



Cable Protection Systems



PROtrough is the innovative lightweight, fire retardant cable trough system when easily deployed and accessible cable management systems are required

CABLEprotect PROtrough



PROtrough is an innovative, lightweight, fire retardant cable trough system that offers a modern alternative to traditional concrete trough systems for rail, light rail and power markets when easily deployed and accessible cable management systems are required. PROtrough is a GRP cable management trough that has been designed to comply with all European fire retardancy and thermal specifications, including those for tunnels and stations.



Rail

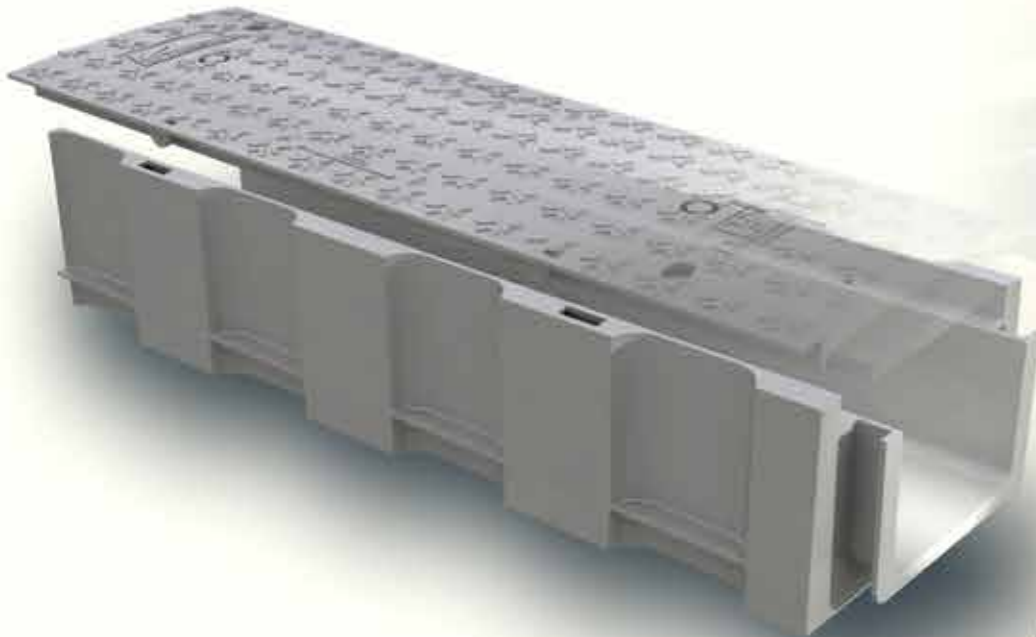


Light Rail



Power

- Lightweight design 5 times lighter than concrete
- Superior structural integrity compared to thermoplastic alternatives
- Designed to comply with major European fire retardancy specifications
- Eliminates common heat distortion and thermal expansion issues
- Extensive range of accessories to enable flexibility and ease of deployment
- Seamless integration with Cubis access chamber and cable protection systems



Rail / Light Rail

PROtrough has been designed to be lightweight and comply with major rail fire retardancy specifications for tunnels and stations. Other alternative lightweight thermoplastic troughing systems are not able to achieve these fire standards. This unique combination of light weight and fire retardancy makes PROtrough the ideal solution for modern rail, station and tunnelling projects. An extensive range of adaptable accessories have been designed to enable a high degree of flexibility, ease of access and seamless integration with other Cubis access chamber and cable protection products.



Power

PROtrough has been designed to have no restriction on cable ambient operating temperatures and to eliminate the common heat distortion and thermal expansion issues associated with thermoplastic troughing systems. A cable divider panel enables multiple services to run alongside one another.

PROtrough is modular and lightweight which enables convenient product deployment and installation throughout complex power and energy facilities.

How it Works

PROtrough is a highly durable protection system that easily resolves engineering challenges for cable laying.

Quick Assembly with One Click Connection System:

PROtrough offers simple slide and drop male to female connectivity with a unique one click interlocking cover and sliding mechanism.

