

Responsibly rewired

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As the latest edition of the Wiring Regulations broadens their scope in terms of safety and other factors, Gary Parker highlights the significant changes that have been made

The Wiring Regulations have seen a new round of changes in the 18th edition, which is designed to keep up with the ever-evolving ways we design and install electrical works.

Jointly published by the [Institution of Engineering and Technology](#) and [BSI](#) in July, the [560-page document](#) is due to come in effect in January 2019. Also known as BS 7671, it includes some subtle changes in wording, such as replacing 'in use without a fault' with 'under normal conditions', in addition to some regulations being introduced, rewritten or removed entirely.

Safety paramount

When carrying out or commissioning electrical or other engineering services work, the most basic yet most important responsibility is the preservation of life. Failure to fulfil that responsibility can have devastating consequences.

When it comes to fire safety, the 18th edition expands on previous regulations and amendments, broadening the scope of installers' and designers' responsibility for ensuring safe installation to include consideration of fire engineering.

In chapter 42, 'Protection against thermal effects', a new regulation 421.1.7 has been introduced, which recommends the installation of arc-fault detection devices and suggests numerous possible locations for these.

Regulation 422.2.1 has also been redrafted. Reference to conditions BD2, BD3 and BD4 on escape routes has been deleted, and a note added stating that cables need to satisfy the requirements of the [Construction Products Regulation](#) in respect of their reaction to fire.

In chapter 52, 'Selection and erection of wiring systems', regulation 521.11.201 on the support of wiring systems in escape routes has been replaced by a new regulation 521.10.202, which requires cables to be adequately supported against their premature collapse in the event of a fire. This applies throughout the installation, not just in escape routes, and is relevant to all cable types rather than power cables alone.

Broader coverage

Since 2014, the Building Regulations have required all circuits in new or rewired homes to comply with the requirements of BS 7671, which requires an increased use of residual current devices and, more recently, metallic consumer units in dwellings. This requirement was

implemented as part of BS 7671: 2008 + A3: 2015; however, the implementation of the [regulation](#) relating to metallic consumer units was delayed until 1 January 2016.

The 17th edition of the Wiring Regulations in 2015 had itself been amended from the previous version to ensure that all cable installations along escape routes were supported, so as to prevent premature collapse in the event of fire and improve fire safety for occupants and firefighters alike.

The 18th edition has broadened installers? and designers? responsibility for providing a safe installation to consideration of fire engineering

Before this change was introduced in the 17th edition, and the term 'escape route' subsequently removed in the 18th so this approach covered all locations, many types of wiring system were liable to fall from walls and ceilings in the early stages of a fire, leaving cables hanging.

These would become entangled with firefighters? breathing apparatus or uniforms, leaving them trapped and running out of air, and this led directly to the deaths of 8 such emergency workers in the UK [between 2005 and 2010](#) . These helped prompt the changes in legislation.

Clarity and compliance

Existing wiring installed in accordance with earlier editions of the regulations may not comply with the current edition in every respect, but this does not necessarily mean that it is unsafe for continued use or require upgrading. BS 7671 is not retrospective, so the changes are aimed at new installations. However, the 18th edition has highlighted some areas in which clarity was perhaps lacking in the past.

The Electrical Contractors? Association recommends that building surveyors continue to ensure their buildings are kept compliant by having suitably skilled and competent contractors carry out regular inspections of electrical systems, highlighting any potential failings and areas for improvement.

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Further information

- Related competencies include [Construction technology and environmental services](#)
- This feature was taken from the [RICS Building surveying journal](#) (October/November 2018)
- Related categories: [Fire and life safety](#), [Health and safety](#)