
**Večžilni in večparni kabli za nadzemno in podzemno inštalacijo – Dopolnilo 2
k HD v zvezi s programom za vzdrževanje – Skupina 14**

Multicore and multipair cables for installation above and below ground -
Amendment 2 to HD according to maintenance programme - Group 14

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English version

**Multicore and multipair cables
for installation above and below ground**

Câbles multiconducteurs et multipaires
pour installation dans l'air et dans le sol

Vieladrige und vielpaarige Kabel für die
Verlegung in Luft und in Erde

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This amendment A2 modifies the Harmonization Document HD 627 S1:1996; it was approved by CENELEC on 2005-06-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this amendment 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 amendment exists in one official version (English).

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

CENELEC

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

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Foreword

This amendment to the Harmonization Document HD 627 S1:1996 was prepared by WG 9 of the Technical Committee CENELEC TC 20, Electric cables. CENELEC TC 20 confirmed at its Setubal meeting (June 2004) that the amendment should go to the Unique Acceptance Procedure.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A2 to HD 627 S1:1996 on 2005-06-01.

A list of additions and amendments to the particular sections of Parts 3-7 is given in this Part 0.

Users of HD 627 should note that, in the particular sections, cross-references have only been updated where the complete section has been re-issued. This Part 0 of HD 627 contains a list of relevant changes to cross-references, which should be consulted in conjunction with the particular section. National standards implementing one or more particular sections of HD 627 may update cross-references in advance of changes to the published version of the HD.

By decision of the Technical Board (D81/139 extended by D104/118 & D114/076) this HD exists only in English.

The following dates were fixed:

- latest date by which the existence of the amendment has to be announced at national level (doa) 2005-12-01
 - latest date by which the amendment has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2006-06-01
 - latest date by which the national standards conflicting with the HD have to be withdrawn (dow) 2008-06-01
- <https://standards.iteh.ai/catalog/standards/sist/0182bfdb-6192-4b35-9bbb-3f8264739ce3/sist-hd-627-s1-1998-a2-2006>

CONTENTS

PART 1 General requirements

PART 2 Special test methods

PART 3 Multicore and multipair cables for use underground

- 3-A1⁽⁵⁾: Multicore cable with copper conductors, single wire armoured and PVC sheathed
- 3-A2⁽⁵⁾: Multipair cable with copper conductors, single wire armoured and PVC sheathed
- 3-E: 450/750 V multicore cable with polyethylene insulation and sheath
- 3-F1: 300 V armoured XLPE insulated and PVC sheathed, screened instrumentation cables
- 3-F2: 250 V armoured PVC insulated and PVC sheathed single and multipair screened signalling cables
- 3-F3: 1 kV armoured multicore XLPE insulated and PVC sheathed cables
- 3-K⁽³⁾: Multipair and multiquad cables with copper conductors, solid or cellular polyethylene insulated, with or without longitudinal and/or radial watertightness with armour and polyvinyl chloride or polyethylene sheathed.

PART 4 Multicore and multipair halogenated cables complying with HD 405.1

- 4-B1: 500 V multiquad cables with and without a metallic covering
- 4-B2: 750 V multicore cables with and without a metallic covering
- 4-C1⁽⁵⁾: 300/500 V Cables with solid or stranded conductors and with or without a common screen
- 4-C2⁽⁵⁾: Screened cables with stranded conductors and rated voltage 150/250 V
- 4-D1⁽⁵⁾: 450/750 V multicore PVC insulated and sheathed cables
- 4-D2⁽⁵⁾: 450/750 V multicore PVC insulated and sheathed cables with concentric conductor
- 4-D3⁽⁴⁾: 450/750 V multicore PVC insulated and sheathed flexible cables
- 4-D4⁽⁴⁾: 450/750 V multicore PVC insulated and sheathed screened and armoured cables
- 4-E1: 450/750 V multicore cable with a metallic covering
- 4-E2: Multipair cables with a metallic covering
- 4-E3: 450/750 V multicore cable with a lead screen
- 4-F: 300 V armoured and unarmoured XLPE insulated and PVC sheathed, screened instrumentation cables
- 4-H⁽²⁾: 0,6/1 kV PVC or XLPE insulated multicore cables with or without concentric conductor. (Replaces 4-H1 and 4-H2)
- 4-J1⁽¹⁾: PVC insulated and sheathed multicore and multipair cables
- 4-J2⁽¹⁾: 0,6/1 kV multicore cables with a metallic screen
- 4-N⁽⁶⁾: Multicore cables with PVC-insulation with and without concentric conductor or screen or armouring for rated voltages 0,6/1 kV