Lightweight – 5 times lighter than concrete:

Weighing under 20kg PROtrough offers significant health and safety advantages over traditional concrete troughing systems that can weigh over 90kg. PROtrough is suitable for single person lift and install, enabling compliance with manual handling regulations. Being lightweight and easy to deploy results in considerable project time and cost savings.

Custom Badging and Locking Options:

Custom badging options available to allow for personal identification. PROtrough units can be secured against the threat of vandalism or theft with specialist security bolts.

Smooth Internal Walls

PROtrough's unique smooth internal walls allows for easier cable pulling and no sharp edges for cable damage and greater water drainage.

Fire Retardant

PROtrough is a GRP cable management trough that has been designed to comply with all European fire retardant specifications, including those for tunnels and stations.

Unique Cover for Backfill Ingress Protection and Water Run Off

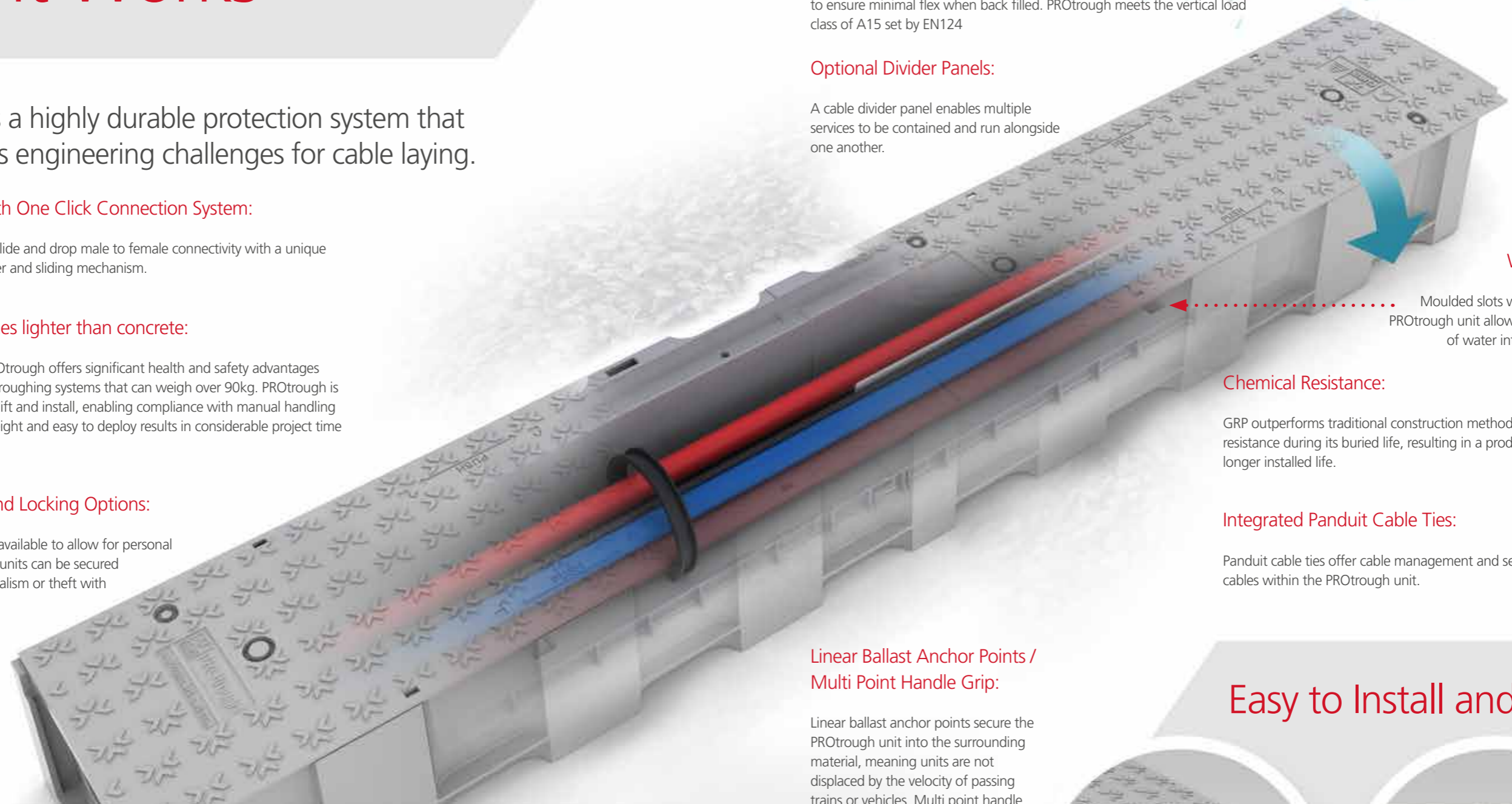
PROtrough's distinctive tread pattern and convex shape increases natural water runoff preventing the build-up of ice. The uniquely designed cover ensures no material ingress when access is required.

