

Complete Composite Systems (CCS)



Composite ballast boards from CCS being installed on site

CCS is proud to introduce its lightweight, impact-absorbent ‘composite ballast boards’ – ideal for protecting railway lines and trackside facilities on embankments from the likes of rockfall or snowslide.

Traditional concrete ballast boards are often very heavy and laborious to install, particularly over long lines of track. After more than a year of development and testing, our glass-fibre reinforced polyester (GRP) version is lighter with an interlocking design – making the boards quicker and cheaper to fit.

These **composite ballast boards** are also more sustainable. Manufactured by pultrusion from

specially selected unsaturated polyester resins and strengthened with resolute glass-fibre reinforcement packs, the sturdy design ensures the boards will remain damage-free during transit and won’t crack when installed or while under load.

The GRP-pultruded profile is coated with a polyester veil to provide protection from corrosion, UV rays and water, proven over decades of use in marine



and corrosive environments. This gives the product a lifespan of at least 50 years, with no maintenance required.

Composites are extremely impact-absorbent, while the open-cell tongue-and-groove design of the boards allows interlocking panels to be stacked on top of each another. Our 300mm-deep panels, for instance, can be stacked up to three high to build a robust 900mm-high retaining wall capable of withstanding a range of heavy forces.

Easy Handling

The lightweight construction of our composite ballast boards allows for easier handling, reducing potential injuries for on-site engineers and cutting installation times. To illustrate this point:

1 CCS ballast board = 12.5kg vs. 1 concrete ballast board = 60kg

The composite boards can also be simply cut to length on-site, whereas slicing the length of concrete boards exposes metal reinforcement that will rust over time.

Eco-Friendly

Composite ballast boards from CCS are also environmentally friendly, as shown in the points below:

- Number of boards supplied in an 18-tonne delivery: CCS ballast boards = 1440 vs. concrete ballast

boards = 300
(almost 5x more fuel used to deliver concrete)

- Amount of carbon dioxide emissions released into the atmosphere to produce 1 ballast board:

CCS ballast board = 3.9kg CO₂ vs. concrete ballast board = 19kg CO₂

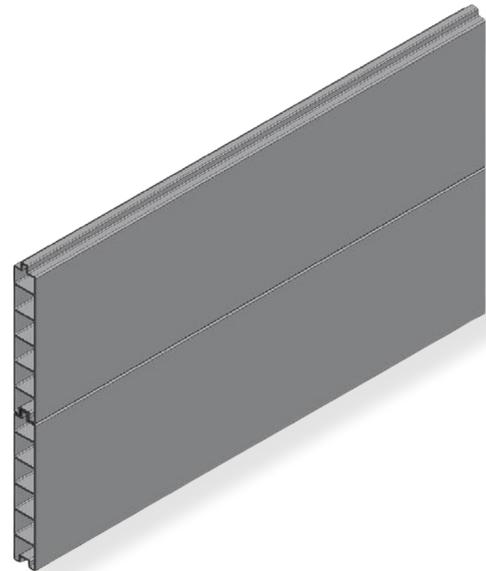
Composite Ballast Boards from CCS – Key Benefits

- Minimum lifespan of 50 years
- Maintenance-free
- Lightweight for easier handling and reducing on-site injuries and installation times
- Eco-friendly, with far less fuel required to deliver composite boards to site than with heavier concrete boards, and far fewer carbon dioxide emissions released into the atmosphere during production compared to concrete
- Structurally sound – excellent at resisting and absorbing impact
- Outer surface is coated with a polyester veil for protection against sunlight, water and corrosion
- Suited to a temperature range of -40°C to +80°C



Also available from Complete Composite Systems:

- **ARCOSYSTEM**® – elevated trackside cable troughing manufactured from pultruded glass fibre reinforced polymers (GRP), offering excellent structural and load-bearing performance and a lightweight design for flexible and efficient installation
- **TECHNO-CRETE**® – an innovative, hydrophobic-polyurethane-based foam foundation material that provides a green and cost-effective option for post mix during construction jobs
- **TouchSAFE** composite palisade fencing – long-lasting and maintenance-free fence panels designed to safely enclose electrical equipment such as railway substations and LOC cabinets
- **Composite bridges** – a wide range of extremely robust and durable designs that are great for railway bridges. We design, build, and install bridges suitable for pedestrians or vehicles weighing up to 12 tonnes. The GRP construction means the bridges are environmentally sustainable and no maintenance or repair is required



For enquiries about composite ballast boards, please **contact our technical experts at CCS**, the product's designer and developer. Design and dynamic testing data to confirm performance is available on request.



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The exclusive UK rail stockist of our composite ballast boards is Scott Parnell:



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