

Composite Solution Fortifies New Construction Offshore

Composite Solution Fortifies New Construction Offshore

Mexico

Pipe Details

- 1,067-mm (42-inch) offshore gas pipeline
- 500 m (1,641 feet) repair length
- New construction
- New FBE-coated (Fusion Bonded Epoxy) pipe

Summary

- A 1,067-mm (42-inch) gas pipeline was being pulled through a 56-inch casing and along the seabed during an offshore installation
- Casing Spacers and Contour WA™ abrasion-resistant wrap were applied to preserve line integrity
- Materials shipped to the worksite within 1 week
- Two, 30-person Clock Spring trained crews from Nirsa, a local distributor, worked around the clock to complete the installation in 5 days
- No hot work was required
- The products and installation allowed the team to meet an aggressive deadline
- The products will reduce maintenance costs over the life of the line

The project plan called for the pipe to be pulled through a 1,422.4-mm (56-inch) casing and along the seabed, which could be damaging to traditional anode collars placed along the pipe. The pipeline operator was concerned about potential damage to the anode collars used to preserve cathodic protection along the pipeline because metallic spacers are not designed to handle all the loading conditions that would be experienced during the pipe pull. Things had not gone well during the first pullout operation, during which the metal collars failed.

In addition to installation challenges, the entire job had to be completed in less than 5 days.

Looking for a company that could provide spacers as well as a composite wrap to protect the pipeline, The operator approached Clock Spring Company, Inc. based on feedback received from other contractors that had used Clock Spring products as a solution on spiral welded casing pipe.



A 500-m (1,641-foot) section of 1,067-mm (42-inch) diameter gas pipeline coated with Contour WA to protect the fusion-bonded epoxy (FBE) coat. The blue film is installed over the wrap while curing.

After careful consideration, the company decided to use centralizing casing spacers during installation of a section of line covered with abrasion resistant composite wrap.

Replacing metallic spacers with Clock Spring Casing Spacers delivered a number of benefits. The spacers center the pipe in the casing, minimizing deflection while reducing friction, eliminating coating wear, and providing electrical insulation. This solution would not only reduce construction time but drastically reduce future maintenance costs.

Given the green light, the Clock Spring engineering team designed a solution that would provide proper support for the loading conditions during the installation using 42 101.6-mm (4-inch) thick spacers 0.91 m (3 feet) in length along the line.



Clock Spring-trained and certified technicians from local distributor, Nirsa, apply spacers to a pipeline covered with Contour WA™.

. The entire 500 m (1,641 feet) length of the line was protected with Contour WA™, an engineered, bi-axial stitched e-glass tape impregnated with a water-activated polyurethane resin. All the products for this installation shipped in less than 1 week.

Clock Spring trained and certified installers from dba Nirsa SA de CV (Nirsa), an authorized local contractor, performed the installation with two 30-person crews, 2 field engineers, and 3 assistants under the supervision of a Clock Spring supervisor.

Technicians carried out the surface preparation as well as the Casing Spacer and Contour WA installation, alternating among operations to complete the entire installation in 5 days working 24/7. The Clock Spring products not only saved money but delivered reliable performance, cost savings, safety, and availability (product shipped in less than 1 week).



Nirsa technicians take a close look at the spacers being installed on the 1,067-mm (42-inch) diameter gas pipeline.



A team of Nirsa technicians prepares the 500-m (1,641-foot) section of gas pipeline for installation.

High product performance, cost savings, safety, and availability (product shipped in less than 1 week)

There are nearly 3,000 trained Clock Spring installers around the world who are qualified to provide repairs with Clock Spring products. Clock Spring regularly offers training classes for installers and can custom design training for individual company needs.