



Case History

Four piping systems installed on new deepwater pipelay and offshore construction vessel

CH5240

Location

Triyards Vung Tau Shipyard

Vessel

Lewek Constellation

Owner

EMAS Offshore

Year

2013

Class

DNV GL

Product

Bondstrand™ Glassfiber Reinforced Epoxy (GRE) Series 2000M

Problem

Corrosion of metallic pipe was the major reason for the use of GRE pipe for this installation. Saltwater corrosion is the silent enemy of every sea-going vessel.

Solution

A total of 3,381 meters (11,092 feet) of Bondstrand 2000M, 50-500 mm (2" - 20"), pipes were used for Anti-rolling & Anti-heeling lines (ARH), Airvent & Sounding lines (AV & SD), Fresh Water Transfer Lines (FWT) and Thruster Cooling lines (TC). GRE pipes were flanged to steel penetration and equipment flanges. Double O-ring expansion joints were used on Anti-rolling & Anti-heeling lines to compensate for deformation of the hull during operation of vessel.

NOV Fiber Glass Systems also provided engineering support, spool prefabrication, installation, leak test and hydrotesting to yard. Our partner, South West Industries provided local services to support installation.

Results

With the use of GRE piping, construction cost at the yard was kept low. There was no need for pipe coating or galvanizing. The lower pump power consumption due to the smooth interior of the pipe will continue to benefit the owner over the service life of the vessel.

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Operating Conditions	AR & AH	AV & SD	FWT	TC
Operating pressure	1.12 bar / 16.2 psi	Ambient	5 bar / 72.5 psi	5 bar / 72.5 psi
Operating temperature	27°C / 80.6°F	Ambient	27°C / 80.6°F	27°C / 80.6°F
Design pressure	16 bar / 232 psi			
Design temperature	55°C / 131°F			