CABLE COMPONENT NEWS

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SUPPORT ACT

Jonathan Rawlinson Technical Manager for Bicon brand considers the impact of potential changes to the rules for cable fixings set to be included in the next revision to the Wiring Regulations.

The coroner's report into the deaths of two firefighters makes disturbing reading. The firefighters, who were part of a team tackling a fire in Shirley Towers, a Southampton tower block on the evening of 6 April 2010, died from sudden exposure to intense heat after becoming ensnared in electrical cabling.

In particular the coroner, Keith Wiseman, highlighted serious failings in the electrical cable support system.

He explained that in the intense heat cable trunking had softened or melted allowing its contents to fall free. Where trunking crossed doorways, the displaced cables fell across them forming an impenetrable barrier. In the smoke of the fire these would not have been visible to firefighters.

In his report into the incident Wiseman recommended a number of actions to address a series of factors that contributed to the tragedy. He was, however, unequivocal in his observations on the failure of electrical cable fixings. "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," he says in his report. He went on to suggest that the revision could be implemented by an amendment to BS7671: 2008, otherwise known as the 17th Edition of the Wiring Regulations, which the Building Regulations reference.

The Wiring Regulations are regularly reviewed by a committee made up of representatives from both the Institute of Engineering and Technology and the British Standards Institution. Their response to this tragic incident has been to propose a significant amendment to the rules regarding cable fixings, a draft of which has been circulated for public comment.

The committee's proposed change clearly states that the wiring system in any escape route should be supported so that they are not subject to premature failure in a fire. Or put another way, all cables in these areas should have fire resistant fixings. The deadline for comments was 8th March 2014. The actual wording of the revision will be announced later this year. However, given the consensus within the electrical industry around the need to prevent similar incidents to the one which occurred in Southampton from happening again the final wording is not expected to depart far from the draft.

Currently there is no standard specifically for fire resistant cable fixings. However, the new recommendations build on the existing requirement for fire resistant fixings for fire detection and alarm systems detailed in BS5839-1: 2013 Fire detection and fire alarm systems for buildings, code of practice, which does consider the danger posed by unsupported cable as well as the integrity of the alarm circuit. Bicon already have a range of fire resistant fixings that comply with this standard and meet the requirements of electrical contractors' organisation NICEIC and is the ideal choice for Prysmian and Draka cables.

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The NICEIC recognises that for fire alarm systems to comply with this particular standard all cables have to be supported in such a way to prevent them collapsing in a fire. It says the requirement would be "unlikely to be met by the sole use of plastic cable clips, non-metallic cable ties or plastic trunking systems". Instead the organisation recommends that cables and associated trunking, conduit or cable tray should be securely attached to a suitable fire-resistant part of the building fabric "using appropriate, non-combustible fixings". Such supports have to be capable of carrying the cable in a fire at a similar temperature and for a similar duration as the fire-resistant cable.

Prysmian Group's view on the subject has been to support the introduction of fire resistant fixings for all cables installed in escape routes, as proposed in the forthcoming amendment to the 17th Edition. The company's own range of products includes fixings developed for use with specific cable types.

A good example relates to installations using BS 5839 Fire Detection and Alarm cable. In this instance the fixings recommended by Prysmian Group are manufactured from non-rusting stainless steel, with their own LSOH powder coating. Prysmian Group has worked in conjunction with ITW Construction Products, manufacturers of gas nailing technology, to produce the Firefix System. This enables gas-nailing technology to be used to install fire resistant 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 should be fixed with copper, stainless steel or galvanised cast iron fixings, included in the 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, Bicon galvanised cast iron claw and 2-bolt cleats will provide effective support for larger power cables in public areas. The cleats are capable of holding cables with diameters of 10 to 89mm.

If there is any doubt about the compatibility of a cable with a Bicon fixing Prysmian Group recommends specifiers speak to the cable manufacturer for advice.

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