Optimum Rib Design for Vertical Loading:

PROtrough has been designed with optimum sidewall strength performance to ensure minimal flex when back filled. PROtrough meets the vertical load class of A15 set by EN124

Optional Divider Panels:

A cable divider panel enables multiple services to be contained and run alongside one another.



Water Drainage:

Moulded slots within the base of the PROtrough unit allow for natural drainage of water into the ground below.

Chemical Resistance:

GRP outperforms traditional construction methods for chemical resistance during its buried life, resulting in a product that offers longer installed life.

Integrated Panduit Cable Ties:

Panduit cable ties offer cable management and security of the cables within the PROtrough unit.

Linear Ballast Anchor Points / Multi Point Handle Grip:

Linear ballast anchor points secure the PROtrough unit into the surrounding material, meaning units are not displaced by the velocity of passing trains or vehicles. Multi point handle grips provide easy grab positions for installers to make manual handling simpler.

Easy to Install and Secure



Interlocking Lid Connection



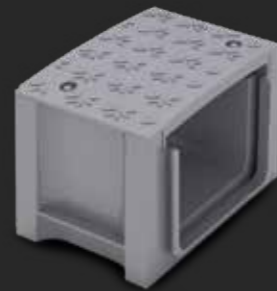
Easy Locate Retention System

Accessories

PROtrough cable protection system has an extensive range of flexible accessories that enables the system to deal with tight turns, elevations, natural curvature and other obstacles

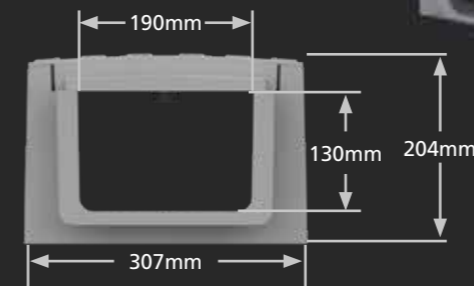
200mm Adaptors:

PROtrough's unique adaptor system enables male to male, female to female connection with the added flexibility to easily install unit sections in the opposite direction.



