

Specification for

PVC-insulated cables (non-armoured) for electric power and lighting

Conducteurs et câbles (non-armés) isolés au
polychlorure de vinyle (PVC) pour installations
— Spécifications

Starkstromleitungen (nicht armierte) mit einer
Isolierung aus PVC

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Cables and Insulation Standards Policy Committee (CIL/-) to Technical Committee CIL/20, upon which the following bodies were represented:

Aluminium Federation
 Association of Consulting Engineers
 Association of Manufacturers of Domestic Electrical Appliances
 British Approvals Service for Cables
 British Cable Makers' Confederation
 British Plastics Federation
 British Railways Board
 British Steel Industry
 British Telecommunications plc
 Department of the Environment (Property Services Agency)
 Department of Trade and Industry (Consumer Safety Unit, CA Division)
 ERA Technology Ltd.
 Electricity Supply Industry in England and Wales
 Engineering Equipment and Materials Users' Association
 Institution of Electrical Engineers
 London Regional Transport

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

Association of Manufacturers Allied to the Electrical and Electronic Industry (BEAMA Ltd.)
 Association of Supervisory and Executive Engineers
 British Electrical Systems Association (BEAMA Ltd.)
 British Non-Ferrous Metals Federation
 Chartered Institution of Building Services Engineers
 Electrical Contractors' Association
 Electrical Installation Equipment Manufacturers' Association (BEAMA Ltd.)
 Engineering Industries Association
 GAMBICA (BEAMA Ltd.)
 Lighting Industry Federation Ltd.
 National Association of Lift Makers
 Portable Electric Tool Manufacturers' Association
 Transmission and Distribution Association (BEAMA Ltd.)

This British Standard, having been prepared under the direction of the Cables and Insulation Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 29 November 1991

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The following BSI references relate to the work on this standard:
 Committee reference CIL/20
 Draft for comment 90/25381 DC

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Amendments issued since publication

Amd. No.	Date	Text affected

Amendment No. 1
published and effective from 15 September 1993
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Specification for PVC-insulated cables
(non-armoured) for electric power and lighting

Revised text

AMD 7894
September 1993

Clause 5.3 Thickness

In line 2 of paragraph 2, delete '2.1.1 of BS 6469 : 1990.' and substitute '8.1 of BS 6469 : Section 1.1 : 1992.'

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September 1993

Clause 6.4 Bi-colour combination

In line 2 of note 1, delete '2.7 of BS 6469 : 1990' and substitute 'clause 8 of BS 6469 : Section 99.1 : 1992'.

AMD 7894
September 1993

Clause 8.1 Type of sheath

In line 1 of paragraph 1, delete 'BS 6746' and substitute 'BS 7655 : Section 4.1 or Section 4.2'.

AMD 7894
September 1993

Clause 8.3 Thickness

In line 2 of paragraph 3, delete '2.1.2 of BS 6469 : 1990' and substitute '8.2 of BS 6469 : Section 1.1 : 1992'.

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September 1993

Clause 8.4 Colour

At the end of the first sentence, after 'table', insert the following:

'and, where indicated, shall be a reasonable match to BS 6746C'.

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September 1993

Clause 9.1 Indication of origin

Delete the final paragraph and insert the following:

'Each specified mark shall be regarded as continuous if the distance between the end of the mark and the beginning of the next identical mark does not exceed:

- (1) 550 mm if the marking is on the outer sheath of the cable;
- (2) 275 mm if the marking is:
 - (i) on the insulation of the unsheathed cable;
 - (ii) on the insulation of the sheathed cable;
 - (iii) on a tape within a sheathed cable.

NOTE. A 'specified mark' is any mandatory mark covered by this standard or the optional CENELEC common marking as specified in 9.2.'

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Clause 10.2 Mean overall dimensions

In line 2 of paragraph 2, delete '2.1.3 of BS 6469 : 1990' and substitute '8.3 of BS 6469 : Section 1.1 1992'.

AMD 7894
September 1993

Clause 10.3 Ovality

In line 2 of paragraph 2, delete '2.1.3 of BS 6469 : 1990' and substitute '8.3 of BS 6469 : Section 1.1 : 1992'.

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Table 4. PVC-insulated, PVC-sheathed cable, 300/500 V, single-core, flat twin and 3-core

In line 2 under 'Colour of sheath' insert ', to BS 6746C (see 8.4)'.

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Table 5. PVC-insulated, PVC-sheathed cable, with circuit protective conductor, 300/500 V, single-core, flat twin and 3-core

Against 'Colour of sheath' after 'white' insert ', to BS 6746C (see 8.4)'.

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Clause B.1.5.1 Procedure

In lines 3 and 4, delete '4.4.2 of BS 6469 : 1990 and table 2 or 3 of BS 6746 : 1990' and substitute '9.1 of BS 6469 : Section 3.1 : 1992 and table 3 of BS 7655 : Section 3.1 : 1993 or table 3 of Section 3.2 : 1993'.

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Clause B.1.5.2 Recommended test criteria

In line 3, delete 'table 2 or 3 of BS 6746 : 1990' and substitute 'table 3 of BS 7655 : Section 3.1 : 1993 or table 3 of Section 3.2 : 1993'.

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Clause B.2.5.1 Procedure

In lines 3 and 4, delete '4.4.3 of BS 6469 : 1990 and table 2 or 3 of BS 6746 : 1990' and substitute '9.2 of BS 6469 : Section 3.1 : 1992 and table 3 of BS 7655 : Section 4.1 : 1993 or table 3 of Section 4.2 : 1993'.

