

Complete Composite Systems (CCS)



Why ARCOSYSTEM® Is the Rail Industry's Benchmark Elevated Cable Management System

ARCOSYSTEM® is a lightweight and versatile elevated cable management system. Designed to be post-mounted, wall-hung or fixed to lineside structures at 6-metre centres, its dedicated range of bracketry enables height and direction changes to be safely accommodated with ease.

Demands on any railway trackside system are wide and exacting, which is why the ARCOSYSTEM® — as well as being flexible — is constructed from the most durable materials. Pultruded troughs and lids, supported by laser-cut steel bracketry, provide a consistent, reproducible, long-lasting system capable of withstanding the most extreme conditions.

Developed by Swiss company **Castioni Kabelführungssysteme GmbH**, and exclusively distributed in the UK by **Complete Composite Systems**, the ARCOSYSTEM®'s support structure and bracketry are made from galvanised steel, a robust material with predictable structural performance. By coupling it with the twin-walled design of the cable trough, ARCOSYSTEM® is able

to resist lateral forces from the likes of embankment subsidence, high snow loads and wind effects from high-speed trains.

The ARCOSYSTEM®'s cable trough and lid are made from pultruded fibre-reinforced polymers, which excel in structural and load-bearing performance as well as heat, weather, corrosion and UV resistance compared to more common materials. With performance across a wide temperature range and resistance to fire and corrosive attack from an array of chemicals, ARCOSYSTEM® excels in remote locations subject to intense heat or extreme freeze-thaw cycles.



Any Size for Any Job

ARCOSYSTEM® has recently expanded its choice of products to cater for a wider range of challenging rail installation projects.

Originally available in Size 1 and Size 2, there are now a Size 0 and a Size 2+ available.

Size 2+ has deeper and more robust side walls, designed to withstand higher lateral loads than Size 2, enabling the system to withstand the pressure from snow ploughs clearing snow drifts. The deeper design also allows for multiple cable jointing where necessary.

Size 0 has been introduced to

house data cables in a separate, shallower troughing, a facility which is seeing higher demand from contractors across the world as the digitalisation of railways continues apace.

Saving Time and Money

Our **innovative new technique** of part-mechanised ramming means ARCOSYSTEM® is even quicker and more cost-effective to install.

The process, developed by Aarsleff, our engineering partners in Denmark, allows the steel posts to be inserted into the ground at the required depth swiftly and accurately with the help of specially-built machinery, removing the need to hand-dig a hole each time.

With ARCOSYSTEM® already regarded as a system that's fast and lightweight to install compared with concrete ground-based alternatives, this cutting-edge ramming technique has sped that process up even further — ensuring installation times and labour costs are dramatically reduced.



ARCOSYSTEM® — key features:

- Spans 6 metres between supports
- Carries cable loads up to 90 kg/m
- Withstands point loads up to 0.75kN and wind loads up to 1.45 kN/m
- Electrically insulating; breakdown voltage almost 50 kV
- Constant working temperature range -40°C to +80°C
- Withstands continuous freeze-thaw cycles
- Meets a number of fire standards and proven performance in simulated trackside fires
- Resistant to water and a wide range of chemicals
- Lightweight, robust, long-lasting and easy to install
- Fast and cost-effective installation

The Eco-Friendly Post Mix Choice

When installing posts for ARCOSYSTEM® or fencing projects, TECHNO-CRETE® is the environmentally friendly post mix choice.

It is a two-part, high-density hydrophobic polyurethane based on a blend of reprocessed oil from the catering industry and sustainably grown rapeseed oil. Once mixed, the blend foams to form a structurally robust, solid foam that securely holds fence posts, elevated troughing and signage in place. Supplied in easy-to-handle 1.8kg packs, TECHNO-CRETE®'s two-



pack system is hand mixed. It doesn't need water, and a 1.8kg pack replaces three 20kg bags of concrete post mix. It therefore significantly reduces transportation costs and the risk of personal injury from manual handling.

When using TECHNO-CRETE® instead of cement-based concrete in 1,000 holes, 300 x 600mm diameter, over 10 tonnes of CO2 emissions are saved from entering the atmosphere, the equivalent of over ten return flights from London to New York.

Non-Conductive Fencing

TouchSafe® FRP Composite Palisade Fencing is made to offer a strong, safe and non-conductive barrier to screen electrical equipment or hazards.

The panels are manufactured from pultruded profiles and cross angles that are interlocked to form a robust structure.

There is no need for maintenance and less chance of damage from potential vandalism incidents, with pales passing through the rails to reduce the risk of prising apart. As composites are natural electrical insulants, the fencing provides a non-conductive boundary for the safe containment of electrical



equipment on rail applications such as substations, LOC suites, and OLE masts.

Delivered in full panels to reduce installation time, all fixings are comprised of GRP so earthing is not required. The fencing is also lightweight and corrosion-resistant against most oils, acids and alkaline chemicals. TouchSafe® is produced with UV inhibitors within the resin and finished with a UV-resistant synthetic polyester veil that encapsulates the profiles to add further protection against the elements.

Discover more about ARCOSYSTEM®, TECHNO-CRETE® and TouchSafe® Fencing by visiting our UK stockist, **Scott Parnell**, at Rail Live 2021 at **Stands E7 and E9**

