

CHEMPOSITE® CASE HISTORY – Chemical & Mining

CUSTOM FABRICATED SCRUBBER & TANKS

INDUSTRY: Chemical & Mining

YEAR: 2014

LOCATION: Indonesia



PROJECT SCOPE & CHALLENGE:

A mining operation in Indonesia has installed the DynaWave scrubbing system to treat the flue gas and to reduce emission. During the process, the particles or fly ash will be reclaimed as gypsum and consumed for the particle board industry.

The process involves high temperature at the inlet, corrosive chemicals and abrasive particles. Chemposite designed and fabricated the FRP equipment and piping with its proprietary abrasion resistant liner throughout and meeting the latest ASME, RTP-1 Specification for a consultant engineering firm in Australia. This DynaWave scrubber incorporates some very complicated internal components such as custom designed FRP armor plates with abrasion liner over the 800mm Dia. spray piping to span over 7M between the shell wall; inverted FRP support tees for Chevron modules; support I-beams and rings; multiple layers of dip tubes connected to 300mm Dia. spray headers, and heavy duty blank off plates. The top of the scrubber is engineered to support three free standing stacks extended over 10M above the roof.

All equipment, piping and stack were oversized and shipped from the private dock at the plant to the mine site in Indonesia.



EQUIPMENT:

Chemical Scrubber 7500mm Dia. X 20M high c/w 2500mm Dia. Stacks

Gypsum Tank 5000mm Dia. X 6M high

Filtrate Tank 4000mm Dia. X 6M high

Surge Tank 7500mm Dia. X 15M high

All related FRP Piping and Ductwork.

MATERIALS:

Due to the critical application and the needs to meet their project budget, multiple resin system was chosen after consulting with the AOC Corrosion Team in Tennessee, USA. Vipel F-085 novalac epoxy vinyl ester resin was used in the high temperature application and F-010 bisphenol-A epoxy vinyl ester resin was used in the liner and structural layer of the scrubber and the storage tanks.



OUTCOME:

The project was completed meeting all quality assurance and inspection, and delivery schedule.



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