COMPOSITE REPAIR SPECIALIST

- TYPE OF DEFECT: Axial Slot External Corrosion in Subsea Environment
- PIPE DETAILS: 10” OD - max 50°C pipe temp. - 20 bar design pressure
- LOCATION: INDIA
- 3X PRODUCT: REINFORCEKiT 4D SUBSEA (R4D-S)

OVERVIEW

The objective of the repair performed in December 2014 by 3X ENGINEERING and its local distributor 3X INDIA was to reinforce 11 leaking defects over 1.7 meter length of a subsea pipe section due to severe corrosion.

SCOPE OF WORK

- After calculations and Finite Elements Analysis (FEA), 26 layers have been determined to perform the repair.

- Underwater, after removal of metal clamps and concrete over the pipe, a surface preparation was performed to get a good surface roughness (60-micron surface profile).

- The wrapping repair has been performed following several stages:

  1/ Special subsea filler (F3XSS) application to fill the leaks and provide a solid and smooth curvature.

  2/ Sandblasted thin steel plates (with filler), fixed with straps during curing time, installed over the defected area.

  3/ Second filler application performed to ensure removal of sharp edges and stress concentration areas.

  4/ Primer application on the entire repair using a gun with bi-component cartridge.

  5/ Wrapping using Kevlar and R3X1050-S resin on the whole repair surface (steel plates and pipe) to avoid differences of level and to increase quality of the 1st layer wrapping.

- A protective cover has been applied to protect the recently installed layers and a 72-hour curing time has been allowed before pressuring the pipe.

RESULTS

Based on its experience acquired during two recent subsea projects on 32” pipe at 62-meter depth, 3X Engineering has been able to conduct with success this complicated job. Applying our products in deep water is very sensitive and needs to be performed with high-qualified staff and high-performance equipments. This pipe repair was successfully completed and after service, no leak was observed.

For more information concerning our operations and range of products, please contact us at:
3X Engineering - 9 Avenue Albert II - 98000 Monaco
Phone: +377 92 05 79 81 - Fax: +377 92 05 72 71 - E-mail: info@3xeng.com - www.3xengineering.com