PART 5 Multicore and multipair halogenated cables complying with HD 405.3 or similar

- 5-A1: Multicore cables with copper conductors, single wire armoured and PVC sheathed
- 5-A2⁽⁵⁾: Multipair cables with copper conductors, single wire and double steel tape armoured and PVC sheathed
- 5-F1: 1 kV XLPE insulated and PVC sheathed multicore cables
- 5-F2: 250 V PVC insulated and PVC sheathed multicore, single and multipair signalling cables
- 5-F3: 500 V screened and unscreened PVC insulated and PVC sheathed multicore control cables
- 5-F4: 300 V armoured and unarmoured XLPE insulated and PVC sheathed, screened instrumentation cables.
- 5-G1: Cables in pairs, triples and quads with copper conductors, PVC insulated and sheathed and metallic screen
- 5-G2: Cables in pairs, triples and quads with copper conductors, EPR insulation, CSP sheaths and metallic screen

5-M: PVC insulated and sheathed multicore cables and PVC or polyethylene insulated and PVC sheathed multipair cables

PART 6 Multicore and multipair halogen-free cables complying with HD 405.1

6-E: 450/750 V multicore cables with common screen

PART 7 Multicore and multipair halogen-free cables complying with HD 405.3 or similar

7-A1: Multicore cables with copper conductors, single wire armoured and unarmoured with non-halogenated sheath

7-A2⁽⁵⁾: Multipair cables with copper conductors single wire and double steel tape armoured with non-halogenated sheath

7-B1: 500 V multiquad cables with a metallic covering

7-B2: 750 V multicore cables with a metallic covering

7-D1: 450/750 V multicore cables without screen

7-D2: 450/750 V multicore cables with concentric conductor

7-F1: 1 kV XLPE insulated and non-halogenated sheathed multicore cables

7-F2: 300 V armoured and unarmoured XLPE insulated and non-halogenated sheathed and screened instrumentation cables

7-G: Cables in pairs, triples and quads with copper conductors, metallic screen and having halogen free all-non-metallic components

7-H⁽²⁾: 0,6/1 kV XLPE insulated multicore cables with or without concentric conductor

7-K: 150 V multicore and multipair cables with and without a metallic covering

7-L1: Cables in pairs and triples and multicore cables with circular copper conductors and metallic covering

7-L2: Multipair and multicore cables with circular copper conductors for plug-in connections

7-M: EPR or XLPE insulated and ZH sheathed multicore cables and polyethylene insulated and ZH sheathed multipair cables

7-N⁽⁶⁾: Halogen free, multicore cables with and without concentric conductor or screen for rated voltages 0,6/1 kV

NOTES

- (1) Amendment No.1 introduces some changes to the text
- (2) Amendment No.1 completely revises the particular sSection
- (3) New section introduced by Amendment No. 1
- (4) Amendment No. 2 withdraws the particular section
- (5) Amendment No. 2 completely revises the particular section
- (6) New section introduced by Amendment No.2

