



PULIZIA
PIPELINE CLEANING

ISPEZIONE DI INTEGRITÀ
PIPELINE INSPECTION



PRE-COMMISSIONING
PRE-COMMISSIONING



PIG NOLEGGIO E VENDITA
PIG HIRE AND SALE

RIPARAZIONE RINFORZO
PIPELINE REPAIR



THREATSCAN

www.tecma.it

Advanced composites repair

Resins

- A range of epoxies covering a temperature range of -55°C to $+320^{\circ}\text{C}$.
- Chemical resistance testing to 100+ chemicals.
- Simple to mix and apply to fibres.
- Pre-weighed for easy mixing.

Systems

- Iridium Wrap – Carbon Fibre Epoxy System
- Titanium Wrap – Glass Fibre Epoxy System
- Titanium Hydrowrap – Water Activated System



Installation



Service

- All materials tested to ISO 24817 by experienced personnel.
- Calculations completed in Europe with a quick turn around in accordance with ISO 24817.
- TECMA team have been working with composites for over 20 years, with a knowledgeable team experienced in the safe installation of composite repairs globally.

Benefits

- Easy to install
- Local support
- Proven technology
- Years of experience
- Superior quality control
- Cost sensitive

Case Study

- Tank Roof in Europe
- External corrosion patches a concern.
- 5 layers of Carbon installed and covered with 1 layer of glass fibre.
- Designed to restore original strength of tank roof
- 61 patches installed



Case Study

- Tank Roof in UK
- Leaking hole defect
- 4 layers of Glass Fibre Wrap
- Designed following ISO 24817 / API 653
- Installed with local support



Case Study

- Tank in Canary Islands
- Lack of Fusion in welds
- 114 linear meters wrapped
- Repair designed to ISO 24817 / API 653
- 20 year design life
- Local Installation Support



Case Study

- Water Line in Europe
- External Corrosion on cast iron
- Repair designed to ISO 24817
- Repair installed with local support
- Over 30 locations completed



Case Study

- Refinery Crude Oil Pipeline Middle East
- 36" Diameter
- External Corrosion in Sabkha soil
- Repair designed to ISO 24817
- Repair installed with local support
- Over 30m of pipeline reinforced and protected from corrosion.



Case Study

- 16" Mixed Pipeline, USA
- High Pressure – Liquid Pipeline
- Dent under highway
- Design: 64 BarG.
- Number of cycles: 150,000



Case Study

- 20" High Pressure Gas Interconnector.
- External Corrosion on X70 Pipe
- 56% defect depth.
- 156 BarG Operating Pressure
- Critical to current EU Gas supply



