

Pre-cast concrete installation made easier with electrical connection enclosures

The installation of pre-cast concrete construction projects has been made faster and simpler thanks to increased use of a range of electrical connection enclosures. Spelsberg's IBT range of enclosures retain their position under concrete pouring and cover a variety of applications from junction boxes to LED luminaires. The enclosures are designed for use in a wide range of building types and are flexible for various mounting options.

As speed and efficiency become ever more important for UK construction to meet demand, the use of pre-cast concrete is increasing. Pre-fabricated concrete panels are quicker to install, with far less preparation work required before installation. Crucially, with a widening skills gap, pre-cast concrete also requires less expertise to install than casting concrete on-site. Combined, this not only gives a faster construction project completion but can reduce the total cost too.

If required for a bespoke, highly specific and very large-scale design, cast on-site concrete can generally be moulded with greater flexibility than the pre-cast alternative. Also, some pre-cast forms may be too large or difficult to manoeuvre to or around the site. However, another advantage of pre-cast is that its strength is usually far higher than cast on-site concrete. Significantly, it's also far easier to measure this strength. Both of these benefits are the result of the greater precision offered by a factory-controlled cure, whereas on-site curing can remain at the mercy of the weather.

Today, pre-fabricated concrete panels are complete with the electrical connection routing, which speeds the construction process up further still, avoiding a bottleneck of various tradespeople requiring simultaneous access. The primary challenges surrounding the routing of electric connections and components when using pre-cast concrete are two-fold. Firstly, it demands a high degree of planning to determine electrical architecture before the building is constructed. This level of planning though can increase efficiency of installation and overall efficacy of cabling and connection. Secondly, it means that electrical enclosures must maintain their precise position within the pre-fabricated panel, withstanding the effects of the concrete pour. Failure to do so could impact wiring and therefore the integrity of the electrical circuit. Additionally, the electrical enclosures must be able to resist any leakage of concrete inside the casing which would cause damage to wiring and connections.

Spelsberg's IBT System enclosures fit securely to formwork using high-strength magnets. Designed specifically for pre-cast concrete installation, IBT enclosures retain their position after concrete pour and cure, aided through their patented support beam design. A patented diaphragm system seals against ingress of concrete and reinforces the enclosure by expanding following insertion and routing of conduit, with no further on-site sealing required. All products within the IBT range are halogen-free and offer high temperature resistance, which means they meet DIN, BS and NEMA standards.

Following the assurance of protection that the IBT System provides, the primary advantage is the simplicity and speed of installation. When formwork is removed, the face of the enclosure is revealed and ready to be opened, ready for easy access to enable a rapid first fix of electrics. Multiple enclosures can also be easily connected into a grid via the support beam.

The IBT System is appropriate for a wide range of building types and a variety of housings are available, including classic universal, transition and junction boxes, coming in a range of sizes. The IBTronic System meanwhile is used to enclose electronic components, from LED luminaires to alarm speakers.

While on-site casting has traditionally meant greater flexibility in design, IBT enclosures can also be designed and manufactured to offer a bespoke solution to specified designs, with aftercare provided to assist with installation if required.

Photograph Captions

Photo 1: Spelsberg's IBT range of enclosures retain their position under concrete pouring and cover a variety of applications from junction boxes to LED luminaires.

Photo 2: Spelsberg's IBT System enclosures fit securely to formwork using high-strength magnets.

Photo 3: Designed specifically for pre-cast concrete installation, IBT enclosures retain their position after concrete pour and cure, aided through their patented support beam design.

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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