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BS7671- The 3rd Amendment

White Paper

HellermannTyton

Introduction

Following the release of the third amendment to the IET Wiring Regulations Seventeenth Edition (BS 7671:2008), This white paper highlights the importance of the changes affecting all installers, not just electricians, and outlines the need for greater awareness throughout the data cabling industry.

Background

Taking effect from 1st January this year (2015), amendment 3 of BS7671, the Electrical Regulations has and will continue to make an impact on all installer applications and influence specifier choices. Section 521.11.201, a new regulation, "Wiring Systems In Escape Routes" tackles the issue of plastic fastenings and fixings when used in certain locations within public, private or residential buildings. The new requirements outline the need for all types of cabling near emergency access and escape routes to be supported by fire-resistant fastenings and fixings which are not liable to premature collapse through extreme heat. This means that plastic cable clips, non-metallic cable ties and plastic trunking to support wiring systems would be unlikely to comply with the new rules.

However, as well as installers acknowledging the recent changes to the regulations, specifiers, consultants, designers and local authorities also have a level of responsibility to ensure all wiring systems installed within properties are safe. This means that cabling should be supported in such a way that, in the event of a fire, the management system and supports should not drop, with the emphasis on wiring systems near escape routes – in particular, along corridors and near stairways.

Whilst amendment 3 to BS7671 came into effect on 1 January 2015, installers could operate under the previous regulations until 1 July 2015. However, all installations designed or installed after this date must comply with amendment 3.

Case in Point

In recent years the dangers and implications of unsafe wiring has been highlighted by several cases, including the tragedy that took place in 2005 which saw two firefighters lose their lives while tackling a fire in a block of flats in Stevenage, Hertfordshire.

While there were a number of contributing factors to the deaths, one of the firefighters became entangled in electrical cabling that had fallen as a result of the plastic cable trunking in which it was contained melting. The subsequent investigation found that the firefighter had cable insulation stuck on the palm of his glove, indicating that he had been attempting to untangle himself before his death.

In light of this report, and subsequent investigations into other cases where lives have been in danger as a result of loose cabling, BS7671 now specifically applies to all types of wiring systems in a building, including electrical distribution and final circuits, data and communications infrastructure and safety services. The sole use of plastic fixings and non-metallic cable ties will no longer comply with the new regulations as exposure to fire could result in failure and the risk of loose or collapsed cabling falling into the emergency access routes.

Those decision makers within the private and public sectors therefore have a duty of care to ensure that cabling is not exposed to what really are preventable risks. Failure to specify the correct equipment and implement the correct procedure, can lead to serious injury, claims of neglect and even fatalities. It is therefore crucial that decision makers and specifiers understand the importance of using appropriate products both in new buildings and in the maintenance of existing buildings and properties within their control.

Recommendations

Historically the use of metal fastenings has been frowned upon in network infrastructure installations due to the potential adverse effect on performance that could arise through overtightening. The preference has always been for the use of hook and loop ties or similar for good cable management. HellermannTyton is recommending that, in installations where cables are suspended over or near escape routes (either uncontained or in plastic trunking below suitable and correctly anchored containment) metal fastenings are loosely fitted at suitable intervals to support the cabling without the potential performance risks. This can be in addition to the normal hook and loop ties which can still be used for cable management purposes but most not be solely relied upon to support the cabling.

Stainless steel products are ideal for applications that require high strength, reliability and fire resistance. Capable of withstanding temperatures of over 500°C, stainless steel cable ties and mounts comply with the new regulations and can significantly reduce the risk of loose wiring and melting trunking. In addition, the fixing embedded into the building structure also needs addressing, so as well as the actual fastening, the installation of cable mounts and supportive elements also needs to be considered.

HellermannTyton offer a wide range of options that decision makers can specify. Seeking out products that are, for example, London Underground (LUL) approved for fire safety is one way to ensure safety and reliability. The HellermannTyton Metal Ball Locking Tie (MBT) offers a unique self-locking mechanism with low insertion and high tensile strength that has LUL approval making them an ideal choice for security.

Amendment 3 to BS7671:2008 has been introduced to address real safety risks relating to all types of cabling installations in the event of a fire. It is therefore crucial for long-term safety that the entire cabling installation, both data communications and electrical, is fire resistant and complies with BS7671 amendment 3 as cutting corners could put lives at risk.

For further information about stainless steel cable management solutions, visit: www.hellermanntyton.co.uk/PE04-SS

Stainless steel fixings from HellermannTyton

Hand tool designed to install stainless steel fastners and fixings to the recommended tension

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Mike Irvin
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