

CaseHistory

Indonesian power plant structure



The Vipel® resin formulation addressed thixotropic needs for vertical application.



More than 40,000 square feet (3,700 square meters) of concrete surface were rehabilitated and strengthened.

Market Segment:	Power & Energy
Composite Application:	Aeration pit surface
Resin:	Vipel® F010 bisphenol-A epoxy vinyl ester
Manufacturing Process:	Hand Lay-up
Media:	Seawater Sulphates
Vertical surface:	Up to 16.4 feet 5 meters
Total surface area:	40,709 square feet (3,782 square meters)
Installed:	2011
Location:	Paiton, East Java, Indonesia

When a power company expansion in Indonesia needed a new concrete aeration pit, its surface was protected with Vipel® F010 vinyl ester from AOC. The versatile resin technology was supplied through Nuplex Composites.

The new power plant will add 815 megawatts of capacity to PT Paiton Energy's complex in Paiton, East Java, Indonesia. The site has an existing 1,230-megawatt facility. General contractor for the expansion project is TOA Corporation, headquartered in Tokyo, Japan.

The new unit will use the aeration pit for seawater that is circulated through the cooling water system and for water used to scrub sulphates from stack emissions. Temperatures as high as 122°F (50°C) increase the aggressive nature of the liquid environment.

Indonesian power plant structure, continued

Technology for the criteria

“We worked closely with the civil contractors to demonstrate that the AOC technology meets the demanding criteria for the application,” said Jason Triggs, technical sales consultant for Nuplex Composites. “The Vipel F010 resin series is based on a versatile bisphenol-A epoxy chemistry that allows for a range of formulations. Nuplex Composites was able to tailor the resin to balance process, cost and performance requirements.”

PT Samudera Indoraya Perkasa, of Surabaya, Indonesia, applied the protective composite liner. After preparing the concrete surface, workers manually applied a laminate of Vipel F010 resin-impregnated fiberglass chopped strand mat. In a final step, a topcoat of Vipel F010 resin with synthetic surfacing veil established a resin-intensive layer with superior corrosion resistance.

Teaming up with AOC

Triggs said AOC’s technical service team helped Nuplex Composites support the project from quotation to application. The resin was promoted to process well at high temperatures and meets the need for a long pot life. The formulation also addressed thixotropic needs for vertical application to 16.4-foot (5-meter) high walls without running.

In addition to the resin, Nuplex Composites supplied the veil and mat used to protect the concrete substrate of two aeration pit sections and its beams. A total of 40,709 square feet (3,782 square meters) of surface received the corrosion-resistant protection.

About Nuplex Composites

Nuplex Composites (formerly “FGI”) is a full-service distributor of materials, supplies and technical support for composite manufacturers in the Asia-Pacific region. From large ocean-going vessels to small “one-off” components, Nuplex Composites helps customers achieve the optimum composite solution. For more information, go to <http://www.nuplex.co.nz>.

About AOC

AOC is a leading global supplier of resins, gel coats, colorants, additives and synergistic material systems for composites and cast polymers. AOC knows technology, lives quality and delivers service better than any other resin supplier. For more information, e-mail corrosionresins@aoc-resins.com, phone (901) 854-2800 or go to CorrosionResins.com or AOC-RESINS.com.

