



FlexSleeve® CASE STUDY

Fast construction. Permanent protection.

HIGH PRESSURE WATER INJECTION LINE PIPELINE

A Latin American oil producer encountered a pressing challenge with its water injection pipeline, navigating a delicate balance between a high-pressure pipeline transporting contaminated water and the environmental sensitivity of a flourishing ecosystem. Faced with the challenge of transporting produced water with high chlorides at a pressure of 220 bar (3,200 psi), the client required excellent internal corrosion protection – as any metal loss from corrosion could quickly lead to a leak/rupture at that high of a pressure.

The client was dissatisfied with their existing internal sleeve product that leaked fluids to the bare steel of the weld zone under ultra-high pressures. Then their engineering team found LPS' FlexSleeve®.

THE SOLUTION

Client engineers established an extensive testing protocol for internal sleeves. They wanted to verify there was not any sleeve coating or seal damage from the high temperatures involved with welding thick-wall small diameter pipe. They also wanted proof that the corrosive water was not going to reach the bare steel of the weld zone at the hydrostatic pressure test of 345 bar (5,000 psi).

FlexSleeve® resists welding heat better than competitor sleeves due to its width, and its self-energizing bore seals only get tighter as the pressure increases. The superior performance observed during testing at the client location led the engineers to specify FlexSleeve® for this critical water injection line, underscoring their dedication to protecting their infrastructure and the environment.

The contractor and client were satisfied with the FlexSleeve® installation and welding process and are looking forward to constructing more pipelines using LPS technology.

THE DETAILS



PIPELINE

6", 4", 3" dia. sch. 160 seamless pipe
32°C (90°F) operating temp
10.3 kilometers (6.4 miles) total



INTERNAL LINING

Sherwin Williams Pipeclad 702G fusion bonded epoxy



LPS PRODUCT/QTY

868 ea. FlexSleeve® XW (extra wide)



OWNER/CONTRACTOR

Confidential – inquire with LPS for more information



LOCATION/DATE

South America, November 2023



Not only does FlexSleeve® protect the weld zone better than competitor sleeves, joint assembly and welding proved to be fast and easy for the contractor.



The FlexSleeve® joint was successfully hydrostatic tested to 365 bar (5,200 psi) after welding.

QUALIFICATION TESTS

SLEEVE INSERTION & JOINT ASSEMBLY

01 Tested ease of insertion & joint assembly. Client liked ease of using silicone lubricant.

HYDROSTATIC TEST BEFORE WELDING

02 Pipe joint was charged to 5,200 psi. Water did not leak through hole in pipe wall, evidencing excellent sealing ability.

WELDING HEAT EXPOSURE

03 Maximum heat exposure was 132° C, within acceptable range for both the seals and sleeve coating.

HYDROSTATIC TEST AFTER WELDING

04 Pipe joint was charged to 5,200 psi. Water did not leak through hole in pipe wall, evidencing seals' resistance to high weld temperatures.

ABOUT US

LPS has revolutionized the construction of steel pipelines with premium internal linings and coatings. LPS' innovative welded joint systems ensure long-lasting protection of the joint interior from corrosion and abrasion while permitting fast and practical construction methods.

It's what's on the inside that counts.



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