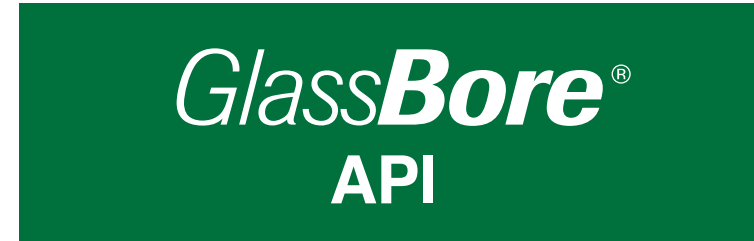


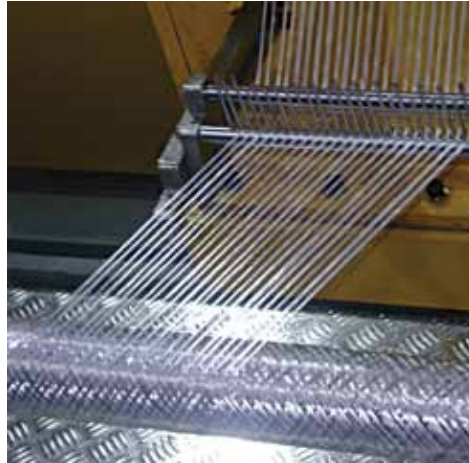
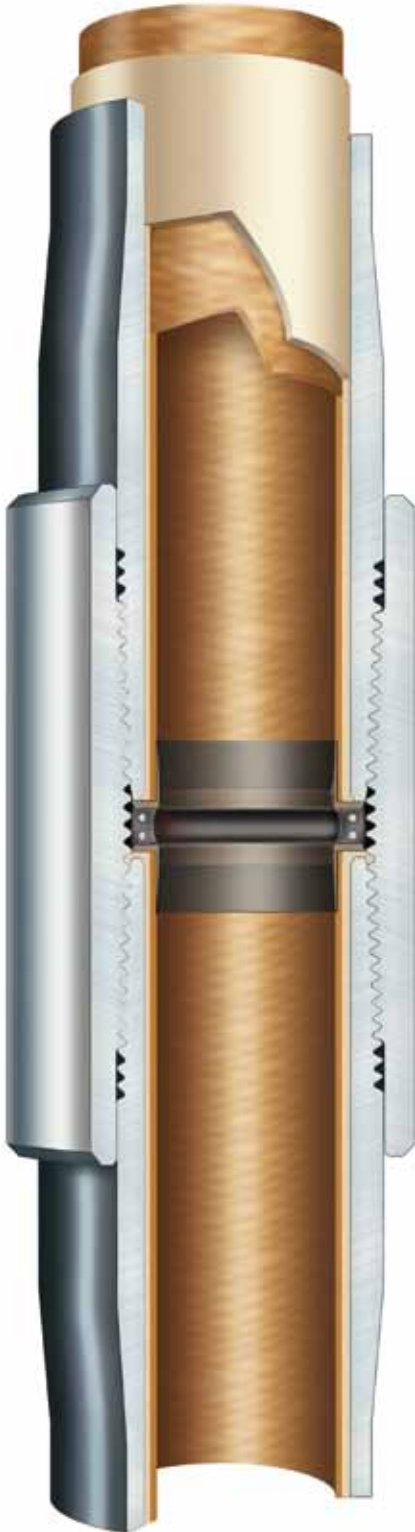


**Fiberglass Lining  
Plastic Coating  
External Wrapping  
Threading Services  
Field Services  
Pipe Services**



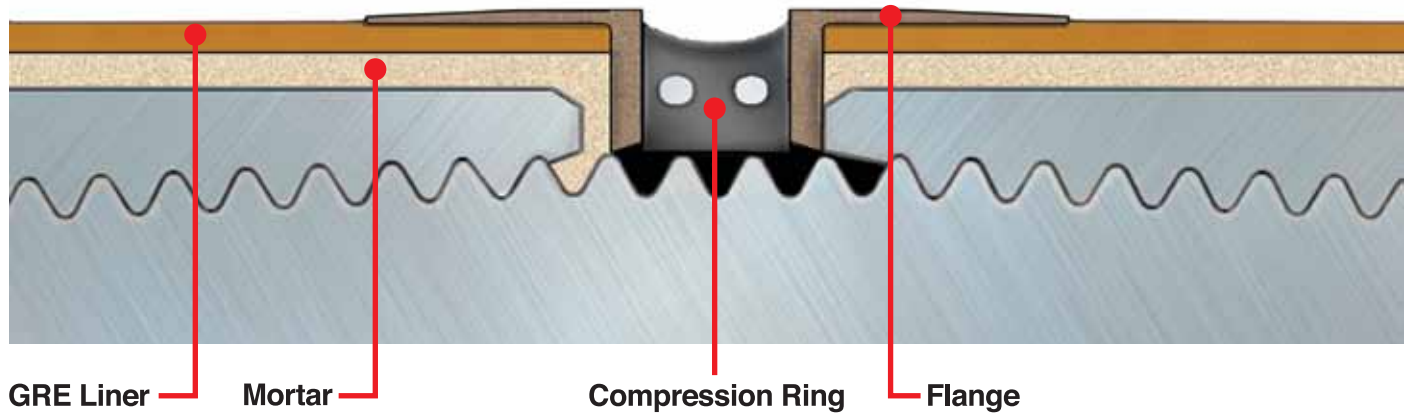
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**Best-in-Class Protection for Oilfield Tubulars**  
*GlassBore® Glass Reinforced Epoxy (GRE) Lining Service*



