

## Enhanced Fire Safety for Consumer Units

Amendment 3 to BS 7671:2008 Requirements for Electrical Installations (IET Wiring Regulations) was published on 5<sup>th</sup> January 2015. The new regulations will apply to all electrical installations designed after 30<sup>th</sup> June 2015\*.

Whilst there are many additions and changes being introduced through this Amendment, there are specific new regulations relating to the enhancement of Fire Safety.

One particular Regulation, 421.1.201, addresses the selection of Consumer Units in domestic (household) premises and, as such, introduces a new enhanced functionality to this equipment. The regulation states:

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

- (i) have their enclosures 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 1<sup>st</sup> January 2016, but does not preclude compliance with the regulation prior to that date.”

Consumer Units and other similar switchgear not complying with 421.1.201 remain suitable for use in applications other than domestic (household) premises.

The intent of regulation 421.1.201 is considered, so far as is reasonably practicable, to contain any fire within the enclosure and to minimise the risk of flames escaping caused mainly as a result of poorly installed connections. The following Q&A's cover the key points:

### 1. What is a definition of “non-combustible”?

There is no published definition for “non-combustible” that aligns with the intent of Regulation 421.1.201. Ferrous metal, e.g. steel, is deemed to be one example of a non-combustible material that meets the intent of the regulation.

## 2. What constitutes a “non-combustible enclosure”?

A non-combustible enclosure includes base, cover, door and any components, e.g. hinges, covers, screws and catches, necessary to maintain fire containment; see Diagram 1. Blanks and devices are contained within the non-combustible enclosure.

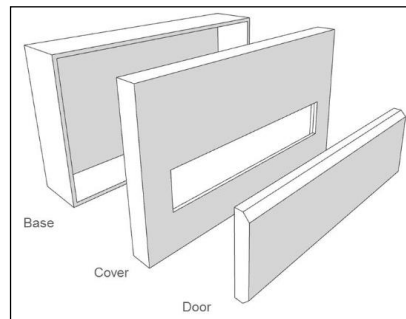


Diagram1. Example of what constitutes non-combustible enclosure components

## 3. How is account taken of cable entries into a “non-combustible enclosure” with respect to containment of internal fire and escape of flames?

Good workmanship and proper materials must be applied by the installer. The cable installation entry method shall, so far as is reasonably practicable, maintain the fire containment of the enclosure. It is essential that account be taken of the manufacturer’s instructions, if any.

This can generally be achieved by the installer ensuring that cable access holes they make in the enclosure do not leave gaps greater than:

- 1.0 mm for the horizontal top surface and
- 2.5 mm for all other surfaces of the enclosure that are accessible after installation.

The installer could for example, select as they deem appropriate; trunking, conduit, cable gland or cable entry accessories to minimise the opening around the cables.

For rear cable access, the minimum number of rear knockout(s) shall be removed to accommodate the cable(s). Good workmanship must always be applied, in particular to limit all openings around cables to a minimum.

There is no specific requirement in Regulation 421.1.201 for fire-rated cable glands or intumescent sealant to be used. However, this does not preclude the manufacturer / installer using these or other methods, should they be considered necessary, see Question 6.

It should be recognised that this is general guidance and that individual manufacturer’s instructions must be taken into account.

## 4. What is meant by; “Similar switchgear assemblies”

“Similar switchgear assemblies” are assemblies used for the same fundamental application as consumer units.

The table below provides guidance on which ‘similar switchgear assemblies’ are considered to be in or out of the scope of regulation 421.1.201.

| In scope                                                                                                                                                                                                                                                                                           | Out of scope                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>One Way Consumer Units</b> (a double pole main switch and one outgoing way)</p> <p><b>Shower units</b></p> <p><b>Garage units</b></p> <p><b>Distribution Boards</b> (with Circuit Breakers or Fuses)</p> <p><b>Photo-Voltaic combiner boxes</b></p> <p><b>Voltage Optimisation units</b></p> | <p><b>Wiring accessories</b> (e.g. plugs, sockets, switches, connection units, SRCDs, FCURCDs, data plates, TV outlet plates, cooker control units, etc. and their associated enclosures)</p> <p><b>Controls</b> (e.g. room thermostats, timers, occupancy sensors, etc.)</p> <p><b>Cable management products</b> (e.g. conduits, trunking, ducting etc.)</p> <p><b>Powertrack systems</b> (to BS EN 61534 series)</p> |

The above table provides general guidance and is not intended to be an exhaustive list of inclusions and exclusions.

**5. Does Regulation 421.1.201 apply to consumer units and similar switchgear assemblies installed in domestic (household) garages and outbuildings?**

Yes, the intent of Regulation 421.1.201 is that it applies to consumer units and similar switchgear assemblies that comply with BS EN 61439-3 inside all domestic (household) premises including their integral/attached garages and outbuildings or those in close proximity where there is possibility of fire-spread to the household.

It is important to note that this change in product specification will call for changes and increased vigilance in installation practice and ongoing attention to reducing the root causes of the risk of fire. In this respect, installation by a skilled person competent in electrical installations in households remains absolutely vital.

**6. Can modifications be carried out to consumer units and similar switchgear assemblies?**

Where modifications or additions are made to consumer units and similar switchgear assemblies, those responsible for such modifications or additions must ensure through verification / testing, that the modified assembly conforms to the requirements of the product standard BS EN 61439-3 and related LVD CE safety directive. In all cases, modifications and installation of devices / components other than those approved by the original manufacturer, invalidates any testing, certification and warranty.

A single point of reference for consumers seeking an electrical contractor is now available in England and Wales in the form of 'Registered Competent Person – Electrical' register [www.electricalcompetentperson.co.uk](http://www.electricalcompetentperson.co.uk) and in Scotland in the form of the Scottish Government's Certification Register <http://www.certificationregister.co.uk>

If you require any further information on this subject, please do not hesitate to contact our members as listed in the directory of Members on the BEAMA website [www.beama.org.uk/en/our-members](http://www.beama.org.uk/en/our-members)

(Navigation: Members Directory >> Circuit Protection & Control >> Consumer Units)

If this technical bulletin was of interest, you may also be interested to read other BEAMA publications that can be accessed and downloaded via the BEAMA website:

- Part P FAQ's for multi-row consumer unit installation height
- Safe selection of devices used in assemblies
- Surge Protection device guide

The content of this bulletin is endorsed by the following organisations:

