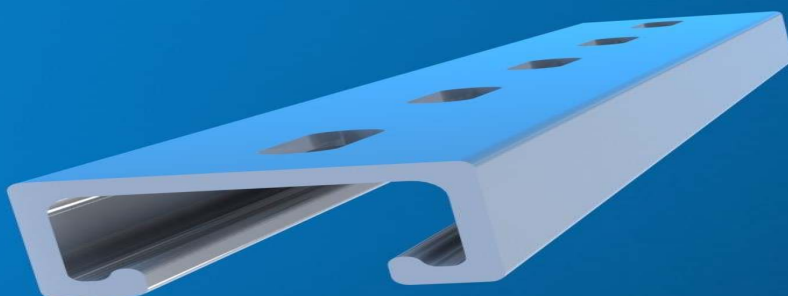


## GRP Cable Ladders



GRP Cable Ladders are supplied from stock in a range of standard sizes which allows them to accommodate almost all projects. Our ladders systems are designed to utilize space and to give cable protection. The design of the side profile combines great strength with light weight. All of Captrad Cable Systems ladders have been designed to improve load-bearing capabilities. We are able to produce GRP Cable Ladders to a variety of sizes and special resin systems to match any working environment. We can also supply cable ladders dividers and lids if required. There are many advantages to using our GRP Cable Ladders:

- Light weight and easy to use
- Excellent UV stability and fire properties
- Various sizes available in the ladder profile
- Available in various resin systems offering excellent corrosion resistance
- Ladders are produced to NEMA standards
- Excellent strength properties under high loads

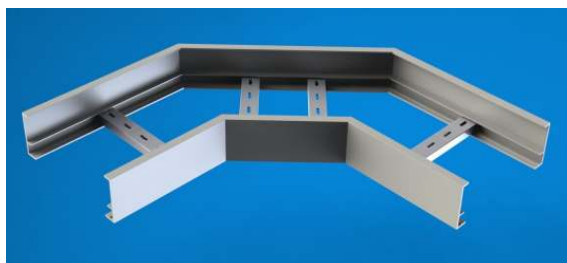


Cable Ladders



Product	Width	Height	Kg/mtr
GRPLDR-100-300/3	300mm	100mm	2.92
GRPLDR-100-450/3	450mm	100mm	3.21
GRPLDR-100-600/3	600mm	100mm	3.50
GRPLDR-100-700/3	700mm	100mm	3.68
GRPLDR-150-300/3	300mm	150mm	3.62
GRPLDR-150-450/3	450mm	150mm	3.91
GRPLDR-150-600/3	600mm	150mm	4.20
GRPLDR-150-700/3	700mm	150mm	4.38

Cable Ladder Flat Elbow 90



Product	Width	Height	Kg/mtr
GRPLDR-90EB -100-300	300mm	100mm	3.02
GRPLDR-90EB-100-450	450mm	100mm	3.68
GRPLDR-90EB-100-600	600mm	100mm	4.35
GRPLDR-90EB-100-700	700mm	100mm	4.90
GRPLDR-90EB-150-300	300mm	150mm	3.72
GRPLDR-90EB-150-450	450mm	150mm	4.46
GRPLDR-90EB-150-600	600mm	150mm	5.24
GRPLDR-90EB-150-700	700mm	150mm	5.83

Cable Ladder Flat Elbow 45



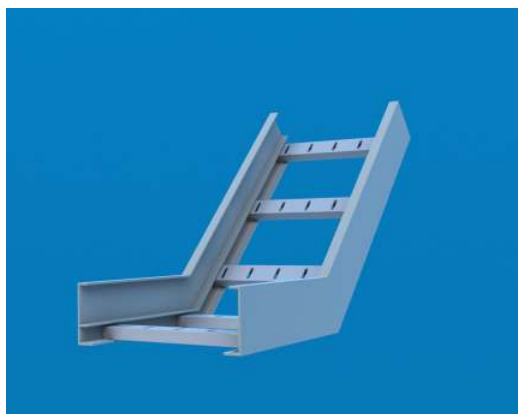
Product	Width	Height	Kg/mtr
GRPLDR-45EB-100-300	300mm	100mm	2.14
GRPLDR-45EB-100-450	450mm	100mm	2.44
GRPLDR-45EB-100-600	600mm	100mm	2.93
GRPLDR-45EB-100-700	700mm	100mm	3.13
GRPLDR-45EB-150-300	300mm	150mm	2.62
GRPLDR-45EB-150-450	450mm	150mm	2.93
GRPLDR-45EB-150-600	600mm	150mm	3.49
GRPLDR-45EB-150-700	700mm	150mm	3.84

