

3X ENGINEERING

REINFORCEKit® 4D SUBSEA



SUBSEA COMPOSITE REPAIR SOLUTION FOR PIPE REINFORCEMENT



SUBSEA

- Any pipe diameters
- Any pipe geometries
- High pressure
- +5°C to +65°C
- +41°F to +149°F
- Oil Gas Water

REINFORCEKit® 4D SUBSEA (R4D-S), specifically dedicated to subsea environment, is a wet lay-up repair system wrapped around the pipe to reinforce the damaged area, restore original pipe integrity and prevent further deterioration.

This composite technology, made of Kevlar® tape and subsea curing epoxy resin, is a great alternative to metal clamp, welded sleeve and pipe replacement.

3X ENGINEERING (3X) developed its own software to design the repair and define the material requirements according to ISO 24.817 and ASME PCC-2 standards.

REINFORCEKit® 4D SUBSEA RANGE



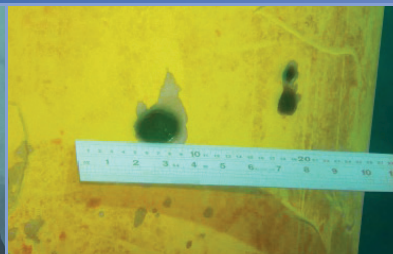
OFFSHORE SPLASH ZONE / SUBSEA



EXTERNAL CORROSION



INTERNAL CORROSION



THROUGH WALL DEFECT,
LEAK, HOLE



MECHANICAL DAMAGE,
DENT, CRACK ...

REINFORCEKit® 4D SUBSEA MAIN FEATURES & BENEFITS

- › Emergency Pipeline Repair System (EPRS)
- › Online repair (no loss of production)
- › Long-term performance (up to 20-year lifetime)
- › Designed according to the standards (ISO 24.817 and ASME PCC-2 compliant)
- › Versatile product with a large range of applications (subsea pipes, subsea caissons, risers, casings, conductor pipes, umbilicals ...)
- › User-friendly (no hot work, non conductive repair, light product)
- › Suitable for any pipe geometries (straight, elbow ...) including irregularities (welds...), without pipe size limitation
- › Specific subsea implementation by trained and certified divers only
- › Traceability using smart tag

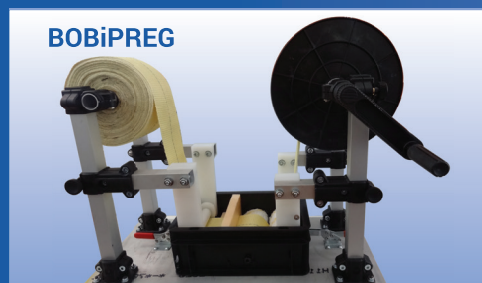
**LEADER IN SUBSEA REPAIRS WITH
A LARGE TRACK RECORD WORLDWIDE
(approved by major O&G companies)**

**1
NUMBER
ONE**

DOC MKT 036 - B - ENG - 1C - 03/2024

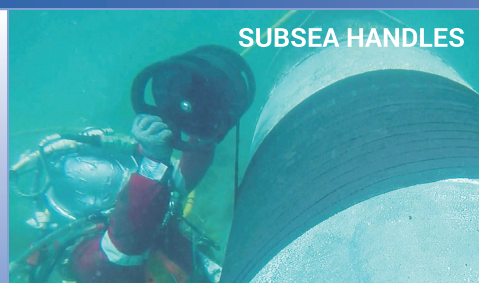
REINFORCEKit® 4D SUBSEA IMPLEMENTATION

REINFORCEKit® 4D SUBSEA installation is very specific and technically challenging. All the installation steps need to be performed with highly qualified staff and using tools specially designed for this application. 3X ENGINEERING developed a range of subsea tools to apply R4D-S in controlled conditions and guarantee the good implementation and the product sustainability.



BOBiPREG

- › Field-impregnation machine
- › Guarantees the good impregnation resin-fiber before immersion



SUBSEA HANDLES

- › Quick and easy wrapping device
- › Ensures proper tensile strength during application underwater



3X SUPERVISION

- › Divers training and supervision by 3X
- › 3X supervisors check the product implementation remotely (control room)



9, avenue Albert II - 98 000 MONACO
+ 377 92 05 79 81
info@3xeng.com
www.3xeng.com

