

## Pont y Ddraig (Bridge of the Dragon) Foryd Harbour



### Details

<b>Location</b>	Rhyl Harbour, North Wales
<b>Description</b>	Cycle/Footbridge across the River Clwyd
<b>Client</b>	Denbighshire Council
<b>Date of project</b>	2012-2013
<b>Where FRP composites are used and why</b>	<p>Both bridge spans were designed and built in FRP with localized CFRP reinforcement on the bridge deck and Soffit, this enabled the loads to directly transferred from the caisson hinges to the central lifting cable.</p> <p>Bridge weight was an important consideration due to the number of times per day the bridge would be lifted to allow marine traffic pass into the harbour. Weight reduction was also a key factor in the speed of lift and energy used in the bridge lifting operations.</p>
<b>Specific design details</b>	The double bascule lifting design required a slender lightweight structure consisting of two 10 metres wide bridge decks each spanning 36 metres to a central caisson in the middle of the harbor incorporating the lifting mast for both bridge spans.
<b>Type of composite used</b>	The main body of the Bridge was built using Ampreg Epoxy resin system and layers multiaxial glass reinforcement with structural Corecell M foam and directionally orientated carbon fibre reinforcement, supplied by Gurit UK.
<b>Performance in service</b>	Bridge was supplied with 100-year design life and minimum through life maintenance.
<b>Project partners</b>	Main Contractor: Dawnus Manufacturer: AM Structures Engineer: Gurit UK Design: Ramboll

## Contact