



A unique corrosion barrier system enabling placement of GRE internal liners inside any shoulder-to-shoulder premium thread without the need for a special coupling!

THE CHALLENGE:

To provide superior internal corrosion protection using a Glass-Reinforced-Epoxy (GRE) lining system with any unmodified free-issue premium threaded tubing or casing.

THE SOLUTION – IN TWO EFFECTIVE STEPS:

- 1.** Use **DUOLINE**[®] from Duoline Technologies: a premium internal corrosion resistant lining system for oilfield steel tubing and line pipe. **DUOLINE**[®] is proven to be wireline abrasion and chemically corrosion resistant in both controlled laboratory testing and through successful performance in more than 75,000,000 feet of downhole application.
- 2.** Use Duoline Technologies' new **DL-RING**[™]...a patent pending connection technology that permits the lining system to accommodate any proprietary Premium Connection.

HOW DOES THE DL-RING[™] WORK?

Two DL-flares place the DL-CBR in compression during field make-up.

The unique concept and material composition has been used extensively and successfully in downhole completions with **DUOLINE**[®] tubing in numerous other "FGL" versions of unmodified premium and API connections.



NEED OBJECTIVE PROOF OF PERFORMANCE? HERE IT IS:

Independent laboratory testing — combined stress loading on internally lined 5-1/2" 17 ppf VAM® TOP L80 pup joints — proves that **DL-RING™** coupled with **DUOLINE®** internal lining is, "Fit for Purpose."

Specifically:

The lined casing joints were exposed to simultaneous combined bend cycling, tension/compression cycling, pressure and temperature cycling. These stress-loading steps were intended to represent loading in well conditions. Loads were based on specified test requirements and were limited to 95% of specified minimum material yield strength (SMYS) von- Mises equivalent (VME) combined load boundary limit. Tension loads were applied up to 60% of SMYS followed by compression loading up to 40% rating plus pressure application up to 7500 psig, then back to tension loading with a final rapid pressure release at 200 psi/minute. Concurrently the pipe was bent at plus and minus 10°/hundred foot radius and heated to 110° C (230° F) while sustaining pressures up to 7500 psig.

The independently verified results?

Absolutely no damage or adverse affects to the **DUOLINE®** lining system or **DL-RING™** components.



...another great corrosion fighter from Duoline®



FOR COMPLETE DETAILS ABOUT OUR EXPANDED FACILITIES AND NEW CAPABILITIES LOGON TO www.duoline.com



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Duoline® lining systems extend the life of your tubulars