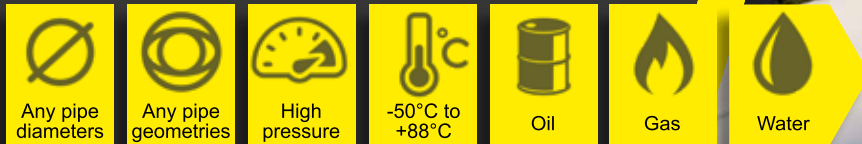


# 3X ENGINEERING

## COMPOSITE REPAIR SOLUTION FOR PIPE PROTECTION & REINFORCEMENT



# REINFORCEKIT® 1D

ISO 24.817  
and  
ASME PCC-2  
compliant



OIL & GAS  
ONSHORE / OFFSHORE



INNOVATIVE REPAIR SOLUTIONS FOR YOUR INSTALLATIONS

**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**

**COATED PIPE PROTECTION**



**IMPACT PROTECTION**

No calculations required, only 2 layers necessary

**REINFORCEMENT APPLICATION**



**UP TO 68°C**


**INTERNAL/EXTERNAL CORROSION**



**MECHANICAL DAMAGES**

Designed according to ISO 24.817 & ASME PCC-2 standards

**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 COMPONENTS**

<p><b>3 tape sizes</b></p> <ul style="list-style-type: none"> <li>➤ <b>R1D-150x5</b> (150mm x 5m)</li> <li>➤ <b>R1D-150x15</b> (150mm x 15m)</li> <li>➤ <b>R1D-285x15</b> (285mm x 15m)</li> </ul> 	<p><b>Needed chemicals for reinforcement application ONLY</b></p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Filler                  Primer</p>	<p><b>Needed accessories for application</b></p> <div style="display: flex; justify-content: space-around;">    </div> <p style="text-align: center;">Water spray                  Plastic wrap                  Spiked roller</p>
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**REINFORCEKIT® 1D IMPLEMENTATION**

<p><b>1</b></p>  <p>Designed as per ISO 24.817 &amp; ASME PCC-2</p>	<p><b>2</b></p>  <p>Surface preparation Sa2½ / St3 and roughness Rz &gt; 60 µm</p>	<p><b>3</b></p>  <p>Filler and primer applications</p>	<p><b>4</b></p>  <p>R1D wrapping (spray water continuously)</p>	<p><b>5</b></p>  <p>Identification plate positioning</p>	<p><b>6</b></p>  <p>Compression film application and perforation</p>
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For reinforcement application, steps 1 to 6

For protection application, only steps 4-5-6