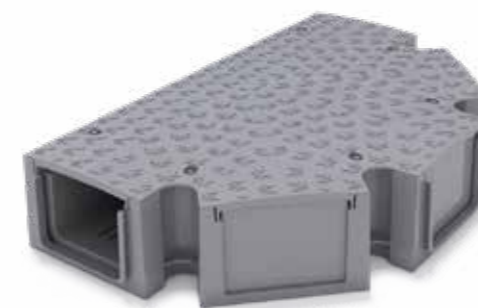
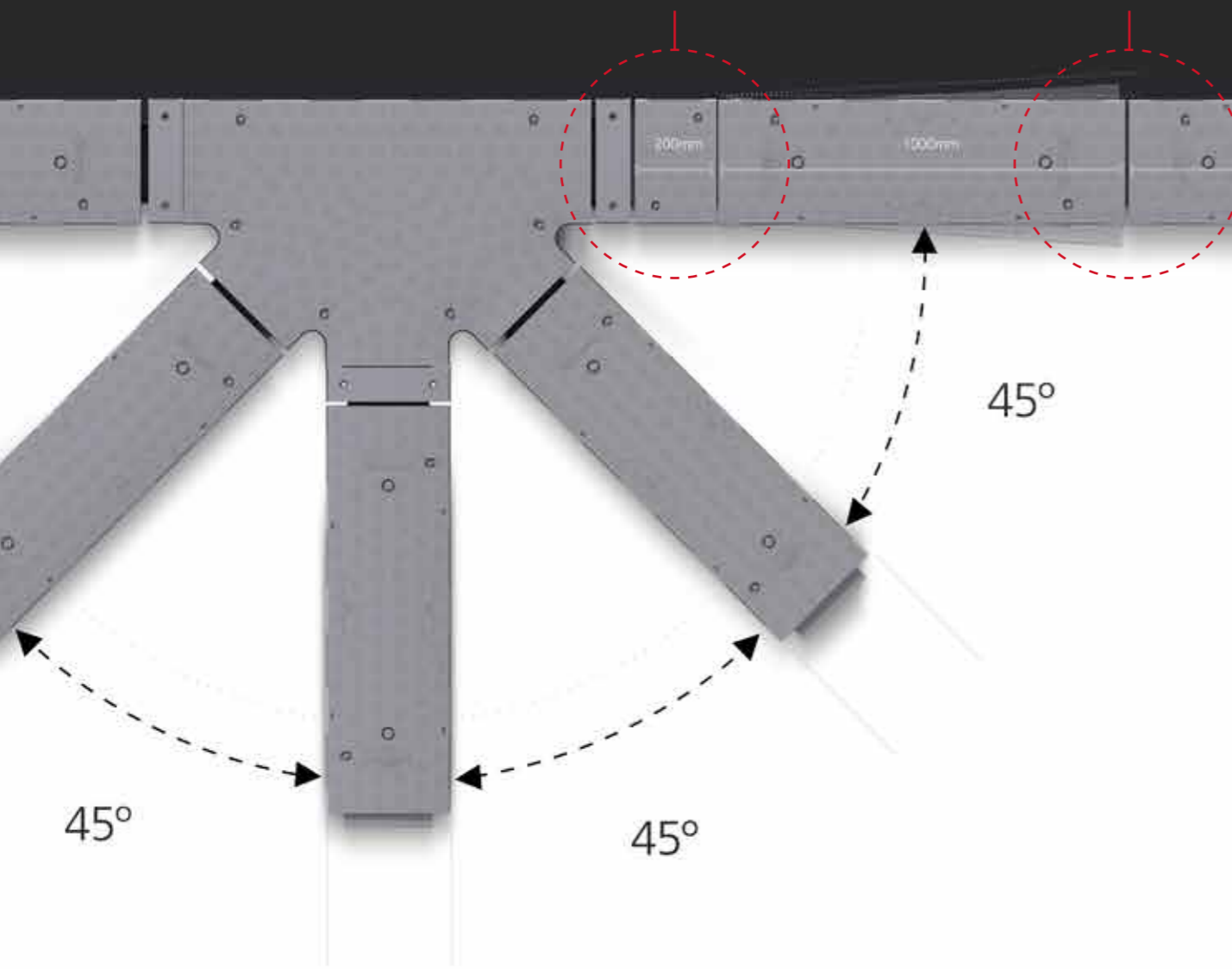
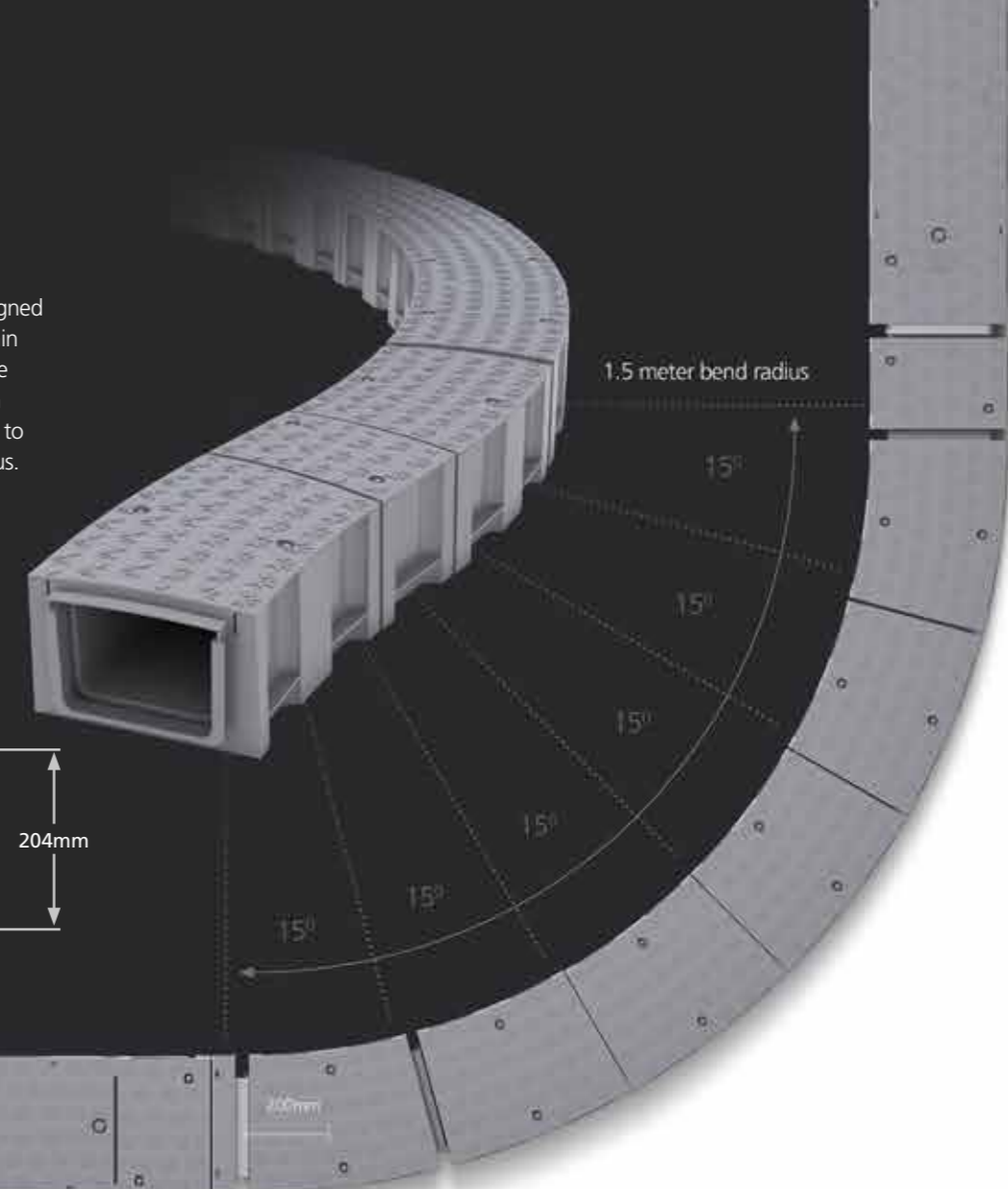
3 Degrees of Flexibility:

