



SLOVENSKI STANDARD
oSIST prHD 626 S2:2020

01-oktober-2020

Nadzemni razvodni kabli za naznačeno napetost $U_0/U(U_m)$: 0,6/1 (1,2) kV

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

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Ta slovenski standard je istoveten z: prHD 626 S2

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ICS:

29.060.20	Kabli	Cables
29.240.20	Daljnovodi	Power transmission and distribution lines

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HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

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prHD 626 S2

August 2020

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Will supersede HD 626 S1:1996 and all of its
amendments and corrigenda (if any)

English Version

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

To be completed

To be completed

This draft Harmonization Document is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2020-11-13.

It has been drawn up by CLC/TC 20.

If this draft becomes a Harmonization Document, 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.

This draft Harmonization Document was established by CENELEC in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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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Relationship between this European standard and the safety objectives of Directive
2014/35/EU [2014 OJ L96] aimed to be covered

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66 **European foreword**

67 This document (prHD 626 S2:2020) has been prepared by CLC/TC 20, "Electric cables".

68 This document is currently submitted to the Enquiry.

69 The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 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) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

70 This document will supersede HD 626 S1:1996 and all of its amendments and corrigenda (if any).

71 This document has been prepared under a mandate given to CENELEC by the European Commission and the
72 European Free Trade Association, and supports essential requirements of EU Directive(s).

73 For the relationship with EU Regulation 2014/35/EU, see informative Annex ZZ, which is an integral part of this
74 document.

75 References to other HDs, ENs and International Standards are given in the particular parts or sections.

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Part 1

76 **Introduction**

77 This edition has been prepared to cover the latest market requests on overhead distribution cables of rated
78 voltage $U_0/U(\text{Um})$: 0,6/1 (1,2) kV. Since the publication of the first edition in 1996 and the amendments in 1997
79 and 2002, a number of particular sections have been withdrawn, new sections have been added from countries
80 not covered in the first edition, technical improvements have been added and a number references to test
81 method standards were updated. The Table of Content indicates even the withdrawn sections.

82 Part 1 of this document contains the General Requirements applicable to cables for overhead distribution and
83 service, specified in the particular sections of Parts 3 to 10. In general, bundle assembled cores are specified.
84 Single core cables are specified in Part 9.

85 The document contains the following Parts, arranged according to the main constructional features of the cables
86 covered:

87 HD 626 Part 1 General Requirements

88 HD 626 Part 2 Additional Test Methods

89 HD 626 Part 3 PE insulated self-supporting cables, (bundle assembled cores)

90 HD 626 Part 4 XLPE insulated self-supporting cables, (bundle assembled cores)

91 HD 626 Part 5 PE insulated cables with messenger, (bundle assembled cores)

92 HD 626 Part 6 XLPE insulated cables with messenger, (bundle assembled cores)

93 HD 626 Part 7 XLPE insulated and sheathed self-supporting cables, (bundle assembled cores)

94 HD 626 Part 8 XLPE insulated and PVC sheathed cables with messenger, (bundle assembled cores)

95 HD 626 Part 9 Single core cables

96 HD 626 Part 10 Service cables with concentric neutral conductor

97 Each of Parts 3 to 10 inclusive contains a number of Sections, and the Technical Board has agreed (D68/047,
98 Brussels, June 1991) that National Committees need at present only implement in their national language those
99 Sections having national applicability. The obligation remains however to announce the full HD in public by titles
100 and numbers, and also to withdraw any conflicting national standards.

101 Page numbering reflects the arrangement into Parts and Particular sections, e.g. Page 5-D-6 is Page 6 of
102 Particular Section D of Part 5.

103 **CONTENTS (prHD 626 S2:2020)****PART 0 CONTENTS OF HD 626****PART 1 GENERAL REQUIREMENTS****PART 2 ADDITIONAL TEST METHODS****PART 3 PE INSULATED SELF SUPPORTING CABLES
(bundle assembled cores)**

