BS 6004:2012+A1:2020

BSI Standards Publication

Electric cables — PVC insulated and PVC sheathed cables for voltages up to and including 300/500 V, for electric power and lighting

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Contents

Summary of pages
This document comprises a front cover, and inside front cover, pages i to vi, pages 1 to 28, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and comes into effect on 1 January 2013. It was prepared by Subcommittee GEL/20/17, *Low voltage cables*, under the authority of Technical Committee GEL/20, *Electric cables*. A list of organizations represented on this committee can be obtained on request to the committee manager.

Supersession

BS 6004:2012 superseded BS 6004:2000 (incorporating Amendments Nos. 1 and 2) and partially superseded BS 7919:2001 (incorporating Amendments Nos. 1, 2 and 3), which were withdrawn on 31 December 2012.

BS 6004:2012+A1:2020 supersedes BS 6004:2012, which is withdrawn.

Relationship with other publications

The new edition of BS 6004 takes account of:

- BS EN 60228 (replacing BS 6360) on conductors;
- BS EN 50363-3 (replacing BS 7655-3.1) on materials;
- BS EN 50395 (replacing Annex C of BS 6004:2000) on electrical tests;
- BS EN 50396 (replacing Annex D of BS 6004:2000) on thickness measurement;
- BS EN 60332-1-2 (replacing BS EN 50265-2-1); and
- BS EN 62230 (replacing BS EN 50356) on spark testing.

Information about this document

Text introduced or altered by Amendment No. 1 is indicated in the text by tags A1 A1. Minor editorial changes are not tagged.

In the preparation of BS 6004, GEL/20/17 requested that references to other standards for which the committee is responsible are undated, even if referring to a specific clause. It is the committee's intention not to amend the fundamentals (e.g. clause numbers, material type designation) in any of these standards and so the latest edition applies.

BS 6004:2012 was a full revision of the standard, which was revised due to the conversion of CENELEC Harmonization Documents HD 21 and HD 22 to BS EN 50525 (all parts). The previous edition of BS 6004 included a number of cable types that were harmonized and marked with CENELEC harmonized code designations. The following cables were included in BS EN 50525 (all parts) and withdrawn from BS 6004, which now only contains national types:

- PVC insulated, non-sheathed general-purpose cable, single core (H07V-U, H07V-R and H07V-K) 450/750 V;
- PVC insulated, non-sheathed cable for internal wiring, single core (H05V-U, H05V-R and H05V-K) 300/500 V;
- PVC insulated, non-sheathed, heat-resisting cable, for internal wiring, single core (H05V2-U, H05V2-R and H05V2-K) 300/500 V;

- PVC insulated, non-sheathed, heat-resisting cable, for internal wiring, single core (H07V2-U, H07V2-R and H07V2-K) 450/750 V; and
- oil resisting PVC sheathed, screened cables, having between 2 and 60 cores (H05VVC4V5-K) 300/500 V.

The following cables were also removed from BS 6004 following withdrawal by CENELEC:

- PVC insulated, non-sheathed cable, single core for installation at low temperatures (H07V3-U, H07V3-R and H07V3-K) 450/750 V.

The content of BS 6004 was aligned with that found in BS EN 50525, where appropriate.

BS 6004:2012 included ordinary duty low temperature PVC insulated and sheathed flexible cable, parallel twin, circular twin, 3-core, 4-core and 5-core, 300/500 V from BS 7919:2001, Table 44[1)], which have the traditional United Kingdom Cable Codes of 3192A, 3182A, 3183A, 3184A and 3185A and are normally used for reduced voltage applications on building sites.

Annex A was included to provide further clarification on where information from BS 6004:2000 and BS 7919:2001 was moved to in BS 6004:2012 and BS EN 50525-2-31. Annex B was included to provide clarification on which cables were transferred to BS EN 50525 (all parts).

The importance of the relationship between the traditional United Kingdom Cable Code (formerly known as the CMA coding) and its equivalent harmonized CENELEC code designations is emphasized. This additional information helps the user to choose the appropriate cable.

Product certification/inspection/testing. Users of this British Standard are advised to consider the desirability of third-party certification/inspection/testing of product conformity with this British Standard. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Hazard warnings

WARNING. This British Standard calls for the use of substances and/or procedures that can be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions in this British Standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

1) BS 7919:2001 was withdrawn and replaced by BS EN 50525-1, BS EN 50525-2-11, BS EN 50525-2-21, BS EN 50525-2-51, BS EN 50525-2-83 and BS EN 50525-3-21.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This British Standard specifies requirements and test methods for the construction and performance of cables that:

a) have a polyvinyl chloride (PVC) insulation of rated voltage 300/500 V;

b) are intended for electric power and lighting.

The types of cable included in this British Standard are:

- PVC insulated, PVC sheathed cable 300/500 V, single-core 6181Y, flat-twin 6192Y and 3-core 6193Y (see Table 3);
- PVC insulated, PVC sheathed cable with circuit protective conductor, 300/500 V, single-core 6241Y, flat-twin 6242Y and 3-core 6243Y (see Table 4);
- PVC insulated, PVC sheathed cable with or without circuit protective conductor, 300/500 V, single-core 6192Y, 6241Y and flat-twin 6242Y (alternative conductor versions) (see Table 5);
- ordinary duty low temperature PVC insulated, PVC sheathed flexible cable, 300/500 V, flat-twin 3192A, circular-twin 3182A, 3-core 3183A, 4-core 3184A and 5-core 3185A (see Table 6).

The insulation and other components are suitable to permit operation of the cables at a maximum sustained conductor temperature of 70 °C and for a maximum short-circuit conductor temperature of 160 °C (for a maximum period of 5 s).

NOTE 1 Limitation on the temperature of the cables may be imposed in situations where they could be touched or where they could touch other materials.

NOTE 2 In installations that include wiring accessories, junction boxes and consumer units etc., the performance of these accessories should be taken into account in deciding the maximum operating temperature of the cable.

NOTE 3 Annex A provides a guide to the cross-referencing of the traditional United Kingdom Cable Codes (formerly known as the CMA codes) and harmonized CENELEC codes. Furthermore, Annex B gives information on the traditional UK cables transferred to BS EN 50525.

NOTE 4 Annex C gives guidance on the use of the cables specified in this British Standard.

NOTE 5 Annex D gives the compatibility test method.

NOTE 6 Annex E gives the voltage withstand test.

NOTE 7 Annex F gives notes on type tests.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

〈A1〉 *Text deleted* 〈A1〉

BS 7655-4.2, *Specification for insulating and sheathing materials for cables – Part 4: PVC sheathing compounds – Section 4.2: General application*

BS EN 50363-3, *Insulating, sheathing and covering materials for low voltage energy cables – Part 3: PVC insulating compounds*

BS EN 50395, *Electrical test methods for low voltage energy cables*

BS EN 50396, *Non electrical test methods for low voltage energy cables*

BS EN 60228, *Conductors of insulated cables*