PROtrough allows for 3 degrees of flexibility within its connection, this enables the PROtrough unit the capacity to move 3 degrees vertically and horizontally resulting in the creation of a natural bend that can follow the curvature of the track.



Wedges:

The PROtrough wedge has been designed to assist in any curvature needed within specified cable routes. The unique one click assembly of the wedge units can be adjusted to turn either right or left to accommodate a 1.5 meter bend radius.

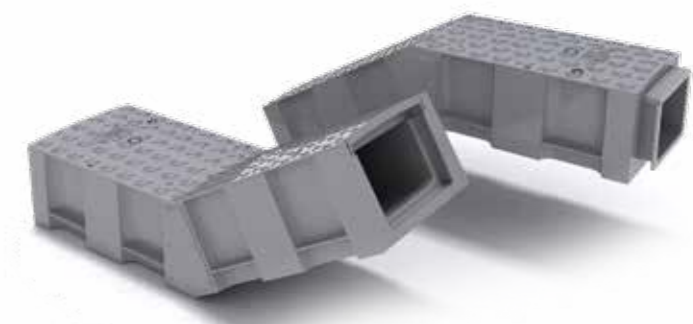


5 Way Junction Box:

PROtrough's truly unique 5 way junction box is a first within the troughing market. The junction box brings flexibility and adjustability to allow a 5 way inlet and outlet to cable routes to suit individual customer needs.

