

## Standen Hey Overbridge 48



### Tony Gee and Partners

|                                |   |
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| <b>Location</b>                | Standen Hey, near Clitheroe, Lancashire, UK   |
| <b>Description</b>             | FRP bridge deck replacement on farm access over a railway.  |
| <b>Partners</b>                | Birse Rail on behalf of Network Rail (Client), Tony Gee and Partners (Designers), Fiberline (Supplier).   |
| <b>The challenge</b>           | The existing bridge had to be removed and a new bridge installed from the existing railway tracks. This was the first vehicle carrying FRP bridge over a railway in the UK.   |
| <b>The solution</b>            | The completed bridge deck, weighs only 20 tonnes, spans 10 metres between the original abutments, which were modified with precast concrete cill beams in order to accommodate the new deck. An FRP solution was selected because of its light weight and minimal future maintenance required.  |
| <b>Material used</b>           | E-glass fibres in the form of bi-axial mats within a UV resistant resin matrix. A two part epoxy mortar was used to bond the deck units together.   |
| <b>Specific design details</b> | The bridge deck comprises up to three layers of ASSET panel deck units. The trapezoidal panels which are 225mm deep by 300mm wide with inclined webs, were manufactured in Denmark, by pultrusion.  |
| <b>Benefits</b>                | Once completed, the panels were transported to a factory near the site where they were bonded together in a climate-controlled environment to form the required composite monolithic deck. When fully assembled, the bridge deck was transported along the tracks in the early hours of the morning, on a specially designed support system. It was then lifted safely into its final location, on elastomeric pad bearings, using a mobile crane. The finishing touches, including erection of metal parapets and placing the polymer concrete surfacing were subsequently completed. The main benefits were quality and ease of manufacture and installation. The low maintenance required also gave it a competitive Whole Life Cost in comparison to other traditional options. |
| <b>Further details</b>         | <a href="https://tonygee.com/">https://tonygee.com/</a>   |