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HIGH PERFORMANCE EPOXY COATINGS

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CASE HISTORY:

EXTERIOR TANK COMPOSITE REPAIR

PRODUCTS	BIO-SEAL 190, BIO-SEAL 914, CARBON
LOCATION	ECUADOR
YEAR	2016

CHALLENGE

An oil and gas tank had experienced severe corrosion around the bottom ring of the structure. There was immediate need to rebuild the deteriorated surface and prevent further corrosion.

SOLUTION

Due to the wall loss, cost for complete a repair, and space limitations from surrounding plant facilities, a carbon fiber epoxy composite system was chosen to complete the repair. Using a specially modified resin system designed for composite repairs with high quality 20oz woven carbon fiber, application was completed on site with full tank use restored.

IMPLEMENTATION

Surface preparation by power washing removed contaminants, loose rust, and previous paint.

The steel surface was first primed with a coat of BIO-SEAL 914 applied by roller. The carbon fiber was saturated on a work table prepared next to the job site using BIO-SEAL 190. Once saturated, these strips were rolled up, given to an applicator team, then unrolled onto the surface. The carbon application was applied in two meter strips, pressing each strip into the still wet 914 primer coat with aid of a flat edged tool to remove air bubbles. Successive layers of carbon were applied with an inch or so overlap creating a “single” carbon structure.

This was a large tank in fairly warm conditions so care

was taken not to let any epoxy cure for longer than 36 hours before being overcoated.

No top coat was applied to the carbon epoxy repair however additional recommendations would be to apply a polyurethane based coating for UV protection and color stabilization.

OUTCOME

Installation was simple, required minimal crew, and was returned to safe operation without further concern about corrosion loss or integrity.