List of updated cross-references

Original Ref.	Original title	New Ref.	New title
HD 186	Marking by inscription for the identification of cores of electric cables having more than 5 cores	EN 50334	Marking by inscription for the identification of cores of electric cables
HD 383	Conductors of electric cables	EN 60228	Conductors of electric cables
HD 405.1	Tests on electric cables under fire conditions Part 1: Test on a single vertical insulated wire or cable	EN 60332-1-2	Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame
HD 405.3	Tests on electric cables under fire conditions Part 3: Tests on bunched wires or cables	EN 50266 Series	Common test methods for cables under fire conditions – Test for vertical flame spread of vertically-mounted bunched wires or cables
HD 505 Series	Common test methods for insulating and sheathing materials of electric cables	EN 60811 Series	Insulating and sheathing materials of electric cables – Common test methods
HD 602	Test on gases evolved during combustion of materials from cables – Determination of degree of acidity (corrosivity) of gases by measuring pH and conductivity	EN 50267-2-2	Common test methods for cables under fire conditions – Test on gases evolved during combustion of materials from cables Part 2-2: Procedures – Determination of degree of acidity of gases for materials by measuring pH and conductivity
HD 606 Series	Measurement of smoke density of electric cables burning under defined conditions	EN 50268 Series	Common test methods for cables under fire conditions – Measurement of smoke density of cables burning under defined conditions
EN 50265-2-1	Common test methods for cables under fire conditions – Test for resistance to vertical flame propagation for a single insulated conductor or cable Part 2-1: Procedures – 1 kW pre-mixed flame	EN 60332-1-2	Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame
IEC 60502	Extruded solid dielectric insulated power cables for rated voltages from 1 kV to 30 kV	IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV ($U_m = 1,2$ kV) up to 30 kV ($U_m = 36$ kV) Part 1: Cables for rated voltages of 1 kV ($U_m = 1,2$ kV) and 3 kV ($U_m = 3,6$ kV)
IEC 60754-1	Test on gases evolved during combustion of electric cables Part 1: determination of the amount of halogen acid gas evolved during the combustion of polymeric materials taken from cables	EN 50267-2-1	Common test methods for cables under fire conditions – Tests on gases evolved during combustion of materials from cables – Part 2-1: Procedures – Determination of the amount of halogen acid gas

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PART 1:
GENERAL REQUIREMENTS

Replace the complete part by the following.

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HD 627 S1:1996/A2:2005
MULTICORE AND MULTIPAIR CABLE FOR INSTALLATION ABOVE AND BELOW GROUND
PART 1: GENERAL REQUIREMENTS

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CONTENTS

Page

1	General.....	4
	1.1 Scope	4
	1.2 Object	4
2	Definitions.....	4
	2.1 Definitions relating to insulating and sheathing compounds	4
	2.2 Definitions relating to the tests	5
	2.3 Rated voltage	6
3	Marking	6
	3.1 Indication of origin	6
	3.2 Additional marking.....	7
	3.3 Durability.....	7
	3.4 Legibility.....	7
	3.5 Common marking	7
	3.6 Use of the name CENELEC	7
4	Core identification	7
5	General requirements for the construction of the cables.....	7
	5.1 Conductors	7
	5.2 Insulation	8
	5.3 Fillers and tapes.....	9
	5.4 Assembly of cores, pairs, triples or quads.....	9
	5.5 Inner covering (bedding).....	9
	5.6 Rip cord	9
	5.7 Inner sheath	10
	5.8 Metallic coverings.....	10
	5.9 Oversheath.....	10
	5.10 Non metallic components of halogen free cables	11
6	Completed cables	11
7	(Spare)	11
8	(Spare)	11
9	Guide to use and selection of cable	11

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<https://standards.iteh.ai/catalog/standards/sist/0182b5db-6192-4635-9bbb-348264739cc3/sist-hd-627-s1-1998-a2-2006>

REFERENCES

Part 1 of HD 627 S1 incorporates by dated or undated reference, provisions from other publications. These 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 of these publications apply to Part 1 of HD 627 S1 only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 50266 series	Common test methods for cables under fire conditions – Test for vertical flame spread of vertically-mounted bunched wires or cables
EN 50267 series	Common test methods for cables under fire conditions - Tests on gases evolved during combustion of materials from cables
EN 50268 series	Common test methods for cables under fire conditions – Measurement of smoke density of cables burning under defined conditions
EN 50334	Marking by inscription for the identification of cores of electric cables
EN 60228	Conductors of insulated cables
EN 60332-1 series	Tests on electric and optical fibre cables under fire conditions – Part 1: Test for vertical flame propagation for a single insulated wire or cable
EN 60811 series	Insulating and sheathing materials of electric and optical cables – Common test methods (IEC 60811 series)
HD 21 series	Cables of rated voltages up to and including 450/750 V and having thermoplastic insulation
HD 22 series	Cables of rated voltages up to and including 450/750 V and having crosslinked insulation
HD 605 S1	Electric cables – Additional test methods
IEC 60189-1	Low frequency cables and wires with PVC insulation and PVC sheath – Part 1: General test and measuring methods

MULTICORE AND MULTIPAIR CABLE FOR INSTALLATION ABOVE AND BELOW GROUND

PART 1 – GENERAL REQUIREMENTS

1 General

1.1 Scope

HD 627 S1 applies to multicore and multipair rigid and flexible conductor cables for fixed installations having a rated voltage up to 1 kV and operating at a voltage above 80 V rms. The insulation and sheath may be either thermoplastic or thermosetting, halogenated or halogen free.