- Cost Effective
- Composite Strength
- Durable
- Holiday Free
- Proven Technology
- Premium Protection





Pipe Dia. (inches)	Weight ppf	Liner ID	Flange ID	Wall Thickness	Added Weight ppf	Drift (Premium)	Drift (API)
2-1/16	3.25	1.500	1.420	0.040	0.40	1.300	1.250
2-3/8	4.70	1.810	1.750	0.040	0.50	1.625	1.600
2-7/8	6.50	2.250	2.200	0.040	0.50	2.070	1.950
3-1/2	9.20	2.750	2.690	0.045	0.75	2.565	2.440
4-1/2	11.60/12.60	3.690	3.600	0.060	1.25	3.475	3.350
4-1/2	13.50	3.600	3.510	0.060	1.25	3.380	3.260
5	15.00/18.00	4.010	3.900	0.065	1.25	3.780	3.650
5-1/2	17.00/20.00	4.520	4.400	0.075	1.50	4.275	4.150
5-1/2	23.00	4.395	4.275	0.075	1.25	4.150	4.025
7	23.00/26.00	6.080	5.940	0.095	2.50	5.815	5.690
7	29.00/32.00	5.800	5.690	0.095	2.50	5.565	5.440

## Specifications

Temperature Rating- 250°F

Compression Ring Material- Reinforced Nitrile Rubber

Liner Material- Glass Reinforced Epoxy

Resin System- Amine-Cured Epoxy

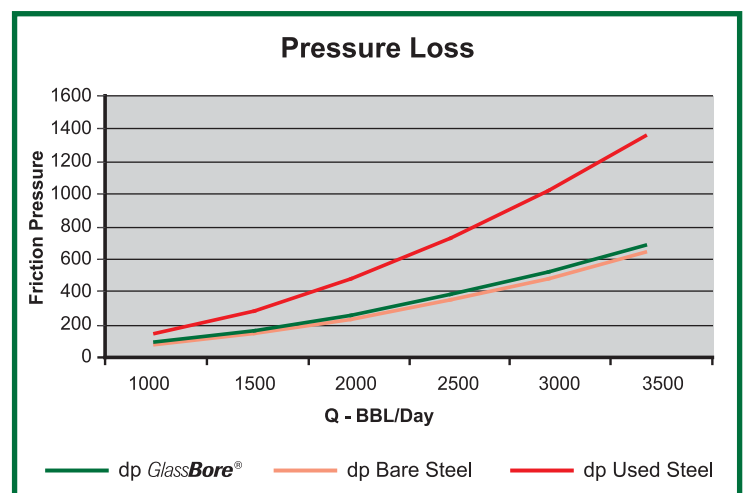
Strength of Material- To tensile limit of steel tubing

## Flow Characteristics

Hazen-Williams Coefficient = 150

Absolute Roughness = 0.00021 inches

**Improved Flow Efficiency**-The GRE liner provides a smooth friction-reduced surface to increase the flowing efficiency of produced or injected gases and fluids. The chart illustrates nearly equivalent efficiency of flow through a string of GRE-lined premium tubing compared to that of new bare tubing in spite of the disproportionate diameter. As new tubing corrodes (Used Steel curve) the benefit of *GlassBore*® becomes even more apparent.



## Example

Tubing = 2 3/8 IJ Premium

Hazen Williams  $C_{GlassBore} = 150$

Hazen-Williams  $C_{Steel} = 120$

Hazen-Williams  $C_{Used Steel} = 80$

Inside Diameter<sub>Glassbore</sub> = 1.81 Inches

Inside Diameter<sub>Steel</sub> = 1.99 Inches

String Length = 5500 Feet

Flow Rate = 1000 to 3500 bbl/day