T-Connection key feature:

- Allows the receipt and egress of alternative cable routes
- 3 way 90 degree inlet and outlet for cables running within cable routes
- Blanking plates can be used to terminate the 5 way junction unit



30° Elevation Connection System:

PROtrough's elevation connection system is designed to deal with abrupt changes in elevation in scenarios such as:

- On site obstacles
- Unique surface level connection to elevated troughing system
- Embankment install

Lightweight, Fire Retardant & Heat Resistant

PROtrough has been designed to comply with major European fire retardancy standards, and can also be specified to meet tunnel fire standards. Combined with being lightweight and easy to deploy in difficult to access locations, it is an ideal troughing system for tunnel applications.

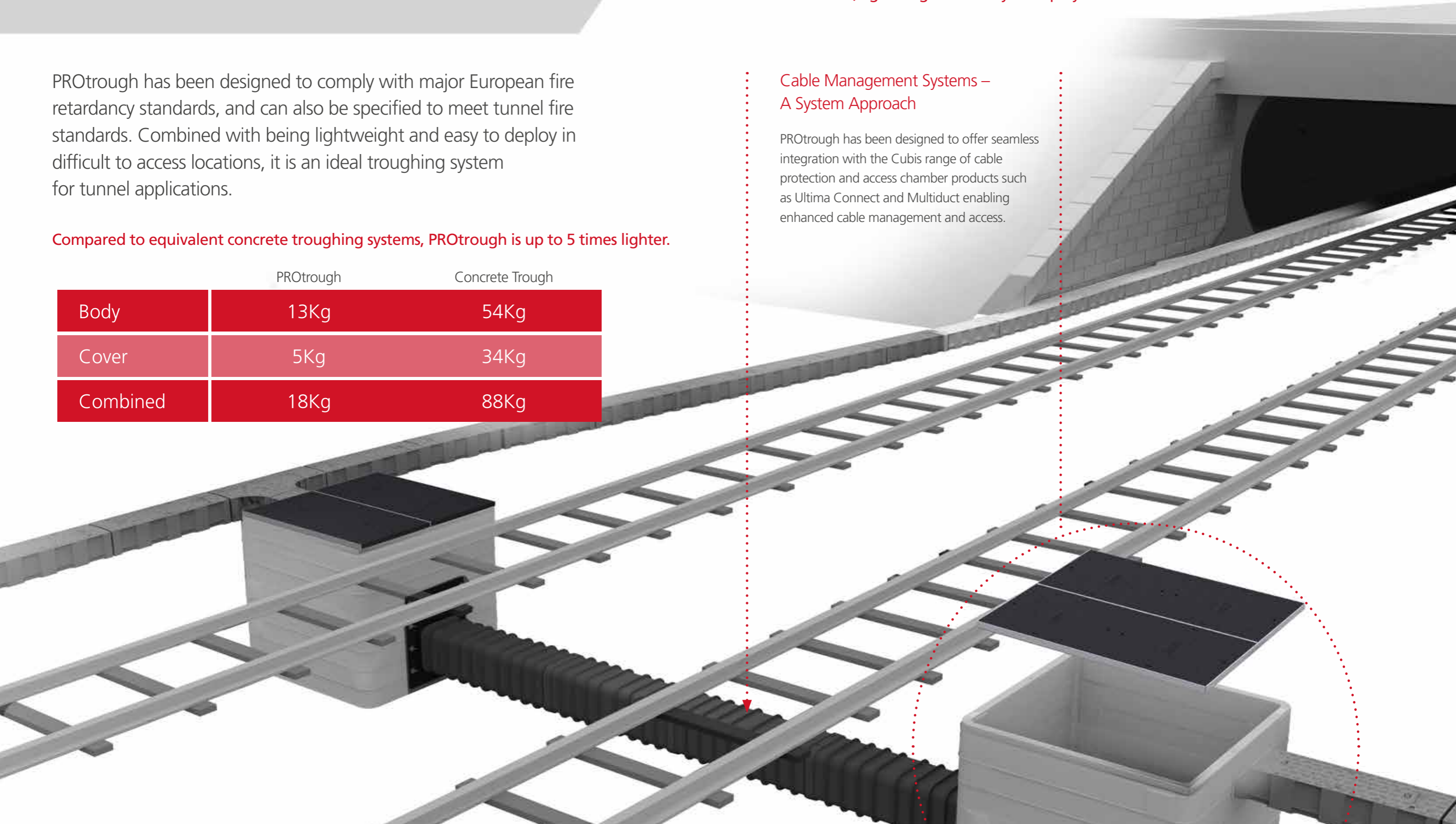
Compared to equivalent concrete troughing systems, PROtrough is up to 5 times lighter.

