

BS 8492:2016



BSI Standards Publication

**Telecommunications
equipment and
telecommunications cabling
– Code of practice for fire
performance and protection**

Publishing and copyright information

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

© The British Standards Institution 2016

Published by BSI Standards Limited 2016

ISBN 978 0 580 93145 1

ICS 13.220.99; 33.020

The following BSI references relate to the work on this document:

Committee reference TCT/7/2

Draft for comment 16/30336629 DC

Publication history

First published November 2009

Second (present) edition, July 2016

Amendments issued since publication

Date	Text affected
-------------	----------------------

Contents

1	Scope	1
2	Normative references	1
3	Terms, definitions and abbreviations	2
4	Balanced approach to fire hazard mitigation	3
5	Fire protection measures	10
6	Fire hazard mitigation by product selection	12

Annexes

Annex A (informative)	Consideration of fire hazard	19
-----------------------	------------------------------	----

Bibliography	22
--------------	----

List of figures

Figure A.1	Relationship of the processes involved in the ignition, flame spread and impact of fire	19
------------	---	----

List of tables

Table 1	EuroClass overview	6
---------	--------------------	---

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 24, 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 July 2016. It was prepared by Subcommittee TCT/7/2, *Telecommunications; Installation requirements: Cabling installation and UK implementation*, under the authority of Technical Committee TCT/7, *Telecommunications – Installation requirements*. A list of organizations represented on these committees can be obtained on request to their secretary.

Supersession

This British Standard supersedes BS 8492:2009, which is withdrawn.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

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

Relationship with other publications

The recommendations of this British Standard are intended to support the requirements specified in BS 6701 and the BS EN 50174 series relating to the installation, operation and maintenance of telecommunications equipment and telecommunications cabling.

This document makes reference to the EuroClass requirements which apply to communications and energy cables installed within the scope of Construction Works as described in the Construction Product Regulations. The basis for the EuroClass requirements is EN 50575.

Use of this document

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

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.

Introduction

Telecommunications cabling infrastructure includes:

- a) telecommunications cabling, comprising cables, cords and connecting hardware intended to support the operation of information technology equipment as, or as part of, a telecommunications system;
- b) closures housing connecting hardware;
- c) cable management systems housing cables and closures;
- d) cabinets, frames or racks within which closures might be installed.

When subject to fire conditions, telecommunications cabling and its associated power supply cabling presents a specific potential hazard because:

- 1) there are specific areas in which the concentration of cabling is very high [such as equipment rooms and telecommunication rooms (see the generic cabling standards in the BS EN 50173 series)] resulting in increased impact of fire in those areas. This threat is mitigated by the application of fire detection and suppression systems usually installed in these areas (see Clause 5) and/or the selection of cables appropriate for the installation environment (see Clause 6);
- 2) telecommunications cabling is widely distributed throughout buildings within pathways, which create potential routes for flame spread between areas within the buildings. This threat is mitigated by the application of fire detection and suppression systems usually installed in these areas (see Clause 5) and/or the selection of cables appropriate for the installation environment (see Clause 6).

The types of pathway within which the cable management systems are installed are, to some extent, influenced by the types of premises and their application.

Fire affects both the health of personnel and the functionality of objects within the vicinity of the fire. The nature of premises dictates the comparative importance of these factors. The recommendations given in Clause 4 of this British Standard are based on an holistic or “balanced” approach to the mitigation of fire hazard in a range of premises. The recommendations address the probability of ignition, the spread and impact of fire following ignition, taking into account:

- i. compartmentation;
- ii. installation of appropriate fire prevention, detection, suppression systems;
- iii. product selection.

Further recommendations relating to component selection are given in Clause 6, which can be implemented in isolation but only when the nature of the building or its occupancy does not allow for the balanced approach to be followed.

The approach to fire safety in the design, management and use of buildings is defined by regulation and described in a number of documents including BS 9999 and the BS 7974 series. BS 8492 is intended to complement these regulations and standards.

1 Scope

This British Standard gives recommendations for “reaction to fire” performance and fire protection of all types of telecommunications equipment and telecommunications cabling. It is applicable to:

- a) designing and implementing cabling infrastructures;
- b) selecting products, including materials and construction;
- c) minimizing fire spread;
- d) increasing safety levels for personnel and property.

This British Standard does not cover resistance to fire, or circuit integrity, of cables intended for use within emergency circuits.

NOTE It is expected that relevant standards addressing the performance and classification of cables with defined resistance to fire in accordance with the existing decision for cables under the Construction Products Regulation [1] will be addressed at a later date.

This British Standard is intended for use by:

- 1) those responsible for specifying infrastructure solutions including:
 - i. premises owners;
 - ii. telecommunications consultants;
 - iii. telecommunications cabling installers;
- 2) fire authorities;
- 3) those involved in installing fire prevention and protection systems.

2 Normative references

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

BS 476-20, *Fire tests on building materials and structures – Part 20: Method for determination of the fire resistance of elements of construction (general principles)*

BS 5839-1, *Fire detection and fire alarm systems for buildings – Part 1: Code of practice for system design, installation, commissioning and maintenance of systems in non-domestic premises*

BS 6266, *Fire protection for electronic equipment installations – Code of practice*

BS 6701, *Telecommunications equipment and telecommunications cabling – Specification for installation, operation and maintenance*

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

BS 9251, *Fire sprinkler systems for domestic and residential occupancies – Code of practice*

BS EN 1366-3, *Fire resistance tests for service installations – Part 3: Penetration seals*

BS EN 15004 (all parts), *Fixed firefighting systems – Gas extinguishing systems*

BS EN 16750, *Fixed firefighting systems – Oxygen reduction systems – Design, installation, planning and maintenance*

BS EN 50174 (all parts), *Information technology – Cabling installation*