

Petrobras, Pasadena, Texas

Prevention of Corrosion Under Insulation (CUI)
and prevention of corrosion from atmospheric
exposure hot application of coatings



Case study

Facility Type

Refinery

Owner

Petrobras

Location

Pasadena, TX, USA

Project Date

2010 - 2011

Contractors

Brand Energy, Mobley

Substrate

Carbon Steel

Surface Prep

SSPC-SP 5
White Metal Blast

Coatings

PPG HI-TEMP® 1027
PPG HI-TEMP 500VS
PPG HI-TEMP 1000VHA

Project Size

PPG HI-TEMP 1027 - 120,000 sq.ft.
Topcoat - 100,000 sq.ft.

The Customer

The Petrobras refinery in Pasadena, Texas is currently being upgraded to meet U.S. clean air standards for gasoline and is also being expanded in size and capacity. The plant will be capable of processing heavy oil and feed stock, including output from Petrobras' Marlim oil field in Brazil.

The Description

PPG HI-TEMP Coatings partnered with Petrobras during the expansion of the Pasadena refinery to provide the solution to their various high temperature coating needs. Two to three coats of PPG HI-TEMP 1027 at 5-6 mils [125-150 microns] each were applied to protect steel piping from Corrosion under Insulation (CUI) caused by the effects of thermal shock and thermal cycling. To protect against corrosion on equipment with un-insulated surfaces, the coating system included a primer coat of PPG HI-TEMP 1027 at 5-6 mils [125-150 microns] followed by Hi-Temp 500VS or 1000VHA as a topcoat. Equipment that was coated included an alkyl unit, towers, stacks, pipes and a Re-Gen Reactor FCC unit. The Re-Gen unit and associated piping were coated with PPG HI-TEMP 1027 while in service (hot applied) with surface temperatures ranging from 300°F-600°F [149°C-315°C]. The PPG HI-TEMP 1000VHA topcoat was also hot applied to equipment that was still running. Application of these products while their equipment was running resulted in a huge cost savings. The PPG HI-TEMP 500VS topcoat was ambient applied. Both topcoats provided the colors and aesthetic appeal that Petrobras required.

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