

# Unlocking the power of composites

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*Jonathan Howard, Dura Composites' Business Development Manager, on the company's role in rail as featured in the latest edition of Rail Director*

There is an important role for composites to play in the rail industry. Whilst Network Rail and the National Composites Centre have only recently partnered up, the use of these materials is something that has been done by Dura Composites for over two decades.

The company is a leader in the use of high-strength and low weight Glass Reinforced Polymer (GRP), which is helping to solve the key challenges of capacity, reliability and efficiency.

"Composite materials are playing an increasingly prominent role in the rail industry thanks to their lightweight nature, durability and fire performance qualities," said Jonathan Howard, the company's Business Development Manager.

"Whilst GRP is not new to the industry, designers and contractors are now becoming more aware of the

benefits, and we are working hard to further inform the industry of how dedicated and unique rail specific designs can be used to save time and money across several applications.

“This follows the output from the RIA-formed UPCRIL working group (Unlocking the Power of Composites for Rail Infrastructure Improvements) over the past 18 months, where barriers and blockers to the adoption of composites were identified.

“We’ve been supplying materials for the rail sector for over 20 years and we’ve got endless case studies to prove the product works in various applications.”

Despite the challenges surrounding COVID-19, 2020 has been a year of success for Dura Composites. Earlier this year, the company scooped the coveted Queen’s Award for Enterprise Innovation 2020 for its modular train station platform solution known as Dura Platform.

It sits alongside a host of innovative specially designed product solutions including GRP flooring, handrails, trench covers and access structures, as well as low maintenance GRP Ballast Retention systems, trackside walkways, pedestrian footbridges and bridge walkways.

Jonathan said: “The benefits in the supply of composite materials are being seen in multiple applications. There are the safety and cost benefits, characterised by the fact that a lot of our products can be brought in by a one or two men lift.

“Further, our company develops rail application specific product solutions plus a huge amount of project specific solutions, utilising the in-house PI insured structural engineering design team. This allows us to provide a one-stop solution, often culminating in off-site modular structures or components to make it easier to install on site, often in engineering hours.

“There is also huge longevity in the products we are installing. Where we are replacing timber for example with station dagger boards, we’re installing material which needs no further painting, ever.

“Overall, rail industry leaders are seeing the benefits and it is a time of great optimism for us as a business. The GRP industry has grown quite considerably in the last few years – we’ve seen our own sales double over the last three years partly due to our own innovation, but also it’s a testament to how the industry is adapting and evolving to embrace new technology.”

The news of the partnership between Network Rail and the NCC is set to add further weight to the use of composites. The investment which Network Rail themselves are looking to put into composites adds to the building of that confidence.

Jonathan said: “To assist this major milestone, Dura has spent two years developing a new product selector resource, conceived to provide further confidence to designers, specifiers and contractors who are more used to working with concrete, steel and wood.

“This boils down to being able to select the right floor grating product to suit your application based on entering or selecting data based on your project, such as span, load, load safety criteria, etc.

“The web tool also features a section that allows you to compare GRP profile section such as I-Beams versus other materials such as steel, so that you know how much weight would be saved using GRP, and what size section would be needed.

“This is especially useful where steel is too heavy to bring in or if there is a requirement for non-electrical conductivity, which is of course common these days in rail.”