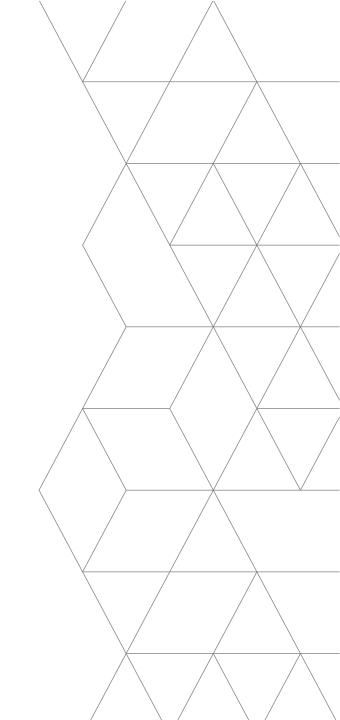


# TEAM

## COMPREHENSIVE ASSET INTEGRITY AND PERFORMANCE SOLUTIONS

Topsides 2025



#### **FURMANITE**

### **TEAM Inc.**

#### Who We Are

TEAM Inc. is a worldwide leading provider of integrated digitally-enabled asset integrity solutions. We deploy specialty inspection, maintenance, repair and engineering assessment services that result in greater operational safety, asset efficiency, and critical reliability. A professional team of experienced engineers, technicians, and client support personnel backs each service armed with the best training, equipment and technical support in the industry.

### TEAM UNITED KINGDOM BY THE NUMBERS

360+ team members

12 locations throughout the UK

14 integrated service lines across 3 segments

20+unique industry sectors serviced

45+ year legacy of providing integrated inspection and assessment, turnaround and onstream services

100 year legacy of technological innovations

£39 mil of annual revenue



1920 Eugene Clay Furman develops Leak Sealing Process



1927
Eugene Clay Furman files 1st
Leak Sealing Process Patent



1929
Furmanite becomes full Leak Sealing Company



2016

TEAM INC. acquires Furmanite





## WRAPASSURE

Reinforcing Integrity



## **TEAM Inspection**

#### Services Offered

- Conventional NDT Services Magnetic Particle Testing (MPI), Dye Penetrant Testing (DPI), Visual Testing (VT), Ultrasonic Testing (UT), Eddy Current Testing (ET), Remote Visual Inspection (RVI), Radiographic Testing
- Advanced NDT Services Corrosion Mapping, Phased Array UT (PAUT) & Time of Flight Diffraction (TOFT), Long Range UT (LRUT), PA CAT
- Level 3 NDT & Engineering Services
- Bespoke testing procedures
- WrapAssure Inspection; **TEAM developed** volumetric examination of Composite Repair to pipework structures, tanks & vessels





## WrapAssure

#### Overview

- WrapAssure is a pioneering, TEAM-developed technology that uses low frequency ultrasonics to check for disbonds between the repair and substrate and delaminations within the body of a Composite Repair.
- This information can be used to in conjunction with a detailed Visual Inspection to provide an accurate picture of the condition of the repair.
- The information can be used by TEAM's Composite Repair Engineers to support assessment of the fitness for service of the repair, including lifetime extension or remedial actions required in case of in-service damage.





## WrapAssure

# Reinforcing Integrity of Composite Repairs

- Extensive verification completed to formalize the technical procedure and confirm limitations
- Confirmed the technique remains accurate for:
  - Varying thicknesses of repairs
  - Different fabric and resin types
  - Coated and uncoated repairs
  - Disbonds (at the interface) and delaminations (within the laminate)
- In field operation is relatively quick and allows for immediate assessment
- Compact, handheld unit is ATEX certified and easy to transport, giving flexibility in terms of application.







## **TEAM Composites**

#### Overview

TEAM's composite repairs are designed in accordance with either ISO 24817 or ASME PCC-2 Article 401.

The materials typically used for TEAM's composite's repairs are:

Reinforcement: Carbon or Glass Fibre

Resin System: Epoxy (chosen for superior bond strength and chemical resistance)

#### Fibre Options:

Glass Fibre System:  $FCR-QE \rightarrow For low-pressure$ , small-diameter applications Carbon Fibre Systems: FCR-QC and FCR-BC → High-strength system for higher pressures and leaking defects.