Cable Ladder Int Riser 90



Product	Width	Height	Kg/mtr
GRPLDR-90INTR-100-300	300mm	100mm	2.18
GRPLDR-90INTR-100-450	450mm	100mm	2.44
GRPLDR-90INTR-100-600	600mm	100mm	2.70
GRPLDR-90INTR-100-700	700mm	100mm	2.86
GRPLDR-90INTR-150-300	300mm	150mm	2.68
GRPLDR-90INTR-150-450	450mm	150mm	2.94
GRPLDR-90INTR-150-600	600mm	150mm	3.20
GRPLDR-90INTR-150-700	700mm	150mm	3.35

Cable Ladder Int Riser 45



Product	Width	Height	Kg/mtr
GRPLDR-45R-100-300	300mm	100mm	2.00
GRPLDR-45R-100-450	450mm	100mm	2.26
GRPLDR-45R-100-600	600mm	100mm	2.52
GRPLDR-45R-100-700	700mm	100mm	2.68
GRPLDR-45R-150-300	300mm	150mm	2.48
GRPLDR-45R-150-450	450mm	150mm	2.74
GRPLDR-45R-150-600	600mm	150mm	3.00
GRPLDR-45R-150-700	700mm	150mm	3.15

Cable Ladder T-Piece



Product	Width	Height	Kg/mtr
GRPLDR-TP-100-300	300mm	100mm	3.92
GRPLDR-TP-100-450	450mm	100mm	4.26
GRPLDR-TP-100-600	600mm	100mm	4.26
GRPLDR-TP-100-700	700mm	100mm	7.12
GRPLDR-TP-150-300	300mm	150mm	4.88
GRPLDR-TP-150-450	450mm	150mm	5.22
GRPLDR-TP-150-600	600mm	150mm	8.08
GRPLDR-TP-150-700	700mm	150mm	8.48



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### **The manufacture process**

Captrad grp cable management systems are manufactured by the pultrusion process – a continuous production process with comprehension process control in which the reinforcing glass fibre is impregnated with the thermosetting resin and pulled through a heated die where the resin cures to produce the finished solid profile section.

A polyester surface veil is incorporated into the surface during manufacture. It provides protection against scratches, minor impacts and enhances the weather resistance.

The standard resin system for Captrad grp cable systems is a zero halogen, fire retardant isophthalic polyester containing a UV inhibitor. Other resin systems for higher fire resistances, low smoke and toxicity or for especially difficult corrosive conditions can be supplied to order.

### **Performance benefits**

Captrad grp cable management systems have a number of important performance benefits over steel, aluminium and PVC cable support systems.

The high glass content of the sections manufactured by the pultrusion process have high strength and stiffness which enables the cable ladders and trays to carry much more weight over larger spans than PVC while at the same time having much better corrosion and weather resistance than either steel or aluminium.

The grp products are easy to cut and drill on site, which, with their light weight, make installation easy, keeping costs down and speeding installation. Hot work permits are not required and they don't generate sparks so they can safely be installed on working production processes without the need for expensive shut downs.

The Captrad Cable Trays incorporate a unique "click fit" cover that grips the tray and holds in place in all but the heaviest weather without the need for additional clips or mechanical fastening but is still sufficiently flexible to be able to be removed and refitted without loss of the "click fit" functionality. This important feature significantly speeds installation, keeping installation costs down and avoids the possibility of mechanical clips being lost or dropping into process equipment or product.

Captrad have available a range of support brackets and associated fittings designed specifically for the cable management system. Collectively these installation benefits can reduce installation time compared to conventional steel cable trays and ladders by up to 30%

### **Specifications**

The cable ladder side rails and rungs are manufactured glass by the pultrusion process from isophthalic polyester thermosetting resin reinforced with E glass giving a high strength dimensionally accurate and thermally stable product. The pultruded sections fully comply with all the requirements of EN13706, grade E17 – Specification of pultruded profiles.

The standard polyester resin is a halogen free fire retardant grade satisfying the requirements of BS476 Pt7, Class 2 and ASTM E84 25 sec - Surface spread of flame. Higher grade fire retardant products can be manufactured to order including the high fire resistance, low smoke and low toxicity required by the London Underground (LUL).

Cable ladders can also be made to order in the highly corrosion resistant vinyl ester resin.

GRP cable ladders are normally electrical non-conductive but for those applications with risk explosive atmospheres an anti-static version is available to order.

The ladder rung is slotted along the length and fitted into the receiving section of the cable ladder where a lip on the base of the ladder side rail gives a positive grip on the rung. Each rung is bolted at each end to the cable ladder side rail to ensure that there is a permanent and secure connection that does not rely on the expansion of plastic fittings for stability

The cable ladders can be fitted with top or bottom covers made for the same E glass fibre reinforced fire retardant polyester as the cable ladder. The covers are fixed on-site with self tapping screws.

Connection plates are easily fitted to the side of the cable ladder to give extra stiffness to the bolted connection.

### **Corrosion Resistance**

Captrad Cable Management Systems do not rot or rust and are not affected by most chemicals. They are not embrittled by exposure to weather or sunlight and they remain stable and exceptionally impact resistance well below sub zero temperatures.