



# UK Direction

BS7671

BS 8492

BS6701

# BS7671:2015

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- The 17<sup>th</sup> Edition Revision 3 details the requirements for an improved fire rating on all cables within a fire route.
- 422.2.1 In conditions BD2 (Low density occupation, difficult conditions of evacuation), BD3 (High density occupation, easy conditions of evacuation) or BD4 (High density occupation, difficult conditions of evacuation), wiring systems shall not encroach on escape routes unless the wiring in the wiring system is provided with sheaths or enclosures, provided by the cable management system itself or by other means
- Wiring systems encroaching on escape routes shall not be within arms reach unless they are provided with protection against mechanical damage likely to occur during an evacuation
- Wiring systems in escape routes shall be as short as is practicable
- Wiring systems shall be non-flame propagating. Compliance with this requirement is ensured through one or more of the following
  - Cable meeting the relevant part of the BS EN 60332-3 series**
  - Non-flame propagating conduit meeting the requirements of BS EN 61386-1
  - Non-flame propagating cable trunking systems and cable ducting systems meeting the requirements of BS EN 50085 series
  - Cable tray systems and cable ladder systems classified as non-flame propagating according to BS EN 61537
  - Powertrack systems meeting the requirements of BS EN 61534 series

Wiring within escape routes shall have a limited rate of smoke production. Cables meeting a minimum of 60% light transmittance in accordance with BS EN 61034-2 shall be selected.

# Definitions for “Escape Route”

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- BS 7671:2008 (2015)
  - Path to follow for access to a safe area in the event of an emergency
- Collins English dictionary
  - A planned means of escape from a dangerous situation
- Approved Document B, Building Regulations 2000 (2006 edition)
  - Route forming that part of the means of escape from any point in the premises to a final exit.
- IEC 60364-5-56 ed 2.0 (2009-07)
  - Ref: 560.3.14 Path to follow for access to a safe area in the event of an emergency
- BS 5266-1 (2011) [BS EN 50172:2004, 3.2]
  - Route designated for escape to a place of safety in the event of an emergency

- BS 8492 Telecommunications equipment and telecommunications cabling – ‘Code of Practice for fire performance and protection’, has been revised in line with the CPR requirements

## 6.2.2 Relationships with existing standards

### NOTE 1

*BS EN 50174 series standards require that unmitigated installations within a building adopt the use of EuroClass Eca as a minimum. For EuroClasses B1ca, B2ca, Cca and Dca, flame spread, heat release and the additional classifications (smoke, flaming droplets and acidity) should be in accordance with the requirements given in Table 1.*

### NOTE 2

*Existing standards and specifications for cables or cabling might refer to one or more of these classifications, but are most likely to refer to BS EN 60332-3-24 (or BS EN 60332-3-25) and BS EN 61034-2 and/or BS EN 60754-1 which do not have direct equivalence with the reaction to fire requirements of EuroClasses Dca, Cca, B2ca or B1ca.*

### NOTE 3

*EuroClass C<sub>ca</sub> has the closest correspondence to the bunched cable tests of BS EN 60332-3-24 (or -25).*

### NOTE 4

*The requirement for 60% light transmittance in escape routes within BS 7671 is equivalent to **s1b**.*

#### Q33: Which Class of Reaction-to-Fire corresponds to IEC60332 series test?

Class E<sub>ca</sub> and Class F<sub>ca</sub> are defined with reference to the Flame propagation test IEC/EN 60332-1-2 (respectively meeting or not meeting the required max threshold of propagation). Class F<sub>ca</sub> is under AVCP System 4, therefore this has to be assessed by the manufacturer.

For the other classes, there is not a direct relationship between existing IEC test based and CPR performances due to the different test methods. Despite the fact that the basic structure of the test rig is exactly the same, the different mounting and the use of new parameters makes the test results not comparable.

*Published as Amendment 1 to BS6701 30/11/17*

*Clause 3: installation cables*

cables **intended** for installation into pathways which are hidden (below floors, above ceilings, behind walls) or to which access is limited and which can either be terminated in-situ or “**pre-terminated**”

4.1.3 Fire performance of telecommunications cables

**New installations** and the **refurbishment or extension of existing** installations shall conform to 5.1.3.1 which specifies the “reaction to fire” performance of cables within buildings and other structures.

*NOTE Attention is drawn to the Construction Products Regulations [6].*

5.1.3.1 Fire performance of telecommunications cables

For new installations and the refurbishment or extension of existing installations, cables installed in the **spaces bounded by the external fire barriers** of buildings and other structures shall meet the following requirements:

- installation cables (as defined in Clause 3) shall, as a minimum, meet the requirements of EuroClass **Cca-s1b,d2,a2**, in accordance with BS EN 13501-6;
- all other telecommunication cables shall, as a minimum, either:
  - meet the requirements of EuroClass Eca, in accordance with BS EN 13501-6; or
  - meet the recommended requirements of BS EN 60332-1-2.

# BS 6701

- IF BS 6701 is not referenced directly
  - BS 7671 has many references to other standards

## 110.1.3

The Regulations are intended to be applied to electrical installations generally but, in certain cases, they may need to be supplemented by the requirements or recommendations of other British or Harmonized Standards or by the requirements of the person ordering the work.

Such cases include the following:

- Electric signs and high voltage luminous discharge tube installations - BS 559 and BS EN 50107
- Emergency lighting - BS 5266 and BS EN 1838
- Explosive atmospheres - BS EN 60079
- Electrical apparatus for use in the presence of combustible dust - BS EN 50281 and BS EN 61241
- Fire detection and fire alarm systems for buildings - BS 5839
- vi. Telecommunications systems - BS 6701**
- Electric surface heating systems - BS EN 60335-2-96
- Electrical installations for open-cast mines and quarries - BS 6907
- Temporary electrical systems for events, entertainment and related purposes - BS 7909
- x. Life safety and firefighting applications - BS 8519 and BS 9999.**

BS 6701:2016	Telecommunications equipment and telecommunications cabling - Specification for installation, operation and maintenance
BS 8492:2016	Telecommunications equipment and telecommunications cabling - Code of practice for fire performance and protection
BS 8519:2010	Code of practice for the selection and installation of fire-resistant cables and systems for life safety and fire-fighting applications
BS 9999:2017	Code of practice for fire safety in the design, management and use of buildings