3 A Assembled cores for overhead distribution and service (Type 3A-1)
(Cables with aluminium conductors)

3 C n

3 I Assembled cores for overhead service (Type 3 I-1)
(Cables with aluminium conductors)

3 L Assembled cores for overhead distribution and service (Type 3L-1)
(Cables with aluminium conductors)

**PART 4 RATED SELF SUPPORTING CABLES
(bundle assembled cores)**

- 4 B ssembled cores for overhead service (Types 4B-1 and 4B-2)
(Cables with aluminium conductors (Type 4B-1) or with copper conductors (Type 4B-2))
- 4 E ssembled cores for overhead service (Type 4E-1)
(Cables with aluminium conductors)
- 4 F ssembled cores for overhead distribution and service (Type 4F-1)
(Cables with aluminium conductors)
- 4 G n
- 4 J ssembled cores for overhead service (Types 4J-1 and 4J-2)
(Cables with aluminium conductors (Type 4J-1) or with copper conductors (Type 4J-2))
- 4 K ssembled cores for overhead service (Type 4K 1)
(Cables with aluminium conductors)
- 4 M ssembled cores for overhead distribution and service (Type 4M-1)
(Cables with aluminium conductors)
- 4 N ssembled cores for overhead distribution (Type 4N-1)
(Cables with aluminium conductors)
- 4 O overhead distribution cables of rated voltage $U_0/U(U_m)$: 0,6/1 (1,2) kV
- 4 P ssembled cores for overhead distribution and service (Type 4P-1 and Type 4P-2)

**PART 5 TIED CABLES WITH MESSENGER
(bundle assembled cores)**

- 5 D ssembled cores for overhead distribution and service (Type 5D-1)
(Cables with aluminium phase conductors and uninsulated aluminium alloy neutral conductor)
- 5 l n

**PART 6 LATED CABLES WITH MESSENGER
(bundle assembled cores)**

- 6 B Bundle assembled cores for overhead distribution (Type 6B-1)
(Cables with aluminium phase conductors and aluminium alloy neutral conductor)
- 6 D Withdrawn
- 6 E Bundle assembled cores for overhead distribution (Type 6E-1)
(Cables with aluminium phase conductors and aluminium alloy neutral conductor)
- 6 J Bundle assembled cores for overhead distribution (Type 6J-1)
(Cables with aluminium phase conductors and aluminium alloy neutral conductor)
- 6 K Bundle assembled cores for overhead distribution (Type 6K-1)
(Cables with aluminium phase conductors and aluminium alloy neutral conductor)
- 6 N Bundle assembled cores for overhead distribution (Type 6N-1)
(Cables with aluminium phase conductors and aluminium alloy neutral conductor)

**PART 7 LATED AND SHEATHED SELF SUPPORTING CABLES
(bundle assembled cores)**

- 7 H ssembled cores for overhead distribution and service (type 7H), Self-supporting XLPE insulated cables
(Cables with tinned copper phase conductors and tinned copper neutral conductor)

**PART 8 LATED AND SHEATHED CABLES WITH MESSENGER
(bundle assembled cores)**

- 8 H ssembled cores for overhead distribution and service (type 8H), Neutral conductor messenger XLPE insulated cables
(Cables with aluminium phase conductors and aluminium alloy neutral conductor)

PART 9 Single core cables

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9 F *Withdrawn*

9 G *Withdrawn*

9 I *Withdrawn*

9 N Single cores for overhead distribution (Type 9N-1 and Type 9N-2)
(EPR insulated and PCP sheath cables with aluminium conductors Type 9N-1 or with copper conductors Type 9N-2)

PART 10 Service cables with concentric neutral conductor

10 N re and three cores service cables with concentric neutral conductor (Type 10N)
(Cables with tinned copper phase conductors and tinned copper concentric neutral conductor)

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104 1 Scope

105 1.1 General

106 This document applies to cables of rated voltage $U_0/U(U_m) = 0,6/1(1,2)$ kV used in overhead power distribution
107 systems mainly for public distribution, of maximum system voltage not exceeding 1,2 kV.

108 This part (Part 1) specifies the general requirements applicable to these cables, unless otherwise specified in
109 the particular sections of this HD.

110 Test methods are specified in EN 60228, EN 60332-1 series, EN 60811 series and in HD 605 or in Part 2 of this
111 HD. The particular types of cables are specified in Parts 3 to 10.

112 1.2 Object

113 The objects of this document are:

- 114 — to standardize cables that are safe and reliable when properly used and equipped with appropriate
115 accessories, in relation to the technical requirements of the system of which they form a part,
- 116 — to state the characteristics and manufacturing requirements which have a direct or indirect bearing on
117 safety,
- 118 — and to specify methods for checking conformity with those requirements.

