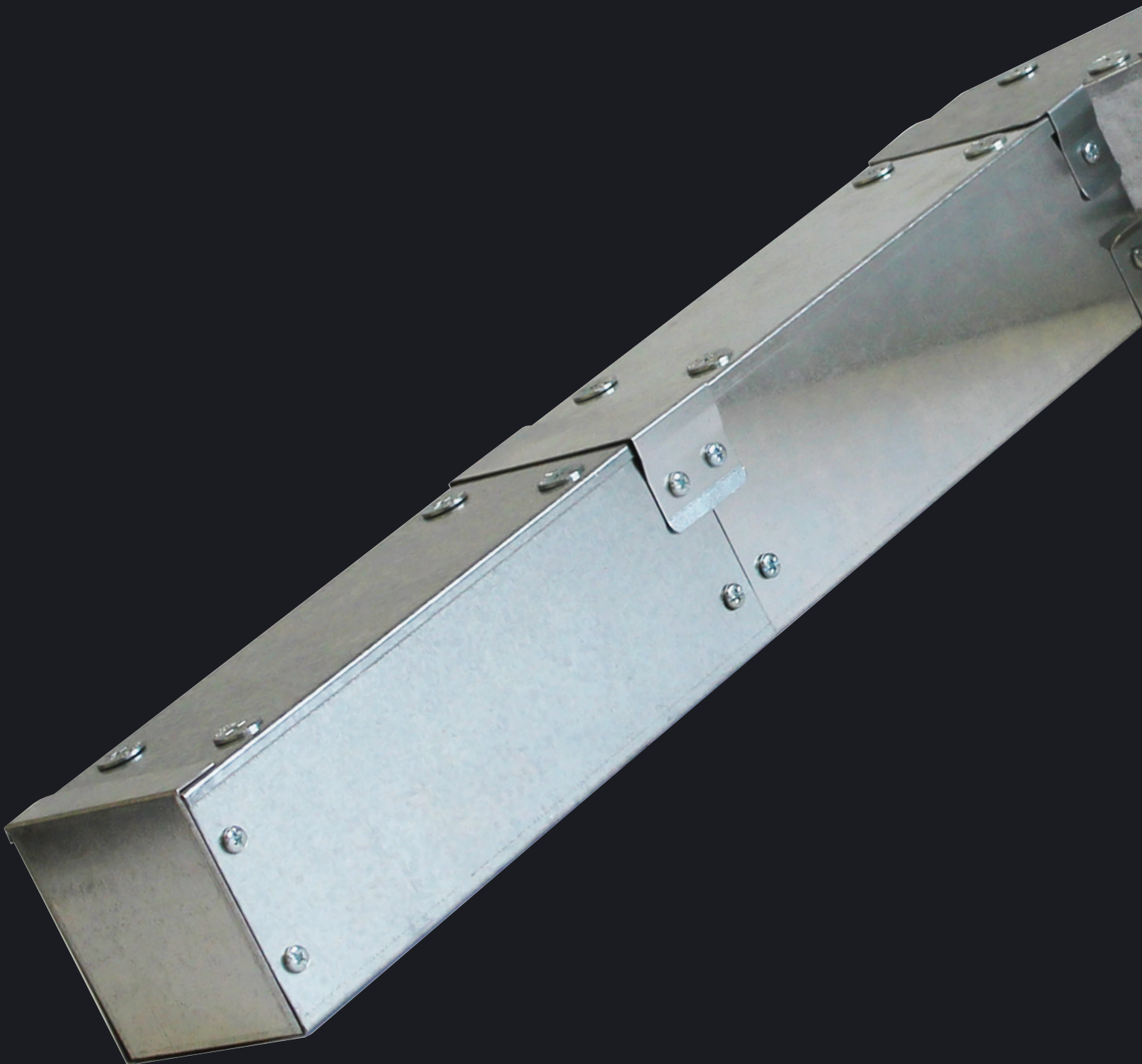


CABLE CONTAINMENT COMPLIANCE

Satisfying the Wiring Regulations can become a cumbersome process when metallic electrical enclosures with a protection rating higher of IP30 are required.





Metsec provides product solutions to IP4X as standard enabling us to make a positive contribution to the supply chain by easing lead times, reducing material costs and supporting a sustainable, safe and compliant cable management solution.

- Fully accredited wide range of products from Metsec Cable Management, formerly Metstrut, includes BES 6001.
- Availability and great service are a direct result of our local manufacturing.
- Quality of our products supports health & safety demands.
- Technical support is drawn from expertise across Metsec and our parent company.

Ensuring the safe performance of a trunking installation in line with legislative demands comes down to the correct specification for the application in question. For metal cable containment systems designed as of 2012, the first amendment to BS7671: 2008 “Requirements for electrical installations” demands that all single insulated, non-sheathed cables be contained in an enclosure that meets either IP4X or IPXXD rating. In accordance with BS EN 60529:1992, both ratings aim to provide a specific degree of mechanical protection from the ingress of solid objects to prevent the disturbance of contained, unsheathed cables and potential short circuits, but they also serve to protect installers and service engineers from electrical accidents through unintended ingress of wire – a precautionary measure IP30 does not incorporate.

It is important to note that the two ingress protection (IP) ratings IP4X and IPXXD are not equally robust. The crux lies in the alphanumeric IP code, which classifies the dust-resistance and waterproofing of cable management trunking and containment systems. The numerals refer to the level of protection needed against the ingress of solid objects and water. Such protection is indicated by the first and second numeral respectively. It is worth considering, however, that the use of ‘X’ in any protection rating indicates that, for the range of products covered, protection is not required.

