The Wiring Regulations committee, made up of representatives from both the British Standards Institution and the Institute of Engineering and Technology (IET), has been working on revisions to the 17th edition and draft changes have been circulated. The IET co-publishes the Regulations with the British Standards Institution (BSI) and is the authority on electrical installation. It has proposed a series of amendments to the Wiring Regulations - also known as British Standard BS 7671- the national standard in the United Kingdom for low voltage electrical installations.

One of the significant changes to BS 7671 concerns cable fixings. When the new edition of Wiring Regulations is published the industry is likely to see a change in practice that will ensure all cable installations in escape routes are fixed with fire-resistant components to improve fire safety.

The current requirement concerning cable fixings requires only fire safety systems to be secured with fire-resistant fixings. BS5839-1 gives recommendations for fire detection devices and fire alarm systems for buildings and BS5266-1 gives recommendations for emergency escape lighting.

Both standards recognise the danger of collapsing cable supports in a fire. If the supports give way this can cause power and control circuits to fail due to strain on terminations as a result of collapsing cable. Wiring Regulations currently insist that cable fixings should be able to withstand a similar temperature as the fire-resistant cables they are supporting.

The forthcoming changes to regulations concerning cable fixings build on these previous requirements.

The anticipated version of BS7671: 2008 - referred to as Amendment 3 - understands that it is not just the failing fire safety systems that are an issue but also that falling cable itself provides a hazard in a fire situation particularly if it blocks an escape route. Therefore it is likely to state that robust components must be used to fix all cable in escape routes to fire-resistant parts of the building fabric.
The NICEIC - the UK’s leading voluntary regulatory body for the electrical contracting industry - said that the new standard is “unlikely to be met by the sole use of plastic cable clips, non-metallic cable ties or plastic trunking to support wiring systems”. The new standard will ensure all cable in risk areas is installed with fire-resistant components.

The new revision takes into account comments made in a Coroner’s report following the deaths of two fire fighters who died inside Shirley Towers, a high-rise apartment block in Southampton. In this incident the heat from the fire meant that the trunking melted and allowed the electrical cables inside the trunking to fall free. Smoke would have meant that the fallen cables were not visible to the firefighters and they became ensnared. The Coroner, Keith Wiseman recognised the part the electrical support system had to play in the deaths and this incident has been taken into consideration by the Wiring Regulations body when revising BS7671: 2008.

Coroner Wiseman states: ‘It is recommended that Building Regulations are amended to ensure that all cables - not just fire alarm cables - are supported by fire-resistant cable supports.’

Iain Collings, Technical Expert at Prysmian explained the current status of the revived regulation: “All corrections have now been made to Amendment No3 of the Wiring Regulations. It is now in the process of being proof read before being submitted to publishers. It is anticipated that it will be published at the start of 2015.”

Despite the fact the new British Standard has not yet been brought into effect we believe that it is good practice to voluntarily accept the anticipated recommendations as compliance makes for a safer electrical system in the unfortunate event of fire. Better to spend a little time understanding the differences now and work with confidence.

Prysmian cables fully supports the introduction of fire resistant fixings for all cables installed in escape routes and the company’s own range of products includes fixings developed for use with specific cable types. The technical team has developed a range of fire-resistant fixings which are manufactured using non-rusting stainless steel coated in LSOH powder.
Prysmian has worked in conjunction with ITW Construction Products, manufacturers of gas nailing technology, to produce the FP Firefix System. This enables gas-nailing technology to be used to install fire performance cable supports directly to a wide range of substrates including concrete, steel, composite steel decking, masonry and blockwork.

As a general rule, fire resistant cables can also be fixed with copper, stainless steel or galvanised cast iron fixings, such as Prysmian’s Bicon range. These are suitable for most electrical cable installations and will be the most appropriate fixings for cables in the public spaces likely to be included under the proposed changes to the Wiring Regulations. Note: aluminium is not recommended because of its relatively low melting point.

For larger cables, Prysmian’s galvanised cast iron claw cleats and 2-Bolt cleats can be used for all types of cable routes. Developed to hold the specialist fire performance cable systems, these cleats will provide effective support for large power cables in escape routes in public areas – having been designed to support cables from 10-54mm in diameter.

If in doubt about the compatibility of a particular fixing with cable in any installation, contractors should contact the cable manufacturers for advice.

Prysmian’s FP website has series of guidance documents that include suitable fixing advice for fire performance cables. These same guides can be referenced for suitable fixings to meet the changes for non-fire resistant cables installed in escape routes in the Wiring Regulations. These documents including:

BS 5839-1: 2013 Fire detection and fire alarm systems for buildings, code of practice
BS 5266-1:2011 Installation practice for emergency escape lighting
BS 8519:2010 Selection and installation of fire resistant cables for life safety and fire fighting applications.

Guidance documents to these British standards are available for download from: http://www.fpcables.co.uk/supporting_documents.html