119 2 Normative references

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

123 HD 186, *Marking by inscription for the identification of cores of electric cables having more than 5 cores*

124 EN 60228, *Conductors of insulated cables*

125 HD 60364-5-52:2011, *Low-voltage electrical installations - Part 5-52: Selection and erection of electrical
126 equipment - Wiring systems (IEC 60364-5-52:2009)*

127 HD 605 S3:2019, *Electric cables - Additional test methods*

128 IEC 60287 series, *Electric cables - Calculation of the current rating*

129 3 Terms and definitions

130 For the purposes of this document, the following terms and definitions apply.

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

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

134 3.1 Definitions relating to insulating and sheathing materials

135 3.1.1

136 insulating and sheathing materials

137 types of insulating and sheathing compounds covered in this document are listed below, together with their
138 abbreviated designations

139 Note 1 to entry: See Table 1.

Table 1

	Insulating and Sheathing Compounds	See:
1. Insulating and insulating sheath (a)	a) <i>Thermoplastic</i> Insulating compounds based on: (PE) - Polyethylene	Table 2
	b) <i>Cross linked</i> Insulating compound based on: (XLPE) - Cross linked polyethylene	Table 3
	c) <i>Elastomeric</i> Insulating compound based on: (EPR) - Ethylene propylene rubber	Table 5
2. Sheath	a) <i>Cross linked</i> Sheathing compound based on: (XLPE) - Cross linked polyethylene	Table 4
	b) <i>Thermoplastic</i> Sheathing compound based on: (PVC) - Polyvinyl chloride	
	c) <i>Elastomeric</i> Sheathing compound based on: (PCP, CSP) - Polychloroprene, chlorosulfonated polyethylene or similar polymer	Table 6
^a An insulating sheath is an extruded layer which simultaneously acts as an insulation and as a sheath		

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141 **3.1.2**142 **type of compound**

143 category in which a compound is classified according to its properties is determined by specific tests; the type
144 designation is not directly related to the composition of the compound

145 **3.2 Definitions relating to the tests**146 **3.2.1**147 **type tests**148 **T**

149 tests required to be made before supplying a type of cable covered by this HD on a general commercial basis
150 in order to demonstrate satisfactory performance characteristics to meet the intended application

151 Note 1 to entry: These tests are of such a nature that, after they have been made, they need not be repeated unless
152 changes are made in the cable material, design or type of manufacturing process which might change the performance
153 characteristics

154 **3.2.2**155 **sample tests**156 **S**

157 tests made on samples of completed cable, or components taken from a completed cable adequate to verify
158 that the finished product meets the design specifications

159 **3.2.3**160 **routine tests**161 **R**

162 tests made on all production cable lengths to demonstrate their integrity

163 **3.2.4**164 **tests after installation**

165 tests intended to demonstrate the integrity of the cable and its accessories as installed

166 Note 1 to entry: Tests classified as sample(S) or routine (R) could be required as part of type approval schemes.

167 **3.3**168 **rated voltage**

169 <of a cable> reference voltage for which the cable is designed, and which serves to define the electrical tests

170 Note 1 to entry: The rated voltage is expressed by the combination of the following values U_0 / U (U_{rn}) expressed in kV.171 U_0 is the rms. value between any insulated conductor and earth;172 $U_0 = 0,6$ kV173 U is the rms. value between any two phase-conductors of a multicore cable;174 $U = 1,0$ kV175 U_{rn} is the rms. value of the highest system voltage for which the equipment may be used;176 $U_{rn} = 1,2$ kV.177 Note 2 to entry: In an alternating current system, the rated voltage of a cable shall be at least equal to the nominal voltage
178 of the system for which it is intended.179 Note 3 to entry: The cables of this HD may be used in DC Systems with a maximum voltage against earth not exceeding
180 0,9 kV.181 **3.3 Other**

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182 **3.3.1**183 **messenger**184 wire or a rope, the primary function of which is to support the cable in aerial installation, which may be separate
185 from or integral with the cable it supports

186 Note 1 to entry: In this HD, the messenger is called in some sections "neutral core" and even "messenger neutral core"

187 [IEV 461-08-03]

188 **4 Marking**189 **4.1 Indication of origin**190 **4.1.1 General**

191 Cables shall be provided with an indication of origin consisting of:

192 1. Either the manufacturer's identification thread,

193 2. or the continuous marking of the manufacturer's name or trademark, or (if legally protected)
194 identification number by one of the two following alternative methods:

195 a) printed tape within the cable,

196 b) printing, indenting or embossing on the outer surface of at least one core.