	PROtrough	Concrete Trough
Body	13Kg	54Kg
Cover	5Kg	34Kg
Combined	18Kg	88Kg

- 5 times lighter than concrete
- Significant manual handling and health and safety benefits
- Modular, lightweight and easy to deploy in remote locations

Cable Management Systems – A System Approach

PROtrough has been designed to offer seamless integration with the Cubis range of cable protection and access chamber products such as Ultima Connect and Multiduct enabling enhanced cable management and access.





Industry Experts

Cubis' products are innovative, lightweight and significantly reduce costs of in-situ construction through time savings. Cubis integrated systems approach offers our customers a complete range of access chambers, access cover and cable protection systems. These products have been installed worldwide into key construction sectors Telecoms, Highways, Rail/Light Rail, Water and Power & Energy. Cubis' products are used within many different applications within each sector from buried cable routes to access chamber solutions.

Buried Cable Routes:

Buried cable routes offer a secured and environmentally friendly way to bury trackside cabling. The Network Rail approved buried cable route system integrated Cubis' MULTIduct™ cable protection system and STAKKAbOX™ ULTIMA network access chamber and access covers. Cubis' buried cable route system is quickly installed due to its light weight properties (all parts below 25kg), lack of specialist equipment and reduced excavation. Installed on track upgrades can average 1km in a 20 hour possession.

Cable Troughing:

Cubis offers a number of cable trough solutions that offer an innovative, lightweight, secure troughing system that has been used worldwide in different extremes of temperatures. Cable trough comprises of 1 meter long units that connect together allowing for rotation in the unit to follow gentle curves in the track. Lightweight cable trough offers significant health and safety advantages over traditional concrete troughing systems.

STAKKAbOX™ ULTIMA Access Chamber System:

STAKKAbOX™ ULTIMA access chambers are adaptable to the unique requirements of each site. This means ordinary site tools can be used to retrofit around existing networks by drilling duct entries or cutting the chamber sections horizontally. The seamless integration across the Cubis product range enables the construction of bespoke systems with access cover options including concrete infill, composite, recessed and steel fabricated. Cubis' chamber options & accessories range allows installers the ability to simply place, connect ducts, backfill and walk away.



Cable Troughing



Buried Cable Routes

STAKKAbOX™ ULTIMA Access Chamber System



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Driven by Innovation

Cubis is Europe's leading manufacturer of network access pit and ducting systems, used in the construction of infrastructure networks for rail, telecoms, water, construction and power markets.

Cubis has developed an innovative approach in an old-fashioned industry. This has been achieved by developing quality products which replace traditional construction materials, like bricks and concrete, with lightweight plastics incorporating intelligent design features. These can then be installed faster and ultimately save our customers both time and money.

Cubis manufactures preformed network access pit systems STAKKAbOX[™], AX-S[™] access covers, MULTIduct[™] multiple duct system and RAILduct[™] cable trough at its manufacturing sites throughout the UK and Ireland these products are exported to more than 25 countries throughout the World.

At Cubis we pride ourselves on delivering technical customer support, new innovation, product quality and the highest levels of customer satisfaction.

www.cubis-systems.com