**Switched On Ebulletin 1 – AMD 3 consumer unit mythbuster**

*From 1st January, consumer units and similar switchgear assemblies installed in domestic premises must either have their enclosure constructed from non-combustible material or be housed in an enclosure or cabinet constructed from such material. Although this is the full extent of the changes in relation to consumer units introduced by regulation 421.1.201 of AMD 3 of BS 7671, there has been much misguided advice circulated suggesting that other measures to limit fire spread are required.*

When Amendment 3 of BS 7671: 2008 was published in January of this year it included the following new requirement relating to the consumer units installed in domestic premises:

> **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. This does not preclude compliance with this regulation prior to that date.

As can be seen, this requirement only contains a requirement for the consumer unit or similar switchgear assembly, or other enclosure surrounding it, to be constructed of a non-combustible material such as steel. Yet somehow so much else has been spuriously attributed to this regulation in terms of what an installer must do in order to be compliant. So let's take a look at a number of frequently occurring questions relating to AMD 3 consumer unit requirements:

**Is it necessary to use cable glands made from metal or intumescent sealing material for cable entries?**

No, the testing carried out on metal-cased consumer units has clearly shown that aside from normal good working practices such as minimising the size of a cable entry no special glands or fire stopping of cable entries is required. In any case, the requirements of regulation group 416.2 for barriers or enclosures must be met and manufacturers' instructions, if any, should be taken into consideration.

Time elapse video footage of comparison testing conducted on an all-insulated and a metal-cased consumer unit by one manufacturer can be seen **here**

**What does the phrase 'similar switchgear' in regulation 421.1.201 mean?**

This refers to any items of switchgear performing a similar function to a consumer unit for the control and distribution of electricity within the domestic (household) premises. Examples include: One-way consumer units, standalone RCD enclosures and Photo-Voltaic combiner boxes.

The logic behind this is that such items should be of equivalent non-combustible construction in order for the intended requirement to be effective in terms of minimising the spread of fire originating from such equipment.

## So can an insulated consumer unit or similar switchgear assembly be installed in a detached outbuilding of a domestic (household) premises?

Yes, subject to such construction being suitable for ambient environmental conditions such as:

- likelihood of mechanical damage,
- use of outbuilding for storage of flammable materials such as paint and thinners, or
- presence of a corrosive atmosphere, such as that found in a swimming pool pump room.

However, consideration must be given to the relative proximity of the outbuilding to the dwelling with respect to the possibility of fire-spread from one structure to the other.

## Is it dangerous to install a metal-cased consumer unit in an installation forming part of a TT system?

No, not if good workmanship is exercised at the point at which the meter tails enter the consumer unit and the conductors are terminated correctly in the first piece of switchgear.

Care must be taken to ensure that the sheathing and insulation of the tails is not compromised and measures such as the use of stuffing glands or cable clamping arrangement should be employed to prevent the likelihood of cable movement and subsequent mechanical damage caused by contact with the enclosure that this may allow. Such clamping will also relieve strain on terminations.

In order to prevent the occurrence of unwanted electromagnetic effects, all associated line and neutral conductors must enter the metallic enclosure via the same single aperture, whether a single hole or a series of interlinked holes linked by slotting.

## What classification code would be appropriate where, post January 2016, an insulated consumer unit is encountered in a domestic premises?

If the consumer unit is located under wooden staircase or within a sole route of escape from the premises, a code C3 classification (meaning that improvement is recommended) would be appropriate.

If located elsewhere, this might be worthy of not, but it would not be necessary to record this on the condition report.

If, wherever the consumer unit is located, unsatisfactory connections are found during inspection, this would warrant a code C2 classification, meaning that this is potentially dangerous and that the overall condition of the installation is unsatisfactory recorded)  Further information on Classification codes for periodic reporting is given in Electrical Safety First's Best Practice Guide 4 which, like all other BPGs, can be downloaded free of charge from the Electrical Safety First website

Further guidance on Fire safety and consumer units has been published by the British Electrotechnical and Allied Manufacturers' Association (BEAMA)