

The Building Act 1984 The Building Regulations 2000

Comments from the British Cables Association (BCA) on the proposed new edition of Approved Document B: Fire Safety

BCA welcomes the invitation to comment on the above proposals. The specific questions raised on the response form are best left to others more competent than ourselves. However there are two specific items for which we have comments and proposals. These are as hereunder.

Clause 1.20 of Volume 1 (Dwellings)

The draft says:

Any cable suitable for domestic wiring may be used for the power supply and interconnection to smoke alarm systems. It does not need any particular fire survival properties. Any conductors used for interconnecting alarms (signalling) should be readily distinguishable from those supplying mains power, e.g. by colour coding.

We believe that this is potentially misleading, especially in respect of the recommendation for colour coding.

Colour coding (i.e. the colours of the insulated conductors under a sheath) of "cable suitable for domestic wiring" is required by BS 7671 to conform with the now-harmonised European practice. So, for the well-known UK wiring cable often described as "flat twin and earth" these colours will be brown for the live and blue for the neutral. There will typically be a white or a grey sheath over the two insulated and one uninsulated conductors. To recommend in Approved Document B that "Any conductorsshould be readily distinguishable from....." would therefore pose a potential safety problem.

We therefore strongly urge that the matter be clarified with respect to its intention, and that any recommendation for a distinguishing characteristic, i.e. for the purposes of signalling versus power supply, should be via some other identifier than colour coding of conductors of the cable.

Volume 1 (Dwellings) – clause 4.37, and Volume 2 (Buildings other than dwellings) – clause 4.39

We support the need for this recommendation for cable performance in critical electrical power circuits, which is identical in both volumes.

Under the present edition of Approved Document B the requirement for the cable is specified according to BS 6387, category CWZ. For some years now it has been recognised that this test method, especially in relation to the size of cable, its limitation on voltage rating of cable, and its methodology of sample selection for the different stages of the test, may no longer fully reflect the level of confidence required by today's construction methods and installation practices.

In addition there have been further refinements relating to survival times for different aspects of buildings, leading a variety of specific recommendations for the particular applications. Times ranging from 15 to 120 minutes can be found for instance in tables A1, A2 and A3 of both volumes of the draft. In addition there are distinctions between sprinklered and unsprinklered buildings.

We therefore strongly recommend that reference to BS 6387 and the single prescriptive requirement be deleted. In its place we propose that clause 4.37 (4.39) should state:

*"Where it is critical for electric circuits to be able to continue to function during a fire, protected circuits are needed. A protected circuit for operation of equipment in the event of fire should consist of cable having a defined resistance to fire in order to achieve the required level of retention of functionality. It should follow a route to pass through parts of the building in which the fire risk is low and should be separate from any circuit provided for another purpose. Reference should be made to the appropriate standard or recommendation that gives particular requirements for specific applications.
~~e.g. BS 5266 series, BS 5588 series, BS 5839 series. Appropriate cable test methods~~
referenced by these standards include BS EN50200, BS 7346-6, BS 8434 series."*

End of BCA comments

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