#### Resin Options:

Water Tolerant (WSP): -50°C → +50°C

Standard (ST(b)):  $-90^{\circ}C \rightarrow +78^{\circ}C$ 

High Temperature (HT):  $-50^{\circ}C \rightarrow +129^{\circ}C$ 

Ultra High Temperature (UT): -50°C → +210°C











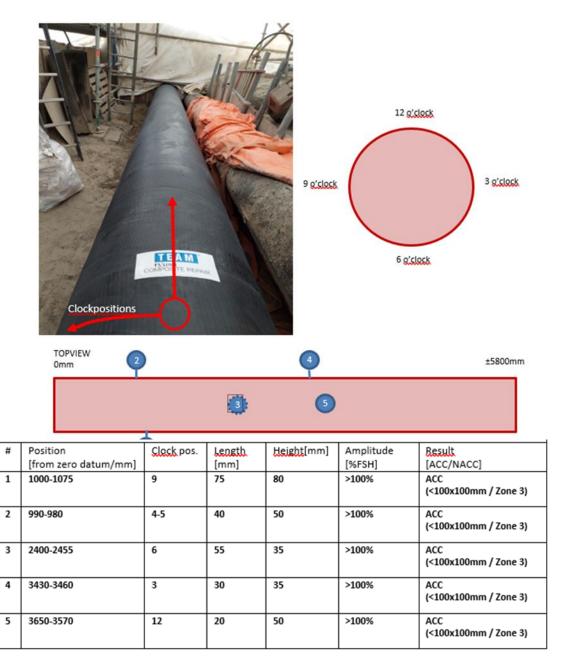
Repair Design



### WrapAssure

#### Deployability

- Initial inspection completed after repair installation, an initial inspection will identify gross (unacceptable) defects and provide to benchmark against which performance can be monitored.
- Periodic inspection results compared with the benchmark combined with a visual inspection feed into a defined life assessment to confirm the repaired component is suitable for continued service.
- Reactive inspection completed following a visual alert of damage or degradation from eyes on the ground, or temperature/parameter excursions from operations & management. The inspection provides a more complete picture of the extent of damage and support the decision of whether the repaired component is suitable for continued service or if further action is appropriate







### **CASE STUDY**

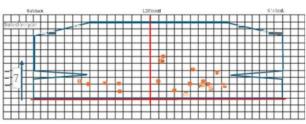
## Validation of repairs used outside design conditions

- Two mitred bends had been repaired with 12 layers of TEAM's FCR QC fabric
- The repairs were subject to a spike in temp to above their design level (but within their ultimate limit) that lasted one week and there was concern this may have led to debonding of the repairs
- WrapAssure combined with visual inspection provided evidence to state with confidence that the spike had created no damage
- An engineering assessment of the data reported concluded that the repairs could remain in service











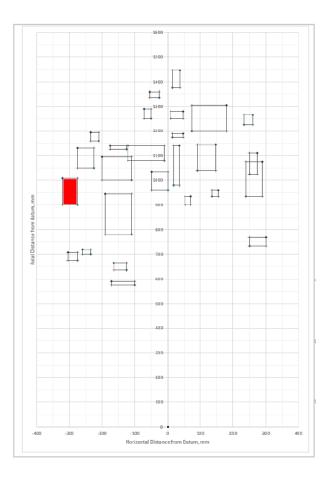


## **CASE STUDY**

### Reactive Inspection

- Mechanical damage had been reported by an engineer at a pipe bridge river crossing – where a farm implement was suspected to have damaged an existing transmission line.
- TEAM Inspection were called to assess the damage, and to ascertain what the status of the repair was beneath the (visible) surface.
- WrapAssure was able to non-destructively size all damage volumetrically around the area of concern. This was presented in tabular format and mapped out on a net from a datum on the pipe (to enable future inspections to identify any changes).







## Thank you.

Any Questions?

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WrapAssure - Reinforcing Integrity