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197 **4.1.2 Continuity of Marks**

198 Unless otherwise specified in the particular sections, each specified mark shall be regarded as continuous if the
199 distance between the end of the mark and the beginning of the next identical mark does not exceed:

200 • 550 mm if the marking is on the outer surface of the cable

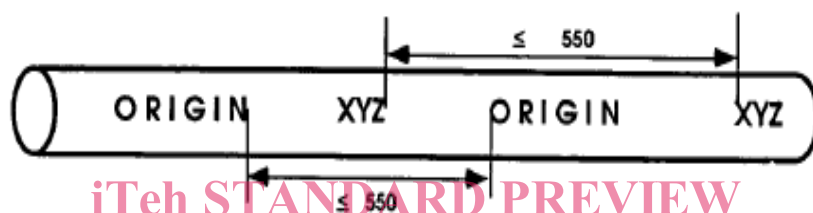
201 • 275 mm if the marking is:

202 • on the insulation of a sheathed cable

203 • or on a tape within a sheathed cable.

204 NOTE A "Specific Mark " is any mandatory mark covered by this Part of the HD or by the particular requirements of
205 Part 3 onwards of this HD.

206 The diagram below shows an example of the marking as use on the outer surface of the cable, where the word
207 'ORIGIN' is for the mandatory information required by the subclause 3.1, and "XYZ" is one of any other
208 mandatory marks.



209

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Figure 1

211 **4.2 Additional Marking**

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212 Additional marking requirements may be specified in the particular sections.

213 **4.3 Durability**

214 Printed markings shall be durable. Durability shall be checked by the test given in HD 605 S3:2019, 2.5.4. The
215 printed legend shall be legible after carrying out the test.

216 **4.4 Legibility**

217 All markings shall be legible. Printed markings shall be in contrasting colours. The colours of the identification
218 threads shall be easy to recognize or easily be made recognizable, if necessary, by cleaning with a suitable
219 solvent. The printed legend shall be legible after carrying out the test.

220 **4.5 Common marking**

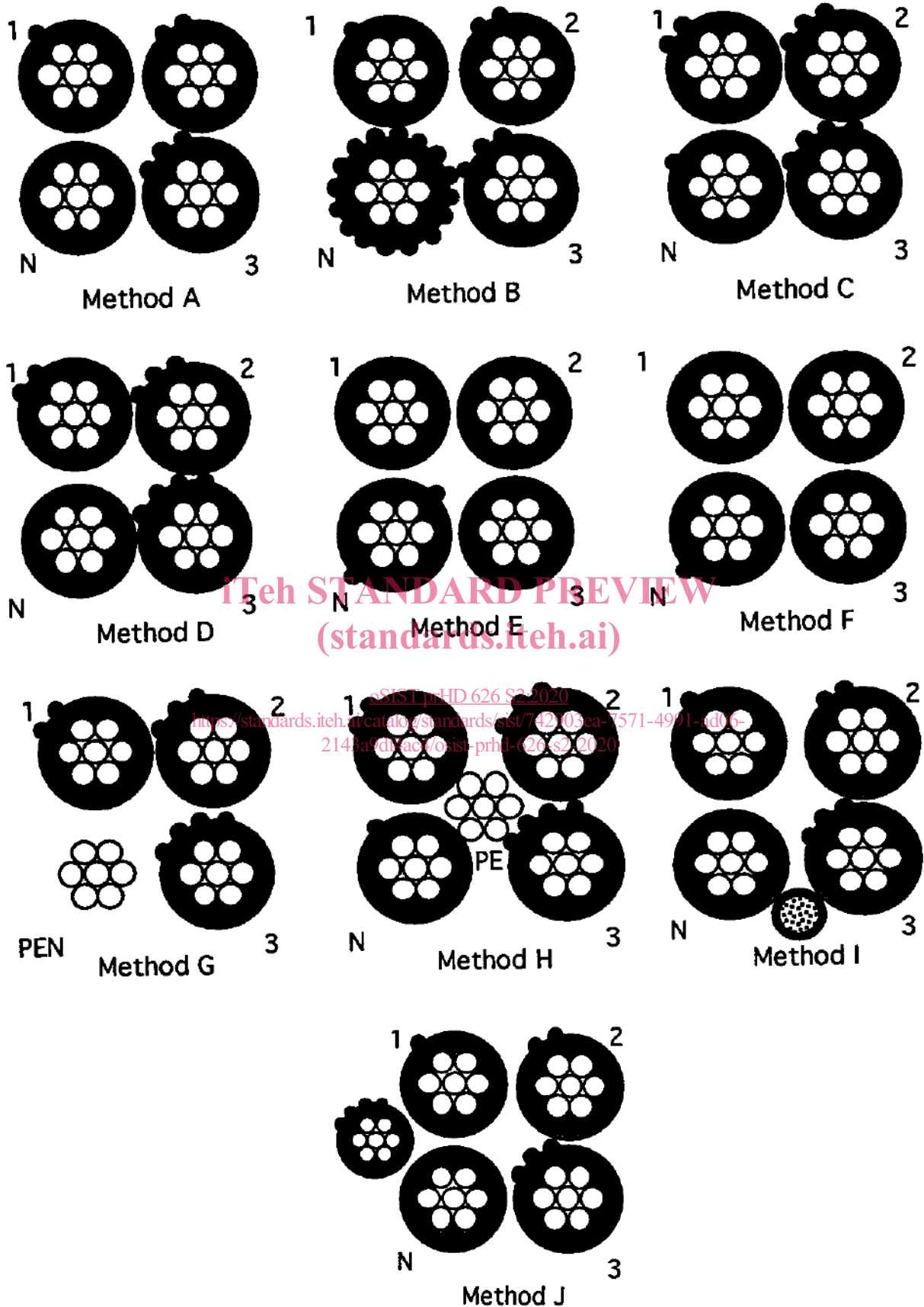
221 Under consideration.

