

# 3X ENGINEERING

## REINFORCEKiT® 1D



### COMPOSITE REPAIR SOLUTION FOR PIPE PROTECTION & REINFORCEMENT



**ONSHORE / OFFSHORE**

- Any pipe diameters
- Any pipe geometries
- High pressure
- 50°C to +88°C
- 58°F to +190°F
- Oil Gas Water



**REINFORCEKit® 1D (R1D)**, is a water activated prepreg repair system wrapped around the pipe to protect and reinforce corroded pipe and restore original pipe integrity.

This composite technology, made of fiber glass and polyurethane 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.

If applied as protection, the product is ready to use and does not require any calculations.

## REINFORCEKit® 1D RANGE

**PROTECTION APPLICATION - Up to 88°C (190°F)**



**COATED PIPE PROTECTION**



**IMPACT PROTECTION**

No calculations required, only 2 layers necessary

**REINFORCEMENT APPLICATION - Up to 68°C (154°F)**



**INTERNAL / EXTERNAL CORROSION**



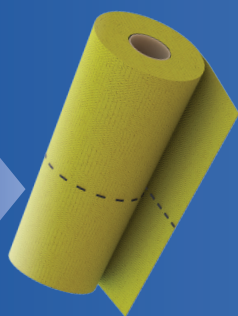
**MECHANICAL DAMAGES**

Designed according to ISO 24.817 & ASME PCC-2 standards

## REINFORCEKit® 1D COMPONENTS

### 4 tape sizes

- R1D - 150mmx5m (6" x 16ft)
- R1D - 50mmx5m (2" x 16ft)
- R1D - 150mmx15m (6" x 49ft)
- R1D - 285mmx15m (11,2" x 49ft)



### Needed chemicals for reinforcement application ONLY



Filler



Primer

### Needed accessories for application



Water spray



Plastic wrap



Spiked roller

## REINFORCEKit® 1D MAIN FEATURES & BENEFITS

- Emergency Pipeline Repair System (EPRS)
- Online repair (no loss of production)
- Designed according to the standards (ISO 24.817 and ASME PCC-2 compliant) for reinforcement application
- Suitable for any pipe geometries (straight, elbow, tee) including irregularities (welds...), without pipe size limitation
- User-friendly and time-saving (fiber already impregnated with resin, no mixing nor measuring)
- Cost-effective (2 layers max for protection and 10 layers max for reinforcement)
- Installation by trained and certified applicators recommended to increase product efficiency
- Traceability using smart tag

## REINFORCEKit® 1D IMPLEMENTATION



Designed as per ISO 24.817 and ASME PCC-2



Surface preparation Sa2½ / St3 & roughness Rz > 60 µm (2.4 mil)



Filler and primer applications



R1D wrapping (spray water continuously)



Identification plate positioning



Compression film application and perforation

**For reinforcement application, steps 1 to 6**

**For protection application, only steps 4-5-6**



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

