Explaining the new BS 7671 Wiring Regulations

The 17\textsuperscript{th} Edition Wiring Regulations were updated on 1\textsuperscript{st} January 2015 under the title ‘IET Wiring Regulations 17\textsuperscript{th} Edition Amendment 3’. The new edition has a yellow cover.

The new regulations will come into effect on 1\textsuperscript{st} July 2015 and affects electrical installations as follows:

- Installations designed from 1\textsuperscript{st} July 2015 should comply with the new edition
- Periodic Inspection and Testing of installations from 1\textsuperscript{st} July 2015 should demonstrate compliance under the new regulations
- The design or installation of electrical work done prior to the end of June 2015 may follow either Amendment 3 or Amendment 2
- The new requirements do not apply to consumer units until 1\textsuperscript{st} January 2016

\textbf{Changes for IET Wiring Regulations 17\textsuperscript{th} Edition Amendment 3}

The key differences in the new edition of the wiring regulations have been summarised and listed below:

\textbf{Regulation Numbering System} – Regulations coming from European CENELEC standards now have a 100 series number and UK standards now have a 200 series number. Older regulations will be revised in the next edition and remain unaffected.

\textbf{Change of title for competent persons} – Instead of being called a competent person, there is a new title of Skilled Person (Electrically) – see the new definition in Part 2 of the regulations. Instructed Person has also been amended to Instructed Person (Electrically).

\textbf{Changes to Zs values} – A correction factor (known as Cmin) of 0.95 has been applied to the values of earth loop impedance (Zs). This has been done to allow for fluctuations in supply voltages. This will reduce the maximum values of Zs by 5%. There are new tables for 41.2,.41.3,.41.4 and 41.6 that reflect the application of Cmin in Part 4 of Amendment No. 3.

\textbf{RCD protection for sockets} - The requirements for RCD protection for all sockets up to 20A has changed with the removal of the exception for sockets under the control of a skilled person. The new requirement is now:

1. All sockets up with rating of up to 20A must be 30mA RCD protected.
2. All sockets up to 32A that could be used to supply portable equipment outside must be 30mA RCD protected.
There are two exceptions to the requirement for sockets up to 20A having 30mA RCD protection:

1. Where, other than for an installation in a dwelling, a documented risk assessment determines an RCD is not necessary.
2. For a specifically labelled or otherwise suitably identified socket outlet provided for the connection of a particular item of equipment.

For installations in commercial premises which omit RCD protection, the designer of the installation must obtain a documented risk assessment stating that RCD protection is not required. This risk assessment must be attached to the Electrical Installation Certificate.

**Non-combustible consumer units** - Consumer units now have to be made from a non-combustible or not readily combustible material when fitted in domestic premises. This new regulation does not apply to commercial premises. Alternatively the consumer unit may be enclosed in a cabinet or enclosure made of non-combustible or not readily combustible material. A footnote to the regulation specifies that ONE example of non-combustible material is steel. This, however, does not preclude the use of non-combustible plastic enclosures.

**Wiring systems in escape routes** – The following amendment is in response to the deaths of firefighters attempting to rescue people who have become entangled in collapsed wiring systems:

- Wiring systems in escape routes shall be supported such that they will not be liable to premature collapse in the event of a fire.

This means that wiring systems will have to be supported by metal fixings and cable ties or held in metal containment. Alternatively, conductors may be retained inside non-metallic containment with metal clips or cleats.

**Cables in metal studwork walls** - The exception for installations under the control of skilled persons has been removed and now unprotected cables run in metal studwork walls will require 30mA RCD protection irrespective of the cable depth from the surface. There is a new exception if the cables can be mechanically protected during the construction process, though this may be difficult to implement in practice.
Auxiliary circuits - There is a new definition for an Auxiliary Circuit in Part 2 of the regulations:

- Circuit for transmission of signals intended for control, detection, supervision, or measurement of the function status of a main circuit.

These circuits are control and measurement circuits that are applied to parts of the main installation. They are not fire alarm, emergency lighting or other control circuits. The new provisions are set out in Part 5 of the regulations.

Outdoor lighting and extra low voltage lighting - The requirements for outdoor lighting and low voltage lighting have been moved from Part 5 of the regulations to two new Part 7 Special Locations, 714 and 715 respectively.

Bathrooms - There is already a requirement for all low voltage circuits in a bathroom to be 30mA RCD protected. There is now a new provision requiring low voltage circuits passing through Zones 1 and 2 of a bathroom to be 30mA RCD protected.

New electrical installation certificates - The Electrical Installation Certificate has been revised and the old inspection form replaced with a more meaningful inspection checklist form similar to the Electrical Installation Condition Report. There is a new tick box to indicate the attachment of a risk assessment for the omission of RCD protection on sockets.

Minor Electrical Installation Works Certificate - This has been changed to include the exception for RCD protection on sockets and also to record the X5 test results for RCDs.

Electrical Installation Condition Report - This has been modified slightly in the wording for limitations which now requires the inspection of items in accessible loft spaces. The inspection form has also been modified to remove the separate column for “Further Investigation”. A new “FI” code, if applicable, is to be identified in the Classification column.

SUMMARY
The above is only an outline of the key changes implemented by Amendment No. 3 to the 17th Edition of the Wiring Regulations. Contractors should obtain a copy of the new edition at their earliest convenience and update their working knowledge of the regulations to include the new provisions and changed regulations.