

Can GRP offer the best of both worlds when specifying enclosures for trackside applications?

Network Rail has switched to 2-core cable in an effort to reduce spending on trackside installations. While this is a solution to cut down on thefts overall the cable type offers no earthing capabilities, meaning that traditional metal enclosures may no longer be suitable. This presents a rare opportunity for the canny specifier, who may find that Glass Reinforced Plastic (GRP) enclosures can offer cost advantages whilst keeping the engineers happy.

Chris Lloyd, Managing Director of Spelsberg UK, explains why GRP enclosures offer the best of both worlds in terms of performance and price.

Like many industries in the UK, the rail industry is currently undergoing a process of cost cutting. National Rail needs to reduce spending on trackside installations by around 20 percent, which means that OEMs and service providers are having to find ways to cut costs without impacting on quality. The introduction of 2-core cable means that cable theft has reduced, but, as a side effect, many existing trackside products which use metal enclosures may be unsuitable as they aren't able to provide the extra insulation that is required.

Very often, in these cases, an alternative, specialised component has to be sourced which is twice as expensive. However, in this case there may be a solution which offers all the attributes required for the new regulation while remaining cost competitive with their metal cousins.

GRP is a cost effective solution, partly because the material is cheaper but also because it is easier to shape than metals. In addition GRP is easier to machine which means that companies like Spelsberg are able to offer in-house customisations that offer an affordable solution to sourcing bespoke designs. Even secondary costs such as delivery and installation tend to be cheaper, as the enclosures are far lighter than metal, making them easier to manoeuvre.

However, cost can't be the only concern when specifying components for electrical installations; performance is essential as it goes hand-in-hand with safety. Even before Network Rail introduced the new standards, the popularity of GRP enclosures was quickly gaining momentum. Metal had always been the traditional, go-to solution because of its inherently robust nature, but as competition within the industry increased, many newcomers to the market were noticing that the incumbent favourite had several disadvantages that they could improve upon.

While metal enclosures are undoubtedly strong, an essential quality in a trackside enclosure, they are prone to denting when subjected to forceful impact. Once the metal is dented its protective coating will be damaged, which will allow for corrosion to occur, quickly compromising the integrity of the connection within. Of course if the connection becomes compromised then the conductivity of the metal makes the enclosure itself a health and safety risk.

A good quality GRP enclosure, by contrast, will have a tensile strength that, while not equal to, is still comparable to its metal counterpart, yet it will not dent and is not at risk of corrosion should the paintwork on the surface get damaged. In addition, the material does not conduct electricity, meaning there is no risk of electrocution should anyone come into accidental contact with the enclosure.

When most engineers are asked to specify the toughest enclosure possible they naturally turn to metals like stainless steel. This is a force of habit brought on by traditional misconceptions, and usually answered without the real-world considerations of cost and practicality. While metal enclosures may offer the highest strength, when it comes to all round toughness, it's easy to make a case for GRP.

High quality GRP enclosures offer a cost competitive solution which also delivers a premium performance.

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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