HEMPEL
Trust is earned

Railway Bridges, Romania

Advanced low-DFT coating system reduces project costs on important rail bridge – with no compromise on protection

As the shortest rail connection between Greece and Germany, the Pan-European Corridor IV is one of the most important transport corridors in Europe. The international rail line spans across nine countries, crossing numerous bridges along the way. Parts of the new-build steel bridges have been protected by an advanced Hempel coating system that delivers high application efficiency and long-term corrosion protection.

"We are very pleased with the quality of products used in accordance to project specification for each new module of the railway bridge.

By applying Hempel's coatings system as specified, it has helped us deliver our project faster and with reduced costs"

- Energosteel Art

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Productivity without compromise
When experienced steel production company Energosteel Art was contracted to produce the steelwork for the Rail Bridges, it had very specific requirements for the coating system. The bridge is owned and operated by Romanian Railway Company (CFR), and the coating had to meet the requirements of project specifications with anti-corrosive protection, according to ISO 12944-6:2018 for C5-High. Hempel's coatings system was approved by the Romanian Railway Company (AFER), which presides over the approval of rail coatings systems used for bridges in Romania. In addition, Energosteel Art wanted a system with low dry film thickness (DFT), as this would reduce time, costs and waste during application. Our solution delivered on all counts.

High performance at 40% lower DFT
We supplied a two-coat system comprising Avantguard 750 and Hempathane HS 55610. With a total DFT of just 160 microns, the system is around 40% thinner than equivalent solutions, but still delivers excellent long-term corrosion protection. Overall, it meets the requirements of ISO12944-6:2018 for C5-High environments.

The combination of high anti-corrosive performance and low DFTs is possible due to the Avantguard primer, an activated zinc-rich epoxy. Avantguard's innovative patented triple activation technology was a clear choice for this project due to its corrosion protection performance. Due to their unique formulation, Avantguard primers utilise three methods of corrosion protection: the barrier, inhibitor and galvanic effects. As a result. they provide better corrosion protection than conventional zinc-rich primers and allow the design of systems with less coats or lower DFTs. Avantguard primers also have extremely short overcoating intervals, which means more coats can be applied in one shift, increasing productivity during application.

The system is finished with Hempathane HS 55610, a low-VOC polyurethane topcoat designed for long-term protection and colour retention in severely corrosive atmospheric environments.

Project Details:	
Year of project:	2021
Country:	Romania
Project Size:	3820 Litres
Asset Owner:	CFR / Romanian Railway Company
Steel Fabricator:	Energosteel Art
Coatings Applicator:	Energosteel Art
ISO 12944 Environment:	C5
Products used:	Hempadur Avantguard 750 (60 microns DFT) Hempathane HS 55610 (100 microns DFT)

Long-term asset protection and lower project costs
Working with this advanced two-coat system, Energosteel Art was able to reduce paint consumption, labour costs and VOC emissions during application – with no compromise on long-term asset protection.

The Hempel Group Head Office
Hempel A/S, Lundtoftegaardsvej 91, 2800 Kgs, Lyngby, Denmark
Tel: +45 4593 3800 Email: hempel@hempel.com **hempel.com**