

# New Regulations on Consumer Units

THE THIRD AMENDMENT TO BS7671:2011 (IET WIRING REGULATIONS 17TH EDITION) WAS PUBLISHED IN JANUARY COMES INTO EFFECT ON 1ST JULY 2015 REQUIRING CONSUMER UNITS AND SIMILAR SWITCH-GEAR ASSEMBLIES IN DOMESTIC PREMISES TO HAVE NON-COMBUSTIBLE ENCLOSURES

The wording of the new regulation is as follows:

**421.1.201** Within domestic (household) premises, consumer units and similar switchgear assemblies shall comply with BS EN 61439-3 and shall:

- (i) have their enclosure manufactured from non-combustible material, or
- (ii) be enclosed in a cabinet or enclosure constructed of non-combustible material and complying with Regulation 132.12.

**NOTE 1:** Ferrous metal, e.g. steel, is deemed to be an example of a non-combustible material.

**NOTE 2:** The implementation date for this regulation is the 1st January 2016, but does not preclude compliance with the regulation prior to that date.

## Implementation date

As stated in Note 2 to the new regulation, the implementation date for the regulation is 1 January 2016. This is six months later than the effective date of Amendment 3 as a whole.

The purpose of the delay in implementation is to allow a period of co-existence of both metal- and plastic-enclosed consumer units and to allow time for manufacturers to work existing and new products through their supply chains. Nevertheless, as is also indicated in Note 2, the delayed implementation does not preclude compliance with the regulation prior to 1 January 2016.

## Reason for the new regulation

Regulation 421.1.201 was introduced because of reports from fire investigators of a recent trend of increasing numbers of fires involving consumer units having a moulded thermoplastic enclosure

The cause of the fires investigated was almost invariably found to be resistance heating as a result of poor electrical connections due to poor workmanship or lack of maintenance. Examples of such poor workmanship are thought to include;

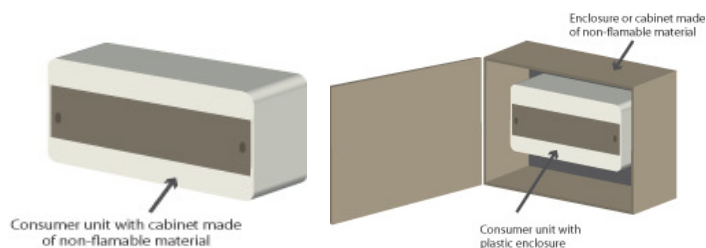
- failure to tighten neutral conductor connections to the same torque as line conductor connections due to a misconception that neutral conductors carry less current;
- inadvertently taking cable insulation inside the terminal at a connection, resulting in the securing screw or the clamp of the terminal not making proper contact with the conductor;
- failure to check factory installed connections for tightness where required to do so by the manufacturer; and tightening connections to an incorrect torque and/or with inappropriate tools.

## Intent of the new regulation

The intent of Regulation 421.1.201 is considered to be, as far as is reasonably practicable, to contain any fire within the enclosure or cabinet and to minimise the escape of flames.

## Requirements to be met by the non-combustible enclosure or cabinet

Regulation 421.1.201 gives the choice of either using a consumer unit (or similar switchgear assembly) having an enclosure manufactured from non-combustible material or using a consumer unit having an enclosure made from some other material, such as plastic, and installing it in a cabinet or enclosure constructed of non-combustible material. In either case, certain requirements need to be met by the enclosure or cabinet, as illustrated below.



There is no published definition for the term 'non combustible' that aligns with the intent of Regulation 421.1.201. However, as stated in Note 1 to the regulation, ferrous metal, such as steel, is deemed to be an example of a non-combustible material.

Steel will no doubt be the material usually employed in the manufacture of the enclosure or cabinet. Nevertheless, it will be open to manufacturers to offer enclosures or cabinets made from other types of material that they claim to be non combustible within the intent of Regulation 421.1.201. In this case, however, the manufacturer would have to provide suitable evidence to support the claim of non combustibility, and it is not presently clear what criteria would be used to judge the non combustibility of a material other than non-ferrous metal

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