



FlexSleeve® CASE STUDY

Fast construction. Permanent protection.

MOBILE AREA CAUSEWAY WATER MAIN REPLACEMENT

The Mobile Area Water and Sewer Systems (MAWSS) faced a pressing challenge with the failure of a critical 20-inch diameter high-density polyethylene (HDPE) water main installed beneath the Apalachee and Blakeley Rivers. The material failure of the HDPE pipeline segments beneath each river necessitated a more reliable engineering solution to secure the region's water supply. The project required horizontal directional drilling (HDD) to lay the pipelines beneath the rivers, and water agencies' typical options for pipe and joining solutions were not possible: HDPE pipe is too weak (as proven from the failure), ductile iron pipe is too rigid, mechanical joints are not strong or flexible, and cement linings would crack.

THE SOLUTION

The engineers wisely chose a carbon steel pipeline with welded joints for optimal strength and ductility. They specified a polyurethane lining with the flexibility and durability to withstand the demanding HDD construction technique. But one big challenge remained: how to protect the interior of the welded joints from corrosion?

The pipe supplier proposed FlexSleeve®, a heat-resistant sleeve that protects the weld zone from corrosion. It would simplify construction, keep the project on schedule, and provide excellent joint quality. The water agency engineering firm was unfamiliar with this technology and needed confirmation it would not affect in-line-inspection using pigs. They decided to use FlexSleeve® instead of a robot to internally coat each joint, concluding that FlexSleeve would provide consistent joint quality while keeping the project on schedule.

Construction went as planned, the pipeline segments passed the hydrostatic pressure tests, and a digital caliper pig was used to inspect the line afterwards. The pig passed through the diameter restriction at each FlexSleeve® joint without a problem and confirmed the pipeline was defect-free and ready for service.

THE DETAILS



PIPELINE

20" dia. x .500" wall ID, HDD (horizontal directional drill) river crossing at Apalachee River (2,100 ft) and Blakely River (2,300 ft).



INTERNAL LINING

Carboline Polyclad 767
30 mils/750 micron min. film thickness



LPS PRODUCT/QTY

120 ea. FlexSleeve®



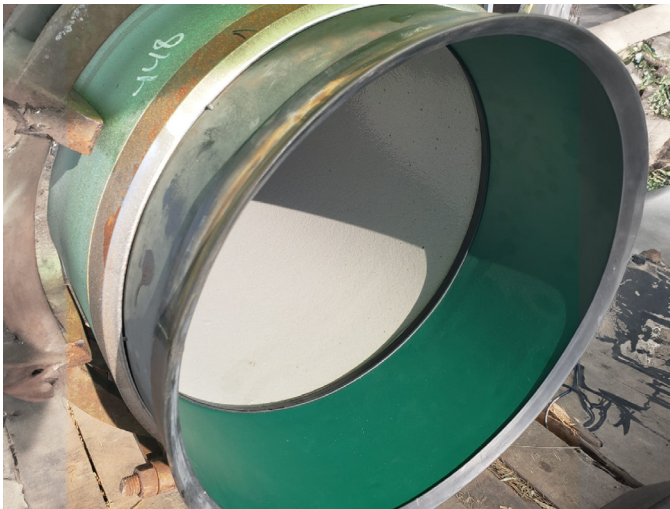
OWNER/CONTRACTOR

City of Mobile, Alabama
REM Directional Drilling

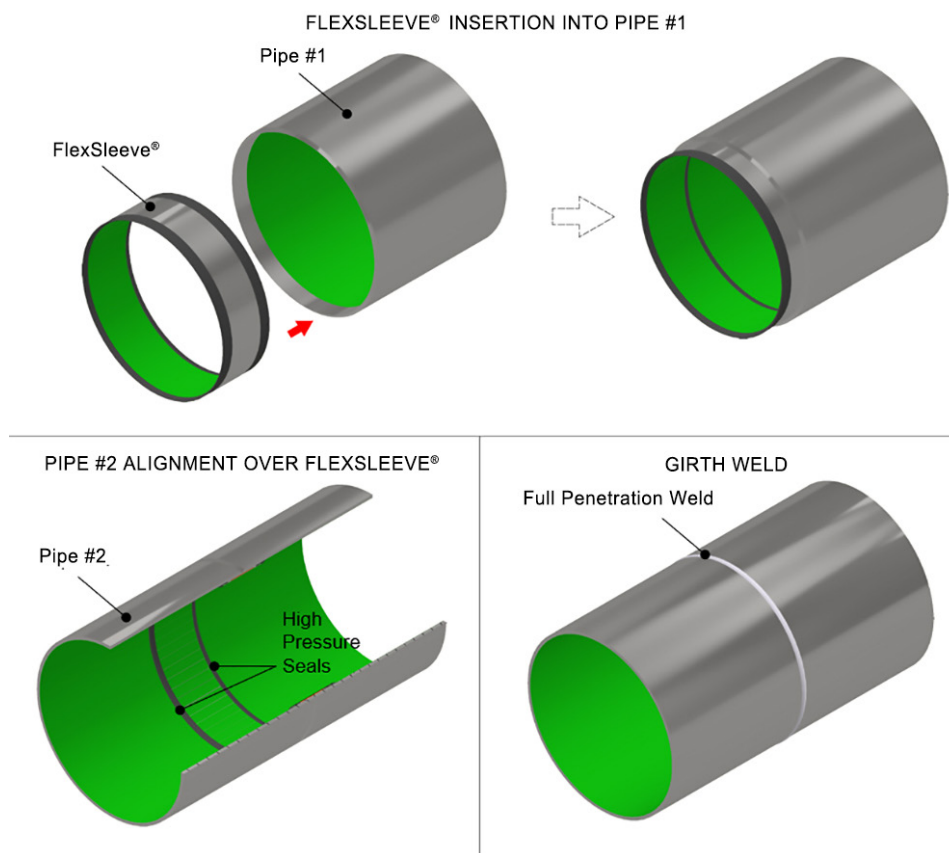


LOCATION/DATE

City of Mobile, Alabama
August/September 2023



FlexSleeve enables engineers to specify internally-coated carbon steel pipe with welded joints (butt weld or bell & spigot), which is often preferable for many applications.



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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