BS 7629-1:2015+A1:2019

BSI Standards Publication

Electric cables – Specification for 300/500 V fire resistant, screened, fixed installation cables having low emission of smoke and corrosive gases when affected by fire

Part 1: Multicore cables

bsi.

Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

Published by BSI Standards Limited 2019

ISBN 978 0 580 99630 6

ICS 13.220.99 | 29.060.20

The following BSI references relate to the work on this document:
Committee reference GEL/20/17
Drafts for comment 14/30295204 DC; 18/30371878 DC

Amendments/corrigenda issued since publication

Date	Text affected
30 June 2019	A1: see Foreword

Contents

Summary of pages
This document comprises a front cover, and inside front cover, pages i to iv, 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 came into effect on 31 August 2015. 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 these committees can be obtained on request to their secretary.

Supersession

BS 7629-1:2015 superseded BS 7629-1:2008, which was withdrawn on 31 August 2016.

BS 7629-1:2015+A1:2019 supersedes BS 7629-1:2015, which is withdrawn.

Relationship with other publications

This new edition of BS 7629-1 takes account of the publication of BS 5266-1:2011 and BS 5839-1:2013 and their increased fire testing requirements.

Information about this document

This is a full revision of the standard and introduces the following principal changes.

a) The marking arrangements are updated and clarified.

b) Test methods are updated to reflect the latest CENELEC harmonization.

c) This new edition takes account of:

- BS EN 50395 (replacing Annex E of BS 7629-1:2008) on electrical tests;
- BS EN 50396 (replacing Annex B of BS 7629-1:2008) on thickness measurement;
- BS EN 60332-1-2 (replacing BS EN 50265-2-1) on flame propagation of a single cable;
- BS EN 62230 (replacing BS EN 50356 and BS 5099) on spark testing.

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

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.

Test laboratory accreditation. Users of this British Standard are advised to consider the desirability of selecting test laboratories that are accredited to BS EN ISO/IEC 17025 by a national or international accreditation body.

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.

The provisions of this 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.

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 which:

- have thermosetting insulation and a rated voltage of 300/500 V;
- provide resistance to fire (circuit integrity), including with mechanical shock and with water, as measured by performance in a standard test or tests;
- emit limited amounts of smoke and corrosive gases when burned as measured by a standard test; and
- are primarily intended for use in emergency lighting, fire detection and fire alarm system circuits.

The circuit integrity performance under fire conditions is assessed on the basis of tests which measure resistance to fire with mechanical impact and water spray (Categories: Standard 30, Standard 60 and Enhanced 120).

NOTE 1 BS 5266-1 and BS 5839-1 give recommendations and guidance on the factors to be taken into account in the planning, design, installation, commissioning and maintenance of emergency lighting, fire detection and fire alarm systems for buildings, respectively.

It is applicable to 2-core, 3-core and 4-core circular cables with an uninsulated full-size circuit protective conductor (CPC), and 7-core, 12-core and 19-core circular multicore auxiliary cables with an uninsulated drain wire of not less than 0.5 mm^2. All cables contain a metallic layer, which provides electrostatic screening.

The cables are suitable for operation at a maximum sustained conductor temperature of 70 °C and for a maximum short-circuit conductor temperature of 250 °C (for a maximum period of 5 s).

NOTE 2 Annex A gives recommendations for the selection, installation and operation of cables, Annex B gives the method of test for continuity of tinned coating of wires, Annex C gives the method of test for voltage withstand, Annex D gives the method of test for bending characteristics, Annex E gives the method of test for resistance to impact, Annex F gives the method of test for shrinkage of sheath and Annex G 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 7655-6.1, *Specification for insulating and sheathing materials for cables – Part 6: Thermoplastic sheathing compounds having low emission of corrosive gases, and suitable for use in cables having low emission of smoke when affected by fire – Section 6.1: General application thermoplastic types*

BS 7671, *Requirements for electrical installations – IET Wiring Regulations – Seventeenth edition*

BS 8434-2, *Methods of test for assessment of the fire integrity of electric cables – Part 2: Test for unprotected small cables for use in emergency circuits – BS EN 50200 with a 930 °C flame and with water spray*

BS EN 50200, *Method of test for resistance to fire of unprotected small cables for use in emergency circuits*

BS EN 50363-1, *Insulating, sheathing and covering materials for low voltage energy cables – Part 1: Cross-linked elastomeric insulating compounds*

