

Pertamina Refinery Unit IV

SIGMASHIELD™ 880 enhances productivity while protecting jetty

Case study



The Customer

Pertamina RU IV

The Location

Cilacap, Indonesia

The Challenge

Coastal environment, tidal zone, saltwater immersion

The Solution

PPG SIGMASHIELD 880 (yellow)

The Benefits

- Faster drying
 - Abrasion resistant
 - Surface tolerant
 - Substrate hand tool preparation
 - Continued cure underwater
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The Result

- Easy application – saves labor and time
 - Can be applied in challenging conditions
 - Protects under aggressive environments
-

The Customer

The Pertamina (PERSERO) Processing Unit RU IV in Cilacap, Indonesia has been in operation since 1976.

This refinery boasts the country's largest production capacity of 348,000 barrels per day. Pertamina RU IV processes raw crude oil from the Middle East while simultaneously extracting lube oil and asphalt. It supplies between 34% and 60% of Indonesia's national fuel needs.

The Challenge

Like many refineries, the Pertamina RU IV Refinery faces a major challenge protecting critical refinery infrastructure from the ravaging effects of a coastal environment and corrosion. This is particularly difficult with jetty structures that are exposed to tidal zones, wave action, debris, on- and offloading activities, and the damaging effects of saltwater.

The coastal location of the jetty structure makes repair and maintenance even more of a challenge due to tidal limits on surface preparation and painting windows. Painting crews must work quickly and efficiently to remove the old coating and corrosion, and begin repainting immediately.





The Solution

The SIGMASHIELD 880 coating was selected because of its abrasion- and corrosion resistance performance, easy application characteristics and as it can be rapidly immersed into splash- and tidal zones.

Minimal surface preparation was a requirement for the Pertamina jetty, and the SIGMASHIELD 880 coating's ability to be applied to a damp surface, prepared using hand tool chipping and a wire brush to ISO St2 standards, saved labor and time. Finally, a single coat, 425 micron (17 mils), was applied by roller.

The Benefits

The SIGMASHIELD 880 coating's high-surface tolerance makes it ideally suited to withstand exposure to saltwater. Its rapid drying time was a key to the successful application at Pertamina RU IV. The coating was subjected to immersion within 30 minutes after application due to the tide but continued to cure without adverse effect.

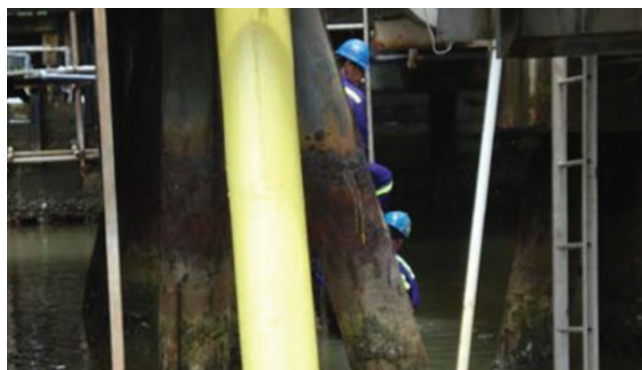
Although the SIGMASHIELD 880 coating is not reinforced, it still achieves the abrasion resistance that is important in this Pertamina jetty application due to the wave action and debris to which the pilings will be exposed.

Its improved cathodic disbondment protection provides enhanced corrosion resistance. Conclusively, the SIGMASHIELD 880 coating is an excellent choice for a splash zone application in extreme environments, such as the tropical climate in Cilacap, Indonesia where the Pertamina RU IV refinery is located.

The Result

The maintenance and application of the SIGMASHIELD 880 coating was completed within the constraints of this tidal zone, saltwater immersion and coastal environment.

Inspection of the Pertamina jetty 18 months after the maintenance and repainting with the SIGMASHIELD 880 coating demonstrated superior corrosion- and protection performance relative to the competitor product, which showed numerous areas of breakthrough rust and corrosion on jetty pile pipes.



First image: Initial condition

Second image: Hand preparation

Third image: Immersion after 30 minutes

Fourth image: Inspection after 18 months

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