



# PROTECTION AGAINST AGGRESSIVE ENVIRONMENTS FOR THE WORLD'S LARGEST SOLAR-POWERED BRIDGE

As part of a five-year project, the task of protecting the existing Blackfriars rail bridge and the new station that runs along its length presented a specific challenge for Sherwin-Williams in that a common protective coating system for old and new steelwork was preferred.

With the River Thames below, inherent issues of dampness and humidity meant that the choice of coating would be of particular importance, because Network Rail specified a minimum service life of 25 years to first major maintenance.

---

**EXPERTS FROM SHERWIN-WILLIAMS WORKED WITH THE CONTRACTOR, BALFOUR BEATTY, CONSULTANT ENGINEER, SEVERFIELD GROUP, AND THE CLIENT, NETWORK RAIL, TO PROVIDE 25 YEARS PROTECTION AGAINST HIGH HUMIDITY AND SALINITY LEVELS.**

**CLIENT:**  
Network Rail

**MAIN CONTRACTOR:**  
Balfour Beatty

**CONSULTANT ENGINEER:**  
Severfield Group

**FROM SPEC TO PROTECT**  
[protectiveemea.sherwin-williams.com](http://protectiveemea.sherwin-williams.com)

**SHERWIN  
WILLIAMS®**

# BLACKFRIARS RAIL BRIDGE AND STATION, LONDON



## SOLUTION

The roof of the new station was covered with 4,400 photovoltaic panels, providing up to half of the energy needed to run the railway station below and making it the world's largest solar-powered bridge. First Capital Connect, which manages Blackfriars Station, expects the panels to cut the station's carbon emissions by an estimated 511 tonnes a year, further reducing the carbon footprint of its train routes to the south east of England. As a major advertisement for London's efforts to become a sustainable city, with tourists and workers viewing the landmark as they enter the capital, the project was of paramount importance.

Because of its success in the repainting of the Forth and Tay Rail bridges and all the new steelwork for Leeds station, a glass flake epoxy system was chosen. The main contractor, Balfour Beatty, selected the Severfield Group to supply and fabricate the steelwork for the new station and Pyeroy to repaint the existing bridge. Both sub-contractors selected Sherwin-Williams Protective & Marine Coatings EMEA as their preferred paint supplier.

The existing paintwork on the rail bridge was removed by abrasive blast-cleaning. The three-coat repainting system comprised; Macropoxy™ L674 Blast Primer at 25 um Dry Film Thickness (DFT), Macropoxy M922 Glass Flake Epoxy Intermediate at 400 um DFT and Acrolon™ C137V2 Special Finish at 50 um DFT. A stripe coat of Macropoxy M922 at 200 um DFT was applied between coats 1 and 2.

## THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams Protective & Marine delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe. Our broad portfolio of high-performance coatings and systems that excel at combating corrosion helps customers achieve smarter, time-tested asset protection. We serve a wide array of markets across our rapidly growing international distribution footprint, including oil and gas, water and wastewater, bridge and highway, steel fabrication, flooring, food and beverage, rail and power, marine and passive fire protection.

All the new steelwork that formed the station canopy and the entrance/ticket halls located at each end of the bridge were coated with the glass flake epoxy protective system. In total more than 60,000 m<sup>2</sup> of new and old iron and steel was coated. The benefits to customers using this system for the bridge and highways sector comes in terms of labour saving costs, lower energy usage and volumes of paint required. In addition, the higher volume solids coating system meant that fewer volatile organic compounds (VOCs) were emitted during the process.

## SUBSTRATE

Steelwork.

## REQUIREMENTS

25 years protection against high humidity and salinity levels.

## AREA COATED

60,000 m<sup>2</sup>.

## FEATURED PRODUCTS

- Macropoxy L674 Epoxy Blast Primer
- Macropoxy M922 Glass Flake Epoxy
- Acrolon C137V2 Acrylic Urethane Finish.

**SHERWIN-WILLIAMS®**

protectiveemea.sherwin-williams.com  
06/21 EMEA10060/V05/PC

### United Kingdom:

+44 (0)1204 556420  
sales.uk@sherwin.com

### Europe and Africa:

+44 (0)1204 556454  
sales.uk@sherwin.com

### Middle East:

+971 4 8840200  
sales.me@sherwin.com

### India:

+91 9871900878  
pmsales.india@sherwin.com