TECMA S.r.l.

# Case Study

# 24” Weld Wrap

## Pipeline Details

24” Transmission Pipeline

Refined Products

67 BarG Design Pressure

20 °C Operating Temperature

## The Repair

Internal Weld Defect 12 x 15 mm

0.3 m of pipe repaired

Western Europe

0.25 -days for complete installation

Installation Pressure 24 BarG

Permanent within ASME B31.4

Designed to ISO 24817

## Cost effective repair of a weld defect

In line inspection of a 24” Pipeline carrying refined products cross country within Europe identified a defect within the weld. The defect was 5.1 mm deep and 12 mm by 15 mm in size. The local regulator required the defect to be reinforced as part of a routine maintenance programme. The pipeline operator took the decision to reduce the pressure of the pipeline to 24 BarG throughout the installation and curing of the WrapMaster Weld Wrap composite sleeve. The composite sleeve was installed in less than an hour and fully cured within 4 hours using a heating blanket due to the excessively cold climate, allowing the pipeline to quickly return to normal operation. The repair was installed by trained technicians certified by WrapMaster.

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WrapMaster

*Composite Solutions for Piping and Structures*

## Performance

Permanent repair in accordance with ASME B31.4 as a composite sleeve type repair.

Pipeline remained full of product throughout repair and operated at a reduced pressure.

Repair designed in full accordance with ISO 24817.

Provides structural reinforcement of the pipelines girth weld.

Composite contains a metallic mesh to ensure it is detectable by MFL in-spection tools

## Installation

Prepare surface to a minimum rough-ness of 50 µm by Grit Blasting.

Epoxy adhesive and filler mixed and applied to pipe, the seam welds and girth weld.

Epoxy applied to the composite and the composite is unwound onto the pipeline.

Composite pulled tight utilizing torque bar.

Composite cured under a 110 V heating blanket as the ambient temperature was –7 °C throughout the installation

Defect weld grit blast and cleaned with acetone


Quality inspection including surface roughness

Repair installed below freezing so cured under a heat blanket

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