

Complete Composite Systems (CCS)



Traditionally-made bridges can be expensive and challenging to repair along a railway route over the years, which is why composite bridges — constructed from sustainable glass fibre reinforced polyester (GRP) — are proving popular as a durable and maintenance-free option.

Every railway line is dependent upon the reliability of its infrastructure, and older bridges made from steel, stone or concrete require costly repairs and maintenance over time to ensure their safety. But

Complete Composite Systems (CCS) has a modern solution in the form of **composite bridges**.

In association with our German partners BGL Ingenieurbau GmbH, CCS produces and installs composite bridges made from glass fibre reinforced polyester (GRP) for strong load-bearing performance and high corrosion resistance. As well as being extremely robust and durable, these bridges require no maintenance or repair during their long life.

As pioneers in the field of GRP bridge construction, our expertise and range of services extends from design and planning to manufacture in our own production



facility, followed by professional installation on site by our specialist assembly team of experienced installers.

Additional services such as foundation work, renovation of existing foundations and any substructures that may still be used, as well as associated earth and paving work, can be carried out by us. From the railings and the walkways to the load-bearing substructures, we simply do it all.

Due to their excellent properties, GRP applications have proven themselves thousands of times over in bridge construction. Our bridge over the B106 in Schwerin, built in 2003, remains the oldest GRP bridge in Germany, and is one of over 250 successful bridges we have installed to date.

GRP Bridge Construction

We supply GRP bridges suitable for vehicles weighing up to 12 tonnes, as well as bridges for pedestrians. In addition to the GRP supporting structure, special heavy-duty GRP decks are also used for further reinforcement.

If assembly with a mobile crane is not possible, depending on the overall dimensions of the bridge, the lightweight GRP allows the possibility of carrying out the final assembly by hand. This can be very practical in poorly accessible and remote areas, such as forests or nature reserves.

In instances when old concrete abutments can no longer bear the load of a concrete, stone or steel bridge, our lightweight GRP bridges can allow — where appropriate — the old existing concrete abutments to still be used, saving costs.

As well as constructing new bridges, we also offer the renovation of usable constructions and substructures made of wood and steel. Various GRP railing variants and GRP bridge decks have proven their worth here. We have more than eight different bridge deck variants available, from normal pedestrian bridges to bridges suitable for vehicular use.





Advantages of using GRP materials to make bridges:

- Extremely robust and durable
- Strong load-bearing performance
- Dimensionally stable due to the pultrusion manufacturing process
- Free of maintenance or repair
- High corrosion resistance
- UV & weather-resistant
- Flame-retardant and self-extinguishing
- Environmentally sustainable
- Lightweight — easy to handle on site
- Quick and cost-effective assembly
- Available in any colour

GRP railway applications

We can supply:

- Brand new bridges or the renovation of existing railway bridges
- Tunnel linings, using GRP as a substitute for concrete, steel and wood with great success
- GRP gratings, open or closed
- A wide range of GRP railing systems and self-closing doors in hazardous areas
- GRP exit routes and staircases
- GRP entry and transfer platforms with matching surfaces and railings

See our composite bridges being installed in this presentation video above which includes drone footage of an assembled bridge being lifted over a river into position for final installation.

For more visit www.completecomposites.co.uk

Get in touch

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Our composite bridges are made in association with **BGL Ingenieurbau GmbH**

