IPC)**
132 connector in which electrical contact with the conductor is made by metallic protrusions which pierce the
133 insulation of the ABC core
- 134 [SOURCE: IEC 611-11-08, modified]
- 135 **3.16**
136 **median connector**
137 connector which during the first heat cycle records the third highest temperature of the six connectors in the
138 test loop
- 139 [SOURCE: EN IEC 61238-1-2:2019, 3.5]
- 140 **3.17**
141 **messenger**
142 wire or rope, the primary function of which is to support the cable in aerial installations, which may be separate
143 from or integral with the cable it supports
- 144 [SOURCE: IEC 611-08-03]
- 145 **3.18**
146 **bracket (or fitting)**
147 device for attaching ABC tension or/and suspension clamps to a pole or to a wall
- 148 **3.19**
149 **minimum breaking load (MBL)**
150 minimum breaking load of the conductor given by HD 626 or the cable manufacturer if not defined in the
151 standard, or minimum breaking load of the clamp given by the clamp manufacturer
- 152 **3.20**
153 **mobile link**
154 device linking the suspension clamp to the fixture
- 155 **3.21**
156 **neutral messenger system**
157 aerial insulated system where only the neutral messenger supports the ABC
- 158 **3.22**
159 **pre-insulated (terminal) lug**
160 insulated metallic device for connecting an insulated cable conductor to other electrical equipment
- 161 **3.23**
162 **pre-insulated through connector (sleeve)**
163 insulated metallic device for connecting two consecutive lengths of insulated conductors
- 164 **3.24**
165 **rated tensile strength (RTS)**
166 estimate of the conductor breaking load calculated using the specified tensile properties of the component
167 wires
- 168 [SOURCE: EN 50182:2001, 3.7]
- 169 **3.25**
170 **recycling code**
171 mark(s), on a product, which identifies(y) the constituent material(s) of the product

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- 172 **3.26**
 173 **reference conductor**
 174 length of conductor(s) without any joints, which is included in the test loop and which enables the reference
 175 temperature and reference resistance(s) to be determined
- 176 [SOURCE: EN IEC 61238-1-2:2019, 3.7, modified]
- 177 **3.27**
 178 **reusable connector**
 179 connector for connecting ABC to stripped cable or bare conductor where only the branch connection can be
 180 reused
- 181 **3.28**
 182 **routine test**
 183 test made on all accessories to demonstrate their integrity
- 184 **3.29**
 185 **sample test**
 186 test made on samples of a product or components taken from a product adequate to verify that the finished
 187 product meets the design specifications
- 188 **3.30**
 189 **self supporting system**
 190 aerial insulated system where all the cores of the ABC contribute to its support
- 191 **3.31**
 192 **sheath**
 193 uniform and continuous tubular covering of metallic or non metallic material, generally extruded
- 194 [SOURCE: IEC 461-05-03]
- 195 **3.32**
 196 **shear head**
 197 head of a bolt, or a device fitted over the head of a bolt or a nut, which is designed to break at a specified
 198 torque
- 199 **3.33**
 200 **suspension clamp**
 201 device which attaches an aerial insulated cable to a fixture in order to carry its weight and any specified
 202 loading
- 203 [SOURCE: IEC 461-18-02, modified]
- 204 **3.34**
 205 **suspension or tension assembly**
 206 clamp with mobile link, or not, and associated fixture
- 207 **3.35**
 208 **tension clamp**
 209 device which firmly attaches an aerial insulated cable to a fixture and is designed to transmit the specified
 210 mechanical tension in the cable or messenger to the supporting structure
- 211 [SOURCE: IEC 461-18-01, modified]
- 212 **3.36**
 213 **traceability code**
 214 mark(s), on a product, which gives information about its manufacture and year of production

215 **3.37**216 **type test**

217 test required to be made before supplying a type of material covered by this standard on a general
218 commercial basis, in order to demonstrate satisfactory performance characteristics to meet the intended
219 application

220 Note 1 to entry: These tests are of such a nature that, after they have been made, they need not be repeated unless
221 changes are made to the accessory materials, design or type of manufacturing process which might change the
222 performance characteristics.

223 **4 Symbols**

224 A list of symbols is available with each part of the standard where applicable.

225 **5 Products concerned**

226 This European Standard applies to the following products:

227 — tension and suspension clamps and brackets for low voltage ABC self supporting system. The type tests
228 shall be as defined in EN 50483-2;

229 — tension and suspension clamps and brackets for low voltage ABC supporting system with neutral
230 messenger. The type tests shall be as defined in the EN 50483-3;

231 — connectors including insulation piercing connectors (IPC), pre-insulated lugs and through connectors
232 (sleeves) for low voltage ABC systems. The type tests shall be as defined in EN 50483-4.

233 NOTE Diagrams show a representation of fittings only and do not indicate any preference of design.

234 Some type tests are common to several products and these shall be as published under the following specific
235 standards:

236 — electrical ageing test under EN 50483-5;

237 — environmental tests under EN 50483-6.

238 **6 Marking**

239 All products mentioned above shall permanently bear:

240 — manufacturer's trade mark or logo;

241 — product code or reference;

242 — traceability code / batch number;

243 — the minimum and maximum cross section for which the unit is suitable;

244 — tightening torque or die reference, if applicable;

245 — recycling code, if any.

246 Other specific markings should be agreed between the customer and the manufacturer and/or the supplier.