

Spelsberg's new fire-resistant enclosure maintains electrical system safety

A new fire protection enclosure has improved the safety of electrical systems, enabling the control of alarm, evacuation and extinguishers for a minimum of 90 minutes in the event of a fire. The new polycarbonate enclosure protects electrical connections, junctions and distribution to maintain the operation of building fire safety systems.

The newly upgraded WKE enclosures, part of the Lifeline range of products from Spelsberg, meet E30 to E90, the strict standards which ensure that functional integrity is sustained for a minimum of 30, 60 and 90 minutes in the event of fire. This means that Lifeline enclosures ensure the operation of alarms, emergency lighting, acoustic systems and evacuation-able elevators, typically required for 30 minutes. Smoke and heat extraction systems, water extinguisher pressure systems, as well as fire brigade lifts, can also continue to operate for a minimum of 90 minutes as a result of the protection provided by Lifeline.

To achieve this level of fire resistance, traditionally electrical conduits have been encased in concrete. However, limitations of this technique include lack of flexibility where the design of the encasement and wiring architecture is required before the building is erected. From a safety perspective, while concrete encasement protects from fire, it doesn't prevent electrical circuit failure.

Instead, while retaining the flexible installation advantages of externally mounted enclosures, the new additions to the Lifeline range are constructed from thermoplastic polycarbonate, selected for its high heat tolerance. As polycarbonate is non-conductive during a fire, it also removes the risk of short circuit. Internally, the construction includes terminal block clamps made from high temperature-resistant ceramic. To protect the enclosures from unauthorised access, sealing is achieved through integrated openings.

Lifeline meets British Standard BS 7671 for electrical safety, as well as the German electrical circuit fire safety standard, DIN 4102-12. The strength and durability of polycarbonate also means that the new Lifeline enclosures have a high resistance to impact, meeting IK08, and high protection against ingress including strong water jets, meeting IP66. This also means that Lifeline can be mounted in an outside environment. Lifeline is certified in accordance with VDE and ULEU, as well as EN 60670 and IEC 62208.

The flexibility of the Lifeline enclosure means that it can also be installed when and where required without the need for significant prior planning of cable architecture and protection. Easily mounted on a fire-resistant wall or ceiling, the enclosure is attached by two external, pre-fitted lugs, which can be rotated around 90 degrees. The terminal block can be flexibly adjusted on the base carrier through three positions, 0, 45 and 90 degrees, by design of a single, central screw and sliding bracket.

Lifeline enclosures are pre-assembled, so only wiring is required. For easier wire routing and attachment, the terminal block can be set on the mounting rail in the high position. Alternatively, the mounting rail can be set in a second, low position, ideal for specific applications such as D0 fuse mounting. The design also provides space for installing single and double terminals, as well as fuse holders. Meanwhile, the enclosure cover can be kept safe during wiring with the optional cover-retaining strap. Pre-punched, patented knock-out membranes on the enclosure housing enable simple and clean cable routing and installation. The exterior of the housing also provides labelling fields, where lettering can be applied with adhesive strips or waterproof pen.

The new Lifeline enclosures are available in formats for connecting and junction, secured junction with fuse included, and for communication lines. Sizes range from 100 x 100 x 70 mm up to 250 x 200 x 120 mm. Spelsberg UK also offers project-planning for safety systems and can provide in-house expertise to ensure correct and rapid fitting for more complex projects.

Photo Captions

Photo 1: The newly upgraded WKE enclosures, part of the Lifeline range of products from Spelsberg, meet E30 to E90, the strict standards which ensure that functional integrity is sustained for a minimum of 30, 60 and 90 minutes in the event of fire.

Photo 2: The new Lifeline enclosures are available in formats for connecting and junction, secured junction with fuse included, and for communication lines. Sizes range from 100 x 100 x 70 mm up to 250 x 200 x 120 mm.

About Spelsberg

Spelsberg is one of the largest manufacturers of electrical enclosures in the world. With over 4,000 enclosures available as standard and further customisation possible, it offers solutions for almost any application.

With the largest supply of non-metallic enclosures, ex-stock in the UK, its products are often available for delivery within 24 hours; customisation is possible on any product, including bespoke entries, engraved corporate logos or fitted terminals, within 48 hours. Products can be ordered direct from Spelsberg or from most leading supply specialists including RS, Rapid, Farnell and CPC.

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