

THERMOLINE[®]

A unique lining system with specialized grout formulation enhances thermal insulation when used with the proven protection of DUOLINE[®] downhole tubular liners

WHEN DO YOU NEED THERMOLINE[®] ?

- Do you need to keep your flowing fluids warm?
- Do you need to keep the tubing bore cool?
- Do you need to reduce problems associated with paraffin or hydrate buildup?

If so --- Thermoline[®] is the answer to your challenges in subsea flow lines, deep-water tubing strings, chemical plants and other applications requiring thermal insulation.



WHY IS THERMOLINE[®] EFFECTIVE IN PROVIDING THERMAL INSULATION?

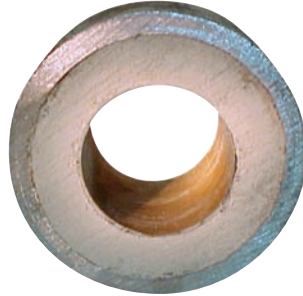
THERMOLINE[®]--- available only from Duoline Technologies[®] --- is a cost efficient lining system featuring a specially formulated, proprietary grout that optimizes thermal properties.

When used in tandem with **DUOLINE[®] 20** or other advanced Duoline[®] composite liner systems, **THERMOLINE[®]** provides an insulating layer between internal flowing fluids and the external ambient. **THERMOLINE[®]** can be used to reduce paraffin or hydrate deposits as well as preventing pump motor failures from thermal overload conditions.

By keeping flowing fluids above a critical cloud point, depositions on the internal pipe surface can be significantly reduced. An additional benefit is the extremely smooth, corrosion resistant internal surface of the glass reinforced epoxy liner. This benefit combination provides a reliable, economic solution to Vacuum Insulated Tubing and other insulating alternatives.

A REVIEW OF THE BENEFITS OF THERMOLINE®

- Maintains fluid above cloud point.
- Reduces heat loss.
- Maintains a cooler casing annulus.
- Reduces paraffin removal costs.
- Reduces chemical treatments.
- Reduces lost production time.
- Provides high performance, high value alternative to corrosion resistant alloy (CRA) tubing and casing.
- Utilizes the proven corrosion-resistant Duoline® GRE lining systems. Duoline® internal corrosion-resistant liners are a high-performance, high-value alternative to corrosion-resistant alloys and more than 75 million feet have been successfully installed worldwide since 1964 in offshore applications, oilfield steel tubing and line pipe.
- Provides a very smooth GRE liner surface. Hazen-William's Equation C factor 150 means less friction loss, less rough surface area/in.²
- Available in API & Premium Threaded Connections.
- Compatible with welded pipeline connectors.
- Lightweight.
- A low cost alternative to vacuum pipe-in-pipe processes.
- Short lead times.



Duoline® lining systems extend the life of your tubulars



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