

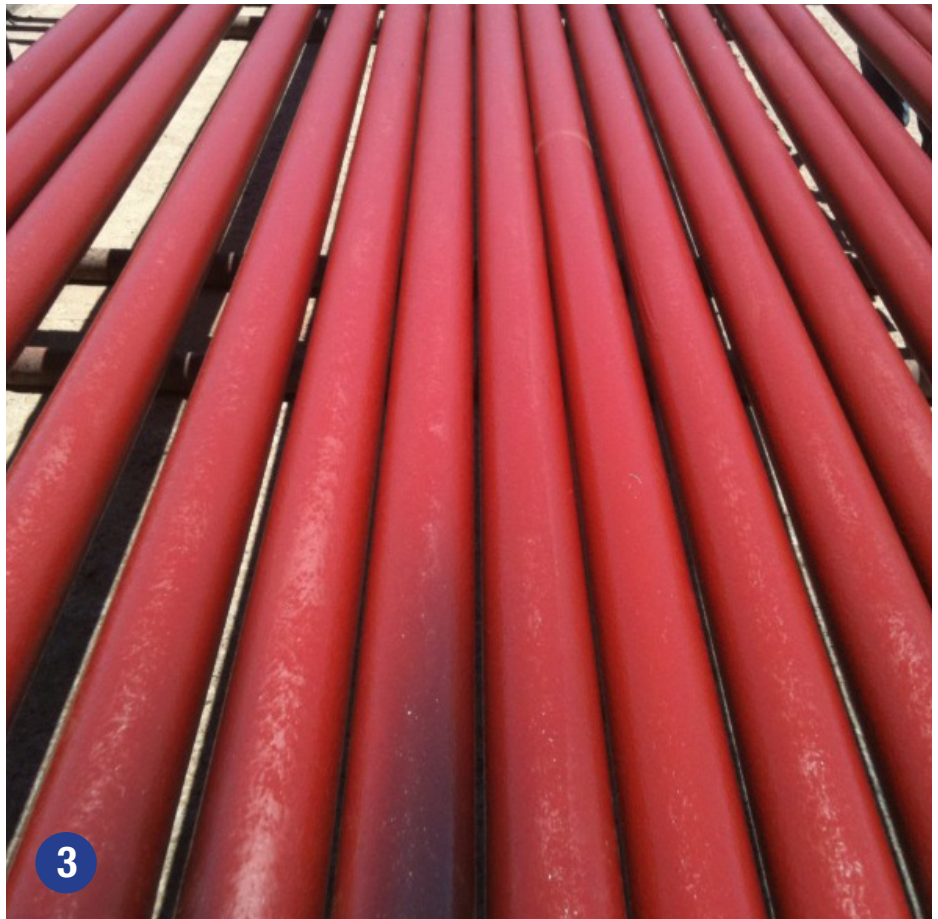
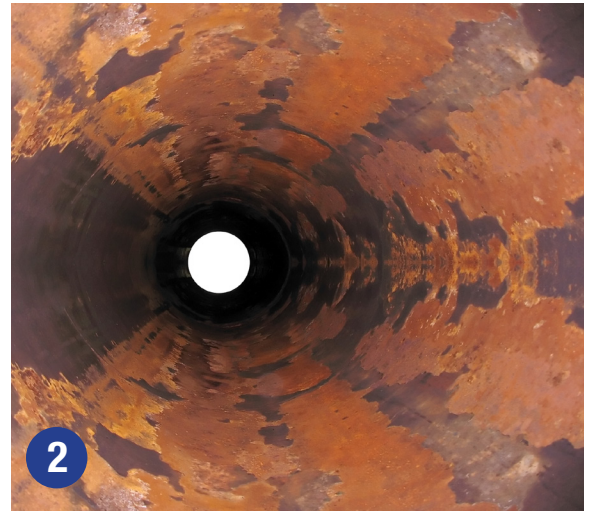
ChemLINE[®]

High Performance Coatings

for Lining Downhole Pipe Used in Oil Exploration

ChemLine[®] 2400/31 coating is used to line the insides of pipes exposed to corrosive service conditions in oil exploration drilling. Durable ChemLine[®] coatings handle aggressive fracking chemicals and acids, high pressure gasses, high abrasion service, and high temperatures. The coating is also ideal for lining vessels, tanks, transport trucks and other service equipment under corrosive attack on a continual basis (shown here).

- 1** *In the oil exploration drilling industry, aggressive fracking chemicals and acids, high pressure gasses, high abrasion service, and high temperatures cause severe corrosion on the inside of downhole pipe, severely limiting service life if not properly coated, as shown.*
- 2**
- 3** *Pipe coated internally with ChemLine[®] 2400/31 coating being prepared for service in the field.*



Service Overview

Immersion Service HCL 37%, H₂SO₄ 1% to 98%, Oleum, H₂S

- Rigorous autoclave testing:
 - Tested in high concentrations of CO₂, 45% H₂S
 - Simulated sea water
 - Pressurization and rapid depressurization (500psi – 4,000psi)
 - Rapid depressurization 3-6 seconds
- No blistering or delamination
- Suitable for immersion service for over 5,000 chemicals
- Sustain continuous dry operating temperatures of 500°F



(EIS) Electrochemical Impedance Spectroscopy

- Log impedance @ 0.1Hz: >8.0 (test shows 8 as GOOD)
- ChemLine® 2400/31 test results: 9.0 (very good) to 11.1 (excellent)

High Abrasion Resistance

- Increased resistance to sucker rod abrasion

Low Coefficient of Friction and Surface Tension

- No scale build-up
- Surface smoothness similar to PTFE

Immersion Service – All types of Tanks and Transport Vessels



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