



# CABLES CONCEALED IN A WALL OR PARTITION

## Changes to Regulations 522-06-06 and 522-06-07.

Amendment No 2, 2004 to BS 7671: 2001 includes changes concerning cables concealed in a wall or partition at a depth of 50 mm or less from the surface. Regulation 522-06-06 is amended and Regulation 522-06-07 is deleted.

The most important change to Regulation 522-06-06 is in the requirements relating to one of the zones in which it is permitted to install a cable such as a pvc insulated and sheathed (pvc/pvc) cable.

The zone concerned is the horizontal or vertical zone running to a point, accessory or switchgear on a surface of the wall or partition.

Consider an accessory mounted on a wall in Room 1 as shown. The wall is 100 mm thick. A pvc insulated and sheathed cable

has been run to the accessory. On the side of the thin wall where the accessory is mounted, in Room 1, a permitted zone runs both horizontally and vertically as shown, (in dark yellow). In our example, a pvc cable has been run in this zone at a depth of 50 mm or less.

The change in the Regulation is that a 'mirror image' of the permitted zone is considered to exist on the reverse side of the wall providing the location of the accessory can be determined from that reverse side. The 'mirror image' in Room 2 is shown in the diagram in light yellow.

Referring to the diagram, the open doorway means that **from the reverse side of the wall** (ie in Room 2) the location of the accessory can be determined. Thus, the cross-shaped permitted zone in Room 1 is also considered to exist in Room 2 on the

reverse side of the wall. A person in Room 2, because of access through the open doorway, can reasonably be expected to establish that the accessory exists and that the pvc/pvc cable will have been run in the 'mirror-image' of the permitted zone.

Formerly, the zone did not extend to the reverse side of the wall or partition. This meant that on the reverse side (in Room 2) the cable either had to be at a depth of not less than 50 mm from the surface of that reverse side or additional protection was required. Additional mechanical protection would be provided, for example, by installing a cable having an earthed metallic covering or by providing an earthed metallic enclosure.

In summary, the positions of all the zones in which it is permitted to install a cable not having an earthed metallic covering, not being of insulated concentric construction, not being enclosed in an earthed metallic enclosure or not having sufficient mechanical protection are as follows:

- A zone within 150 mm from the top of the wall or partition, and
- A zone within 150 mm of an angle formed by two adjoining walls or partitions, and
- A zone running either horizontally or vertically to a point, accessory or switchgear on the wall or partition, containing a cable connected to the point accessory or switchgear. This zone now extends to the reverse side of a wall or partition of 100 mm thickness or less if the location of the point, accessory or switchgear can be determined from that reverse side.

The other main changes to Regulation 522-06-06 are:

- The content of Regulation 522-06-07, concerning cables installed outside the zones referred to earlier in this article, has been absorbed into Regulation 522-06-06. Regulation 522-06-07 has been deleted.
- British Standard numbers have been added to specify the particular types of metallic covered cables which may be concealed in a wall or partition at a depth of less than 50 mm from the surface. Such cables may be installed outside of the zones referred to earlier in this article. The British Standard numbers and the corresponding types of cable are listed below.

The full text of Regulation 522-06-06, incorporating the changes included in Amendment No 2 to BS 7671: 2001, is reproduced as follows for ease of reference:

<p><b>Armoured cables</b></p> <p><b>BS 5467</b> Armoured cables having thermosetting insulation</p> <p><b>BS 6346</b> Armoured cables having pvc insulation</p> <p><b>BS 6724</b> Armoured cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire</p> <p><b>BS 7846</b> Armoured fire-resistant cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire</p> <p><b>Mineral insulated cables</b></p> <p><b>BS EN 60702-1</b> Mineral insulated cables with a rated voltage not exceeding 750 V</p>	<p><b>Cables of insulated concentric construction</b></p> <p><b>BS 4553-1</b> 600/1000 V single-phase split concentric electric cables having pvc insulation</p> <p><b>BS 4553-2</b> 600/1000 V single-phase split concentric electric cables having thermosetting insulation</p> <p><b>BS 4553-3</b> 600/1000 V single-phase split concentric electric cables having thermosetting insulation and low emission of smoke and corrosive gases when affected by fire</p> <p><b>Screened cables</b></p> <p><b>BS 8436</b> 300/500 V screened cables having low emission of smoke and corrosive gases when affected by fire, for use in thin partitions and building voids</p>
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**Regulation 522-06-06**

A cable concealed in a wall or partition at a depth of less than 50 mm from the surfaces of the wall or partition shall:

- (i) incorporate an earthed metallic covering which complies with the requirements of these Regulations for a protective conductor of the circuit concerned, the cable complying with BS 5467, BS 6346, BS 6724, BS 7846, BS EN 60702-1 or BS 8436, or
- (ii) be of insulated concentric construction complying with BS 4553-1, BS 4553-2, or BS 4553-3, or
- (iii) be enclosed in earthed conduit, trunking or ducting satisfying the requirements of these Regulations for a protective conductor, or be mechanically protected sufficient to prevent penetration of the cable by nails, screws and the like, or
- (iv) be installed in a zone within 150 mm from the top of the wall or partition or within 150 mm of an angle formed by two adjoining walls or partitions. Where the cable is connected to a point, accessory or switchgear on any surface of the wall or partition, the cable may be installed in a zone either horizontally or vertically, to the point, accessory or switchgear. Where the location of the accessory, point or switchgear can be determined from the reverse side, a zone formed on one side of a wall of 100 mm thickness or less or partition of 100 mm thickness or less extends to the reverse side.

**Regulation 522-06-07**

Deleted by BS 7671: 2001, Amendment No.2, 2004. For requirements see Regulation 522-06-06.

A small change has been necessary to Regulation 601-07 which deals with wiring systems supplying fixed electrical equipment situated in the various zones of a location containing a bath or shower. Regulation 601-07-01 has been amended to the following:

**Regulation 601-07-01**

The following rules apply to surface wiring systems and to wiring systems embedded in the walls at a depth not exceeding 50 mm and which do not comply with Regulation 522-06-06(i), (ii) or (iii).

The rules which follow, in Regulation 601-07-02, limit the wiring systems in a particular zone to those supplying fixed equipment in that zone and other more onerous zones. Refer to Regulation 601-07-02 for full details.