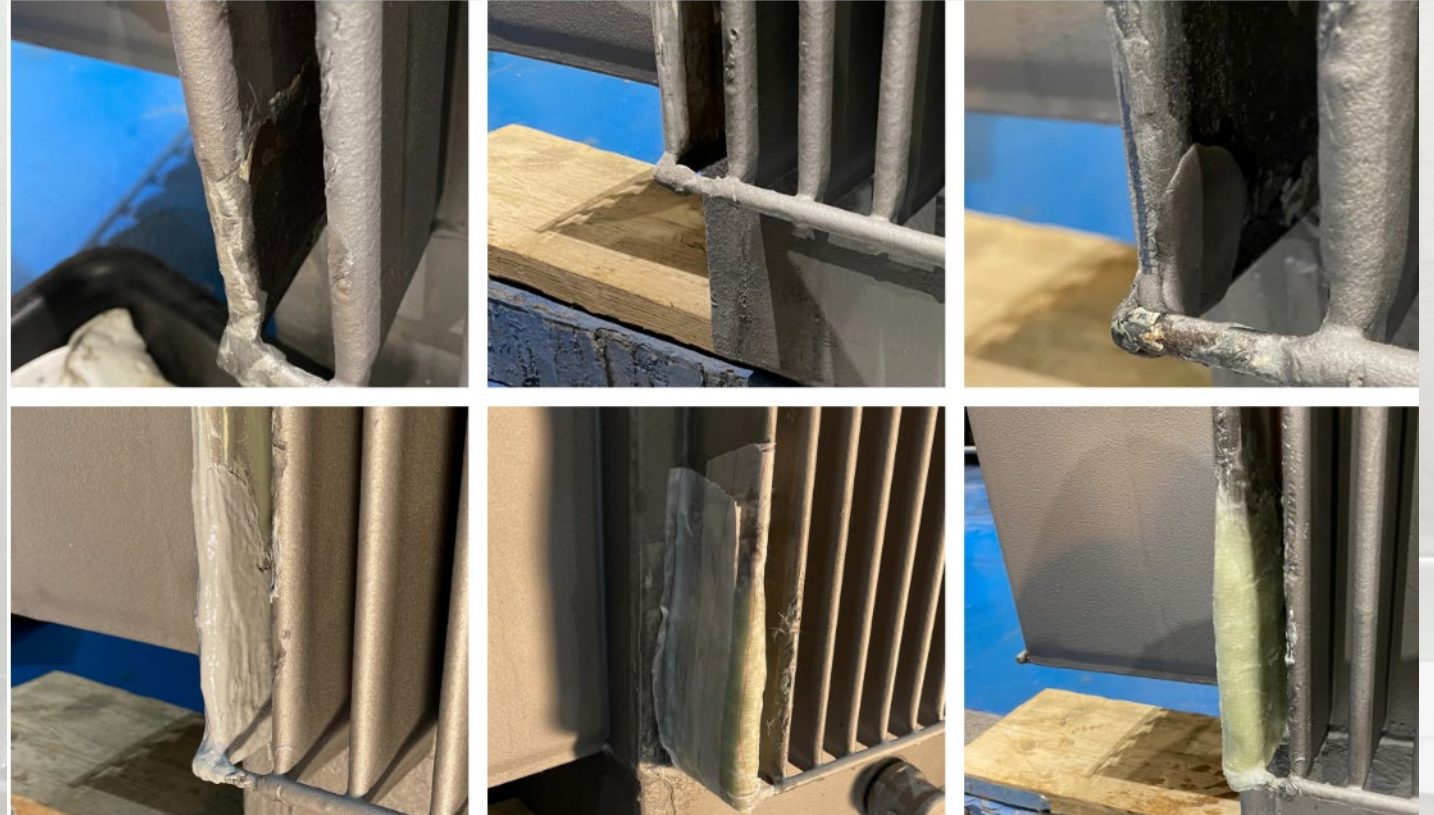
Case Study

- Heat Exchanger in Europe
- Chemical attack on the steel was impacting reliability
- Temporary fix to keep the plant reliable



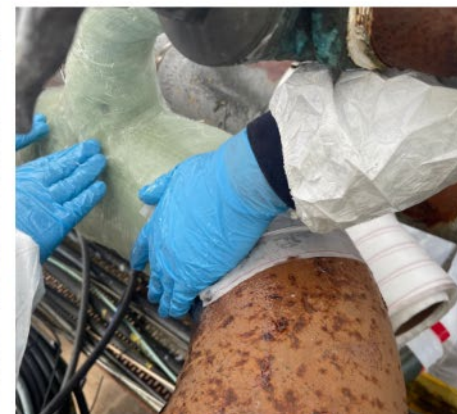
Case Study

- Heat Exchanger
- Leak caused by external corrosion.
- 4 layers of Titanium wrap installed with local support



Case Study

- Air line
- External corrosion
- Leak
- Designed to ISO 24817
- Installed with local support.



Case Study

- Refinery water line
- Internal Corrosion
- Leaking 1.5 BarG
- Designed to ISO 24817
- Installed with local support.
- 12.6 mm thick repair.
- Pipe in service throughout repair

