

# PPG NOVAGUARD™ 890LT

Long-lasting corrosion protection for an internal tank applied in severe winter conditions

## Case study



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### The Customer

Total Refinery Antwerp

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### The Location

Antwerp, Belgium

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### The Challenge

To provide corrosion protection of internal shell of tank 441 in outdoor winter conditions

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### The Solution

The PPG NOVAGUARD™ 890LT single-feed, chemical- and abrasion-resistant tank lining cures at temperatures down to -10°C

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### The Benefits

Because the PPG NOVAGUARD 890LT system can handle very low curing temperatures, it eliminated the risk of improper curing, which ensured the highest quality in challenging conditions

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### The Result

Our fully cured, high-quality system was applied efficiently in harsh winter temperatures and will provide long-lasting corrosion protection

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### The Customer

Total is one of the world's top ten integrated oil and gas processing companies. The company's facilities include the immense Antwerp refining and petrochemicals complex, which is its largest in Europe. To meet growing global demand and address new market trends, Total Refinery Antwerp upgraded and adapted the site to focus production on higher-value-added products that would meet the most stringent environmental standards. The company's aim is to make the refinery and petrochemical complex one of the top performers in the industry.

### The Challenge

Tank 441 has a diameter of 43,89 meters, a height of 16,70 meters, and is equipped with a floating roof. Total's technical tank team wanted to coat the internal shell of this tank to ensure effective corrosion protection in combination with durable abrasion resistance.

The main challenge was that the tank would need to be coated in atmospheric conditions (outside) with the applicators working from the floating roof. In effect, the applicators used the pressure test water to keep the floating roof up and then lowered the roof once every "ring" was coated.



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Therefore, the coating had to be suitable for application onto a cold surface, including low-temperature curing as the application was done through November, December and January. To ensure good quality, Total also wanted a coating that could deal with a -10°C temperature as the product cured.

### The Solution

To meet Total's strict specification and operational requirements, we proposed our newest coating development, the PPG NOVAGUARD 890LT system, which would be applied in one coat to 400 µm DFT.

The fact that this system can be applied on a surface down to 0°C, combined with a minimum curing temperature of -10°C, provided a high degree of confidence for both the customer's technical tank team and the applicator that the tank internal shell would benefit from a high-quality, resilient protective coating.

### The Benefits

The PPG NOVAGUARD 890LT coating is a solvent-free, low-temperature cure (fast return to service) Novolac phenolic tank lining system, which can be applied with a single-feed airless pump.

### Key Benefits

- High chemical resistance
- Cures down to -10°C
- Can be applied on surfaces down to 0°C
- Single-feed application
- Rapid cure and return to service: inspection at 18 hrs – return to service in 36 hrs (20°C)
- Novolac epoxy technology for broad chemical resistance – similar to PPG NOVAGUARD 840
- Low-film thickness required – 300 µm/12 mils
- High-film thickness capable 1,100 µm/45 mils with no sagging

### The Result

Both the owner, Total, and the applicator Russo BVBA were happy with the project implementation and the resulting finish provided by our PPG NOVAGUARD 890LT tank lining system. On this challenging project, the coating proved that it was easy to apply despite very harsh environmental factors during the application phase.

The system is also highly efficient as it reduces the risk of errors (due to its low-temperature cure and rapid cure, along with mistakes due to mixing, as it can be applied with a single-feed airless pump).

Following application, the system was tested for the customer's approval and our field technical services concluded that the coating was applied and cured properly, thereby ensuring a long lifespan for the tank lining system.

Total and Russo BVBA stated, "We were delighted with the PPG NOVAGUARD 890LT tank lining system's ease of application and efficiency, and also the technical support team's attention to detail and overall support throughout this project."



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