For example, IP4X specifies that protection against a 1.0mm probe is required and that there is no requirement for the protection from the ingress of water. Consequently, IP4X may not be watertight but it protects the cabling from ingress of debris or wire – or generally foreign objects that could all compromise the safety of the cabling within - tested with a 1mm diameter probe that will not penetrate any trunking.

In the case of IPXXD, by contrast, the gap resulting from adjoining trunking need not be protected from solid particle or liquid ingress altogether. Solely the letter ‘D’ appended to the code indicates that protection be provided against access to hazardous parts with wire. Even though physical contact may not be allowed to hazardous parts enclosed in the trunking during tests, the 1mm diameter probe shows that an IPXXD rated system remains penetrable to the degree of wire.

This goes to show that IPXXD as a protection rating does not make the same robust provision as IP4X, so the specification and installation of a system that complies with IP4X is a more reliable approach. To date, however, available solutions that achieve IP4X compliance have been limited to bespoke cable enclosures. These involve specially designed lengths and accessories that, more often than not, account for additional cost and command a longer lead time, stretching the contractor’s installation programme because



the required accessories and fittings are not available from distributors as standard stock.

The latest developments in the cable management market, however, may change the picture for specifiers, offering a more practical and, importantly, more economical route to IP4X compliance. Cable enclosures are seeing an addition to existing bespoke containment solutions in the form of standard trunking that uses off the shelf clips to deliver IP4X protection. While additional accessories are still required to enable the use of these clips in the bends of standard trunking, for the straight lengths, they can be fitted over the joint between two lids without the need for tailored accessories. This ensures that adjoining trunking stays tightly connected for years after the system installation.

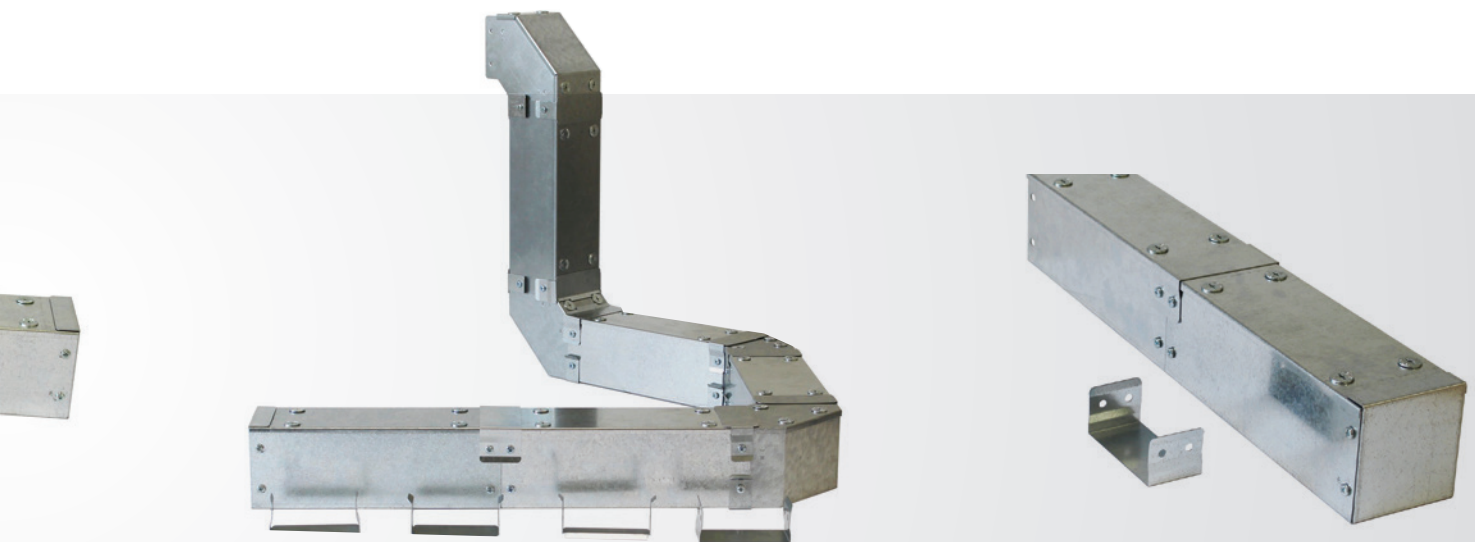
Where a new cable containment solution is required, it is worth considering the benefits of a reduced lead time from the delivery of a standard trunking system that comes with simple, compatible clips. What is more, the use of standard parts ensures that the system retains its usual product footprint when it comes to upgrading the trunking to IP4X at a later point in time. Depending on the trunking in place, some existing installations will already be retrofittable.

By meeting IP4X, specifiers can give installers and those servicing the installation the confidence that the system meets the legal

requirements of the Wiring Regulations in the most robust way. Therefore those responsible for the specification and installation of cable containment solutions should look to IP4X over IPXXD as the standard for best practice.

Manufacturers can support this process by making available products that effect IP4X compliance alongside ordinary cable management products in their range, with no special lead times, so M&E contractors can expect an IP4X compliant solution to arrive with the rest of their order and wholesalers need not rearrange stockholdings. In doing so, a supplier that provides standard product solutions adaptable to IP4X rating is able to make a positive contribution to the supply chain by easing lead times, reducing material costs and supporting a sustainable, safe and compliant cable management solution.

Ultimately, optimum specification should be the M&E contractor's overall driver. While the specification of IP4X may currently apply to a small number of projects only, advice on the ideal trunking solution is available from expert manufacturers, to meet the needs of the application, comply with the law and work within the end client's budget.



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