AMD 7894
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Appendix C. Non-contamination test

In line 4 of paragraph 1, delete '2.3.1.2 of BS 6469 : 1990' and substitute '8.1.2 of BS 6469 : Section 1.2 : 1992'.

In line 5 of paragraph 2, delete '2.2 of BS 6469 : 1990' and substitute 'clause 9 of BS 6469 : Section 1.1 : 1992'.

In line 3 of paragraph 3, delete '2.2 of BS 6469 : 1990' and substitute 'clause 9 of BS 6469 : Section 1.1 : 1992'.

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Publication(s) referred to

Below the entry for BS 6746, insert the following:

'BS 6746C Colour chart for insulation and sheath of electric cables
BS 7655 Specification of insulating and sheathing materials for cables
 Part 3 PVC insulating compounds
 Section 3.1 Harmonized types
 Section 3.2 Hard grade types
 Part 4 PVC sheathing compounds
 Section 4.1 Harmonized types
 Section 4.2 General application'

Contents

	Page
Committees responsible	Inside front cover
Foreword	3
Specification	
1 Scope	4
2 Definitions	4
3 Voltage designation	4
4 Conductors	5
5 Insulation	5
6 Core identification	5
7 Fillers and extruded inner covering	6
8 Sheath	6
9 Marking	6
10 Construction and overall dimensions	7
11 Electrical requirements	7
12 Test under fire conditions	8
Appendices	
A Guide to the use of PVC-insulated cables	19
B Guidance on procedure for routine tests on PVC-sheathed cables of rated voltages U_o/U up to 450/750 V	20
C Non-contamination test	21
D Electrical tests	21
E Procedure for checking the efficacy of the method of spark testing	22
Tables	
1 PVC-insulated, non-sheathed general purpose cable, 450/750 V, single-core	8
2 PVC-insulated, non-sheathed cable for internal wiring, 300/500 V, single-core	9
3 PVC-insulated, PVC-sheathed, light cable, 300/500 V, circular twin, 3-core, 4-core and 5-core	10
4 PVC-insulated, PVC-sheathed cable, 300/500 V, single-core, flat twin and 3-core	12
5 PVC-insulated, PVC-sheathed cable with circuit protection conductor, 300/500 V, single-core, flat twin and 3-core	13
6 PVC-insulated, PVC-sheathed cable with or without circuit protective conductor, 300/500 V, single-core and flat twin (alternative conductor versions)	14

7	Special PVC-insulated, non-sheathed cable, 450/750 V, single-core for installation at low temperatures	15
8	PVC-insulated, non-sheathed, heat-resistant cable for internal wiring, 450/750 V, single core	16
9	PVC-insulated, non-sheathed, heat-resistant cable for internal wiring, 300/500 V, single-core	16
10	Summary of electrical tests	17
11	List of tests applicable to the various types of cable	18
12	Guide to the use of PVC-insulated cables	19
13	Spark test voltage	20
14	Insulation test voltage	20
Figures		
1	Spark test check: removal of insulation	23
2	Spark test check: covering with tape	23

Foreword

This new edition of BS 6004 has been prepared under the direction of the Cables and Insulation Standards Policy Committee, and supersedes BS 6004 : 1990 which is withdrawn.

This edition introduces technical changes but it does not reflect a full review or revision of the standard, which will be undertaken in due course.

This standard takes into account CENELEC¹⁾ Harmonization Document HD 21 S2 and includes the special PVC-insulated non-sheathed single-core cable for low temperature installations as specified in HD 21.9. S1. It also takes into account recent amendments to CENELEC HD 21 and in particular HD 21.7 S1. The opportunity has also been taken to delete reference to copper-clad aluminium conductors.

Where harmonized code designations are given, the requirements are in conformity with those of all countries which accept the basic principles of harmonization in accordance with the requirements of CENELEC. Designs shown as National types are not harmonized but are regarded as representing a particular requirement in the United Kingdom which is not reflected in other countries.

Colours for core identification as agreed within CENELEC have been included in the appropriate tables. A guide to the use of PVC-insulated cables is given in appendix A and guidance to manufacturers on procedures for routine testing in appendix B. This standard and the Harmonization Document mentioned above are generally in agreement with the technical provisions of the appropriate recommendations issued by the International Electrotechnical Commission (IEC). Differences in the text between this edition and BS 6004 : 1990 are indicated by a vertical line in the margin. Tables 1(b), 4(b) and 5(b) are withdrawn. The table numbers from BS 6004 : 1990 for tables 1(a), 1(c), 4(a) and 5(a) have been preserved.

Certification. Attention is drawn to the certification services (see inside back cover) of the British Approvals Service for Cables (BASEC)²⁾. These services include licensing manufacturers to use BASEC certification trade marks as independent assurance that cables or cords have been designed and manufactured to appropriate British Standards. BASEC is a subscriber to an agreement in CENELEC whereby cables or cords coming within Harmonized Code Designations and manufactured under a BASEC licence can carry marks acceptable to other signatory countries (CENELEC 'Common Marking').

Compliance with a British Standard does not of itself confer immunity from legal obligations.

¹⁾ European Committee for Electrotechnical Standardization.

²⁾ British Approvals Service for Cables, Silbury Court, 360 Silbury Boulevard, Milton Keynes, MK9 2AF.