222 **4.6 Use of the name CENELEC**

223 The name CENELEC, in full or abbreviated, shall not be marked directly on, or in, the cables.

224 **5 Core identification**

225 The cores shall be identified by ribs (examples of the code method is given hereafter) or by numbers (printing,
226 indenting or embossing on the outer surface of the core), or both of them. For a two cores cable, this core
227 identification is valid too.



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Figure 2

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230 The colour or numbering or coding schemes relevant to the various types of cables are given in the particular
231 sections of this HD.

232 When identification is made by numbers, they shall be printed in a colour which contrasts with the core colour.
233 Marking shall comply with HD 186 unless otherwise specified.

234 The colours or numbers shall be clearly identifiable and durable. Durability shall be checked by the test specified
235 in HD 605 S3:2019, 2.5.4.

236 Compliance with these requirements shall be verified by visual examination.

237 **6 General requirements for the construction of cables**

238 **6.1 General**

239 Compliance with the requirements given in subclauses 6.2 to 6.5 and in the particular sections of this document
240 shall be checked by inspection and by measurements according to the test methods in documents listed in the
241 Scope of the HD 626 S2:2020, Part 1, Subclause 1.1. or in particular sections.

242 **6.2 Conductors**

243 **6.2.1 Material**

244 Conductors shall be either of plain or metal-coated hard-drawn copper or of aluminium or aluminium alloy in
245 accordance with EN 60228 or with particular requirements in particular sections of this HD.

246 Conductors shall be circular and stranded or shall comply with particular requirements in particular sections of
247 this HD.

248 **6.2.2 Electrical resistance**

249 The resistance of each conductor at 20°C shall be in accordance with the requirements in EN 60228 for the
250 given class of conductor or with particular requirements in particular sections of this HD.

251 **6.2.3 Separator tape**

252 A separator tape may be placed between the conductor and the insulation.
253 It shall be easily removable from the conductor.

254 **6.3 Insulation or insulating sheath**

255 **6.3.1 Material**

256 Insulation shall be extruded solid compound of one of the types listed in 3.1.1 and as given for each type of
257 cable in the particular sections of HD 626.

258 Test requirements for the insulating compounds are specified in Tables 2, 3 and 5.

259 **6.3.2 Application**

260 The insulation may consist of one or more bonded layers. It shall be so applied that it fits closely on the conductor
261 or over the separator tape, and it shall be possible to remove it without damage to the conductor or to the metal
262 coating if any. The insulation shall be applied by a suitable extrusion process, and shall form a compact and
263 homogeneous body.

264 **6.3.3 Colour of the insulation**

265 The colour of the insulation or of the insulating sheath shall be black, grey or another colour according to the
266 particular sections.