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Next generation IT infrastructures

FIRE PERFORMANCE

-

A BURNING ISSUE!

by

**Mike Gilmore, Technical Director of the FIA
for Networking+ (January 2007)**

The fire performance of telecommunications cabling within buildings seems to have come to the fore again in recent months. So much so in fact that a new British Standards activity has been initiated to clearly set down the applicable recommendations. The FIA is strongly represented on the BSI experts panel TCT/71-/3 that is undertaking this work, as are other trade bodies including the Electrical Contractors Association and CITA (the new name for the UK TIA).

The current standards for the installation of telecommunications cabling do contain requirements for the handling of flammable cables and cable containing flammable materials. For example, BS 6701:2004 states that telecommunications cables intended for use external to buildings and which contain flammable material (e.g. polyethylene sheaths, petroleum gel) shall be either terminated, inside the building, within 2 metres of the point of internal penetration of the building or installed in trunking or conduit that has a fire resistance agreed with local fire authorities. Furthermore, it applies a specific demand that measures shall be taken to prevent any flammable materials that are present within telecommunications cables (e.g. petroleum gel) leaking out. This requirement will also be reflected in the revision of EN 50174-2 later this year.

But while these requirements cover flammable materials, they do not provide requirements or recommendations for the general fire performance of cables in premises. For this we have had no regulations or guidance although a number of players such as the now defunct Loss Prevention Council and the Association of British Insurers have produced documents in the past. Experts in these areas have also joined the new BSI activity.

The main concerns are flame spread, toxicity of burning products and smoke generation. Fire-fighters are naturally concerned about all three. A seat of fire that is easily found (low smoke) and well contained (low spread) is easier to deal with and released gases that are less toxic allow more people to escape. One might be tempted to think that everyone would want the same thing - but insurers might be more interested in reduction of damage and subsequent replacement costs. For them, low levels of flame spread are specifically important together with the absence of any released chemicals that might damage otherwise untouched assets with the premises. Premises owners may have a slightly different view of the matter so one can imagine that, to some extent, competing demands exist in this area.

There have been some new developments on the horizon, or rather just over the horizon, for some considerable time. The EU Construction Products Directive has finally been extended to cover power and telecommunications cables and this has forced the definition of EuroClasses for cables ranging from A to F. Test methods have been developed to ascertain the relevant EuroClass of a given cable. However, it now appears that in the United Kingdom it is unlikely that there will be any associated legislation and regulation i.e. no one will define which cables to put where. This confusion, added to the multiplicity of cable burning tests and associated pass/fail criteria, make the whole issue a difficult topic through which to steer a course - but at least we will have a series of clearly defined cable performance options.

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That is where the BSI TCT7/-/3 work will be of use. It will firstly explain the different parameters that relate to fire performance and will describe the benefits accruing from the careful specification of each one. It will then look at premises and the risk of fire within them in a holistic manner, not only considering the cables but the other related fixture and fittings - also looking at fire protection systems typically applied in premises including fire barriers, fire detection and extinguishing systems.

This work is just starting but it is hoped that a BS document will be forthcoming within 2007. The FIA will play its part within the group. For further information in this area please contact the Technical Director of the FIA at FIATD@btinternet.com.

Biography

As the Technical and Standards Director of the UK Fibreoptic Industry Association, Mike is heavily involved in the development of training and competence standards for the fibre installation industry and sets down policy in this area. In addition he chairs the audit and arbitration committees for the FIA. His book "Fibre optic cabling; theory design and installation practice" published in 1991 remains a reference for both experts and entrants into this field.

In the UK, Mike is Chairman of TCT/7, the BSI technical committee responsible for the three panels on telecommunication cabling. He also chairs two of these panels (TCT7/-/1 and TCT7/-/3). TCT7/-/1 acts to assist development of European and international standards for telecommunications cabling. TCT7/-/3 manages the implementation of European standards and others in the UK.

At the European level Mike is Convenor of CENELEC TC215 Working Group 1, the group that controls the development of European standards for the design and installation of telecommunications cabling. In the international arena Mike is Convenor of ISO/IEC JTC1 SC25 WG3 IPTG, a standards committee working on generic cabling for industrial premises (ISO/IEC 24702).

Mike is a regular speaker at seminars and conferences in all five continents. He has provided the keynote address and opening presentation in many conferences in the UK, Germany and the Netherlands. His seminars, providing regular updates on the progression of cabling standards are particularly well attended and are operating in the UK and continental Europe.



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