Continuity Of Power Throughout Buildings Is Key During A Fire

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The continuity of power in the event of a real fire has never been more important as modern buildings become more complex and the need for the highest quality of products comes under the spotlight.

With power for lighting and fire alarms, the fire and rescue services can use the intelligence gathered to evacuate people quickly, confident that they have found all the people in the building.

Without power, they are literally scrambling in the dark without good information upon which

to make their rescue. The continuity of power will also ensure that sprinkler or water mist systems can continue to operate where they exist. In commercial buildings, there may also be smoke evacuation fans which help to enable safe evacuation.

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Appropriate Cabling

At the start of a project, the most appropriate cabling should be specified as part of the electrical system rather than at the end of a project. Fire alarms may be digital, with loop systems which will provide information for fire and rescue services across individual areas and floors.

At the same time, there are new designs, materials and products continually coming on to the market for major projects, and with it an increasing need for the various parties involved to work closely together to make sure they get it right. There has been an increasing incidence of non-approved cables on the market and unfortunately it is not until cables have been installed, tested or used that issues become clear.

For installers, or those procuring cables, there is a need to check the cable when it arrives to make sure it is exactly what was specified. Should there be a problem, have it checked and

seek good advice. Keep records of purchase, including reel flanges with batch markings and a sample of the cable markings. Send lengths for testing and then decide on the most appropriate course of action.

Meeting Rigorous Third-Party Tests

For some buildings, it is crucial to select the highest quality products to meet the most rigorous third-party tests and real-life fire scenarios. These include environments such as hospitals, schools and care homes where older people and children move about. Specifiers looking at new large public sector projects such as hospitals should refer to BS 8519 for the electrical supply, and the most relevant cabling system.

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This Code of Practice specifies that the type of system selected during the design phase '*should be derived from a detailed process of consultation with the relevant authorities' and that 'the design should be agreed at an early stage.'* The decision-making process for cable selection relevant for life safety and firefighting systems is clearly defined here.

This covers three categories ranging from 30 minutes to 120 minutes fire survival time. Categories 1 and 2 cover means of escape for 30 minutes and then 60 minutes respectively, and these cables are tested in accordance with the relevant codes.

Category 3 for firefighting to 120 minutes refers to power and control cables meeting the 120-minute test according to the relevant standards. It should be emphasised that only Mineral Insulated Cable (MIC) or a cable meeting the requirements of BS7846 F120 will meet this criteria. For clarity, BS 8519 does not take precedence over BS 5839 for alarm systems and BS 5266 for emergency lighting.

In essence, choosing the most relevant cabling and electrical accessories which will continue to operate under fire conditions has become critical.

Application Of Medium Voltage Cables

As the incidence of non-approved cables continues then so the application of Medium Voltage (MV) cables into high-risk environments including hospitals, schools, care homes, industrial sites and sub-stations serving infrastructure sites also becomes critical. In the context off fire engineering, it is important to select the relevant MV Cables in these areas.

Adhering to the latest regulations is no longer enough - there needs to be a risk assessment. In order to do this effectively, it is important to ask – are the fire safety procedures up to date? All

AEI MV cables are third party tested and approved by BASEC.

> Educational establishments including schools, colleges and laboratories are some of the most prone structures to fire hazards

The whole supply chain needs to take consideration of these areas where vulnerable people often move about such as children or elderly people in hospitals or care homes. The fire and rescue services may need a little more time than a conventional building including reading complex fire alarm information to ensure a safe rescue in the event of a real fire.

Educational establishments including schools, colleges and laboratories are some of the most prone structures to fire hazards. This is due to ageing structures, high volume of combustible materials, and changing use in Science, Technology, Engineering and Maths programmes where more combustible and flammable liquids are being used.

Concerns have been raised by architects and and designers about fire protection regimes

Sufficient Fire Risk Assessment

Recent research by the Fire Brigades Union, for example, showed that a key focus for all educational institutions must be ensuring that there is an effective fire risk management process in place, delivered by suitable and sufficient fire risk assessment carried out by an expert in the field. The best practice under Business Information Modelling (BIM) and all best practice of fire safety engineering methods should be observed in conjunction with project partners.

There have been concerns over a number of years around the fire protection regime for new buildings expressed by the architects and designers themselves. The Royal Institute of British

Architects (RIBA) points to the delays to Approved Document B with regard to the relationship of Building Regulations to changing design and construction.

> AEI Cables provides a full range of cabling products through its Total Fire Solutions service

RIBA says the virtual disappearance of the role of the clerk of works or site architect and the loss of independent oversight of construction and workmanship on behalf of the client is a further issue for concern. In essence, RIBA believes that future proposals for the fire safety regulatory regime should be informed by the specialist fire safety expertise of relevant professional organisations and groups, and also take full account of this wider set of construction industry

AEI Cables provides a full range of cabling products through its Total Fire Solutions service with the support of its parent company Ducab based in Dubai, with the design, manufacture and supply of MIC, Firetec Enhanced or Firetec Power depending on specific needs. The choice of cabling and accessories should not be underestimated at the earliest opportunity to ensure the fire and rescue services are given every chance of success in rescuing people and saving property.

Author Profile

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Graham Turner has more than 40 years' experience in the field of cabling and fire protection cabling and is a recognised expert in his field. Graham has seen the Industry from both sides starting out as an apprentice at the Yorkshire Electricity Board then joining AEI Cables in 1978. He is a senior member of the technical team at AEI Cables offering advice and consultancy to a broad range of organisations in the construction, industrial and related sectors. He also works on a number of initiatives to promote best practice across the industry.

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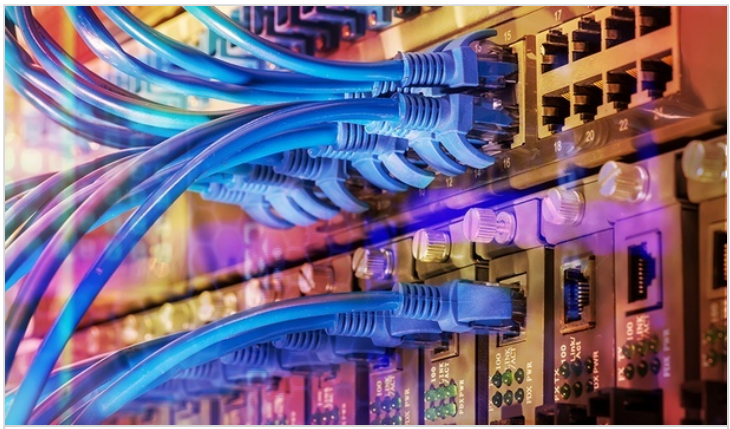

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