The cables are mainly intended for use in power generating plants and sub-stations and some for direct burial in conjunction with utility operations. Cables may have specific fire performance requirements. Cables designed to be installed within the containment area of nuclear power plants (LOCA cables), or cables specifically designed to be radiation resistant are not included in this HD.

This Part 1 specifies the General requirements applicable to these cables; additional or deviating requirements are given in the particular sections of this HD.

Test methods are given in EN 50266, EN 50267, EN 50268, EN 50334, EN 60228, EN 60332-1, EN 60811, HD 21, HD 22, HD 605 S1, IEC 60189 and this HD.

The particular types of cables for each category of fire performance are specified in Parts 3 to 7.

1.2 Object

The objects of this Harmonization Document are:

- to standardise cables that are safe and reliable when properly used, in relation to the technical requirements of the system of which they form a part;
- to state the characteristics and manufacturing requirements directly or indirectly bearing on safety;
- to specify methods for checking conformity with those requirements.

2 Definitions

2.1 Definitions relating to insulating and sheathing compounds

2.1.1 Insulating and sheathing compounds

The types of insulating and sheathing compound covered in this HD are listed below together with their abbreviated designations.

2.1.1.1 Thermoplastic polyvinyl chloride compound (PVC)

Combinations of materials suitably selected, proportioned and treated, of which the characteristic constituent is polyvinyl chloride or one of its co-polymers. The same term also designates compounds containing both polyvinyl chloride and certain of its co-polymers.

2.1.1.2 Cross-linked ethylene propylene rubber (EPR)

A compound based on ethylene propylene rubber or similar (EPM or EPDM) which when cross-linked complies with the requirements given in the particular sections.

2.1.1.3 Cross-linked polyethylene (XLPE)

A thermosetting material formed by the cross-linking of thermoplastic polyethylene compound either by chemical or irradiation methods so as to comply with the requirements given in the particular sections.

2.1.1.4 Ethylene copolymers

Thermoplastic or cross-linked materials in which the characteristic constituent is a copolymer of ethylene such as EVA, EEA, EMA, compounded so as to comply with the requirements given in the particular sections.

2.1.1.5 Chlorinated synthetic elastomeric compound

A vulcanised compound in which the characteristic constituent is polychloroprene rubber (PCP) or other chlorinated synthetic elastomer, such as CSP, CPE or NBR/PVC compounded so as to comply with the requirements given in the particular sections.

NOTE The abbreviations PCP, CSP and CPE are those in common use. Equivalent codings according to ASTM are CR, CSM and CM.

2.1.1.6 Aromatic based compound

A thermoplastic compound based on aromatic polymers e.g. polyphenylene oxide (PPO), polybutylene terephthalate (PBT), polyetheretherketone (PEEK) which comply with the requirements given in the particular sections.

2.1.1.7 Polyethylene

A thermoplastic material compounded so as to comply with the requirements given in the particular sections.

2.1.2 Type of compound

The category in which a compound is placed according to its properties, is determined by specific tests. The type designation is not directly related to the composition of the compound.

2.2 Definitions relating to the tests

NOTE Tests classified as Sample (S) or Routine (R) may be required as part of any Type Approval Schemes.

2.1.1 Type tests (Symbol T)

Tests required to be made before supplying a type of cable covered by this HD on a general commercial basis in order to demonstrate satisfactory performance characteristics to meet the intended application. These tests are of such a nature that, after they have been made, they need not be repeated unless changes are made in the cable material, design or type of manufacturing process which might change the performance characteristics.

2.2.2 Sample tests (Symbol S)

Tests made on selected lengths of completed cable, on samples of completed cable, or components taken from a completed cable adequate to verify that the finished product meets the design specifications.

2.2.3 Routine test (Symbol R)

Tests made on all production cable lengths to demonstrate their integrity.