

Bradkirk Footbridge



Details

Description	Footbridge over railway, replacing metallic structure
Client	Network Rail
Date of project	2010
Where FRP composites are used and why	Each span features a fully moulded composite monocoque structure and was manufactured using Gurit's patented Sprint [epoxy] technology material which provides an autoclave quality laminate without the expense of using an autoclave. The bridge was installed in 6 hours.
Type of composite used	The SPRINT fire retardant woven glass/epoxy composite skins are approximately 2.5 mm thick whereas the core varies from 40 mm of 55 kg/m ³ foam at the top of the bridge parapets to 100 mm of 100 kg/m ³ foam on the walkway. To provide a 'paint-free' finish a polyester gel-coat and a vinyl ester tie coat was used. Gurit's Spabond 340LV and Ampreg 22 were used for secondary bonding operations.
Design details	2 x 12m span (1.6 tonnes per span). Train buffeting – buffeting loads relatively low from trains under 70mph . Pulse loading.
Project partners	Gurit, White Young Green, Birse Rail, AM Structures, Optima Projects
Key publications	Mohan M and Santos F, 'Bradkirk Bridge, a case study', Developments in FRP Bridge Design, NGCC seminar, London 2010

Contact