Formosa Petrochemical Corporation (FPCC)

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

Case study

Facility Type
Refinery

Owner
Formosa Plastics Group (FPG)

Division
Formos Peta rochemical Corp. (FPCC)

Location
Mailiao,Taiwan

Project Date
September 2011

Contractors
Penderlo Enterprises

Substrate
Carbon Steel

Surface Prep
Pressure wash & SSPC
SP-6

Coatings
PPG HI-TEMP® 1027

Project Size
2011 - 1000 gallons
2012 - on-going

The Customer

Based in Taiwan's western coastal town of Mailiao, in YunLin County, Formosa Petrochemical Corporation's (FPCC) main business includes three refinery, petrochemical, and utilities plants which generated US $25.7 billion in sales revenue in 2010 by refining an average of 450,000 barrels of crude oil daily. However, following two major fire incidents in July 2010, which were directly linked to corrosion under insulation (CUI), Formosa initiated five large-scale maintenance projects at the refinery focusing on equipment replacement and coating renewals.

Formosa required a coating that could prevent corrosion under insulation (CUI) from recurring in the future in an area where the environment is so harsh it is referred to as "head of the windstorm, end of the water flow", where the salt air blows in from the South China Sea. Due to the large daily production requirements, and the high cost of shutting down, the plant owners also needed a coating that could be applied while their equipment was operating at elevated temperatures.

The Description

First and foremost, PPG HI-TEMP 1027 was chosen by Formosa because it was the best solution to their Corrosion Under Insulation (CUI) issues. In addition, it was chosen due to the significant cost savings achieved by direct application to hot surfaces without shutting down, because of the ease of application as a one component coating, and because of the ability of PPG HI-TEMP 1027 to withstand thermal shock and cycling. PPG HI-TEMP 1027 has been applied via airless spray on abrasive blast cleaned surfaces. Two coats at 5-6

mils [125-150 mils] DFT each for a total of 10-12 mils [250-300 microns] have been applied to in-service equipment and pipelines, most of which are operating at temperatures ranging from 212° F to 500°F [100°C to 260°C] during application.

These large scale projects are on-going and the owners continue to apply PPG HI-TEMP 1027 on a daily basis, solving their corrosion problems and saving costs. equipment without shutdown, saving Chevron Phillips time and money.

Visit **ppgpmc.com** or contact:
Asia Pacific ✆ +86-21-6025-2688 ✉ ppgpmc.ap@ppg.com | **Europe, Middle East and Africa** ✆ +32-3-3606-311 ✉ customers@ppg.com
Latin America ✆ +57-1-8764242 ext. 201 ✉ ppgpmcandean-ca@ppg.com | **North America (US & Canada)** ✆ +1-888-9PPGPMC ✉ PMCMarketing@ppg.com