New BASF Heat Exchanger, Antwerp

Successful PPG HI-TEMP 1027™ chosen to provide high-temperature protection

Case study

The Customer
BASF Antwerpen NV

The Location
Antwerp, Belgium

The Challenge
To protect the heat exchanger from temperatures up to 325°C (617°F) and provide sufficient corrosion protection in the ambient temperature range

The Solution
PPG HI-TEMP 1027 single-component, high-temperature-resistant coating

The Benefits
Prevents corrosion under insulation (CUI) and can be applied directly to hot substrates up to 316°C (600°F) thereby saving expensive downtime

The Result
The BASF Antwerpen NV inspection team were so impressed at the result that they chose PPG HI-TEMP 1027 coating in the site specification as the sole solution for their high-temperature vessels and piping

The Customer

BASF Antwerpen NV is the largest integrated chemical complex in Belgium and the second largest production platform of the BASF Group worldwide. BASF Antwerpen NV is a 100% subsidiary of BASF SE, the world's leading chemical company. The BASF Antwerp product range comprises base and specialty chemicals and primary products, refining products and inorganic chemicals.

XERVON, the applicator, offers customized services for the construction and maintenance of industrial plants in the (petro) chemical, steel, energy, construction markets and the public sector.

The Challenge

A new BASF heat exchanger, made out of stainless steel, needed to be coated with a product resistant to temperatures up to 325°C (617°F). In addition to the required temperature resistance, the coating also had to provide sufficient corrosion protection in the ambient temperature range.

The Solution

PPG chose the PPG HI-TEMP 1027 coating as a high-value solution for the vessel. The vessel was blasted with non-metallic grit to ensure good adhesion and then coated with the products below:

- PPG HI-TEMP 1027 gray DFT 125 µm (5 mils)
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The coatings were applied in an onsite fabrication shop under controlled weather conditions using 120 liters (32 US-gallons) of PPG HI-TEMP 1027 product on the 12-meter (40 ft) long vessel.

The Benefits

The PPG HI-TEMP 1027 product has been specifically developed to prevent CUI with superior protection for extreme temperature conditions and provides proven, long-lasting protection.

Easy to apply by spray, brush or roller, the PPG HI-TEMP 1027 single-component coating is surface tolerant, and can be applied to tightly adhering rust in maintenance and repair situations. Its broad recoat window also makes future touch-up and repair tasks easier.

Benefits of PPG HI-TEMP 1027

- Provides corrosion resistance under extreme temperature range from –185°C to 650 °C (–300°F to 1,200°F)
- Can be applied directly to hot substrates up to 316°C (600°F)
- Prevents corrosion under insulation (CUI)
- Prevents chloride-induced external stress corrosion cracking of insulated austenitic stainless steel
- Ideal for cryogenic service
- Excellent UV stability to prevent corrosion of non-insulated surfaces subject to atmospheric exposure
- Dries by air, so no heat cure is required
- Simple to use: one-component, surface tolerant, and open recoat window

Image: PPG Hi-Temp 1027 can be applied on hot substrates as well as on substrates which serve in conditions with severe thermal shocks to cryogene temperature exposure.

The Result

The BASF Antwerpen NV inspection team was very happy with the result of the application. Indeed, after a meeting was held with the 'Painting Project Group', BASF decided to implement the PPG HI-TEMP 1027 coating in the site specification as the sole solution for their high-temperature vessels and piping.

XERVON, the applicator, found that the product sprayed extremely easily resulting in a very smooth finish, which increased performance and productivity throughout the project.

Experience, innovation and integrity – that is what makes PPG the ideal coatings partner.

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