

## **Just an enclosure? Why engineering advice is crucial for correct specification**

**The design and specification of an enclosure can make or break an industrial application. While some projects require a standard enclosure for quick installation to keep costs down, other projects rely on a highly specialised design. Whatever the application, gaining the right advice on the correct enclosure to meet the requirements is vital.**

**Chris Lloyd, Managing Director, Spelsberg UK, discusses the importance of engineering expertise for specifying industrial enclosures.**

In one respect, an industrial enclosure is simply a casing used to retain and position electrical components or equipment, while protecting them from external conditions and intrusion. However, as soon as we begin to consider the items the enclosure will be used to contain, where it will be installed and how it will be used, a series of increasingly complex questions have to be answered.

Fully understanding the requirements of the application and specifying the right enclosure can, depending on the setting, make the difference between the success of the project or its failure. For example, failure to specify the right enclosure for use within a concrete installation can have expensive consequences. Not selecting the right level of functional integrity for protection of an electrical system in the event of a fire could create an even more serious outcome.

When selecting an enclosure, it's crucial to be provided with the sufficient level of advice in order to make the right specification, first time. The first step is usually Spelsberg's technical telephone and web support, called Pro-Active. Technical support operatives ascertain specific applications' needs to advise on critical decisions on the enclosures' key features and properties. Alongside understanding the application, engineering expertise will help determine aspects such as the climatic conditions and resistance to weather, temperature and ingress of dust and liquids, as well as the level of impact resistance required. The application could even be coastal or for marine use, with challenges relating to corrosion and UV protection in addition to water ingress.

An obvious but crucial factor is the fit, especially where close dimensions could mean that the enclosure fails to fit the allocated footprint, or where knock-out points for the entry of cabling, for example, aren't provided with sufficient access. Spelsberg provides a sample enclosure based on the specification and dimensions for customer testing in as little as 24 hours.

Dependent on location of the application, the enclosure may require diverse mounting options, which could also include the mounting options of internal components. Whether the application will be stand-alone, or may require the benefits of modular extension, should also be considered. Some applications may have more standard requirements but need the benefit of easy installation to reduce resources and cost on site.

We're also frequently challenged with bespoke projects which could include the sourcing and assembly of specific items, such as castor wheels or a special type of door handle. Complex enclosure challenges requiring specific engineering expertise includes a rail project, which required bespoke design of a plate to protect and shield the cables entering the signal cabinet. Severing the connection would mean closure of that section of rail network and significant financial penalties, so the ability to create a bespoke enclosure solution was critical to the overall success of the project. Another example of responding to complex bespoke requests includes military specifications, such as an enclosure for a control unit which required a non-reflective, self-extinguishing outer coating to avoid reflections, crucial for night operations.

Engineering advice is also frequently involved to accommodate specific requirements relating to the mounting of internal components and the entry of cabling or access points. To this extent, Spelsberg offers a custom CNC machining service to finish an enclosure with, for example, the right cut outs, hinge fixing points or threaded holes required for the application. We're currently working on a unit to monitor passengers' temperatures on entry to railways and airports. The enclosure requires specific, high precision cut outs for precise placement of thermal imaging cameras and the CNC work is complex, involving specialised software to transpose the customer's drawings to make a specialised cut out with an exact match.

Spelsberg has a range of enclosures 5,000 products strong, but ultimately we will advise on, design and manufacture the exact enclosure for the customer's specialised application requirements.

## 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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