

The background of the entire image is a close-up, low-angle shot of numerous large-diameter metal pipes stacked in rows. The pipes are arranged in a way that creates a strong sense of perspective, with lines converging towards the center of the frame. The lighting is dramatic, highlighting the circular openings of the pipes and the metallic texture of their surfaces. The overall color palette is dark, with warm, golden-brown highlights on the pipe edges.

PROLINER

TUBULAR LINING SERVICES

About

PROLINER

PROLINER: Lining System is superior solution for internal corrosion; GRE-lined OCTG is mainly applied to corrosive fluids with high corrosion potentials where conventional barrier type films (inhibitors, thin film coatings) face a high failure probability.

PROLINER Glass reinforced epoxy liners are inserted into bare steel pipes; in this configuration, where the annular space is filled with a special cement blend material, the inert properties of the GRE liner and the strength/mechanical durability of the metal case are exploited, high pH cement squeezed into the annulus between the liner and the outer pipe transmits hoop strength, forms a secondary corrosion defence and serves as a thermal insulator

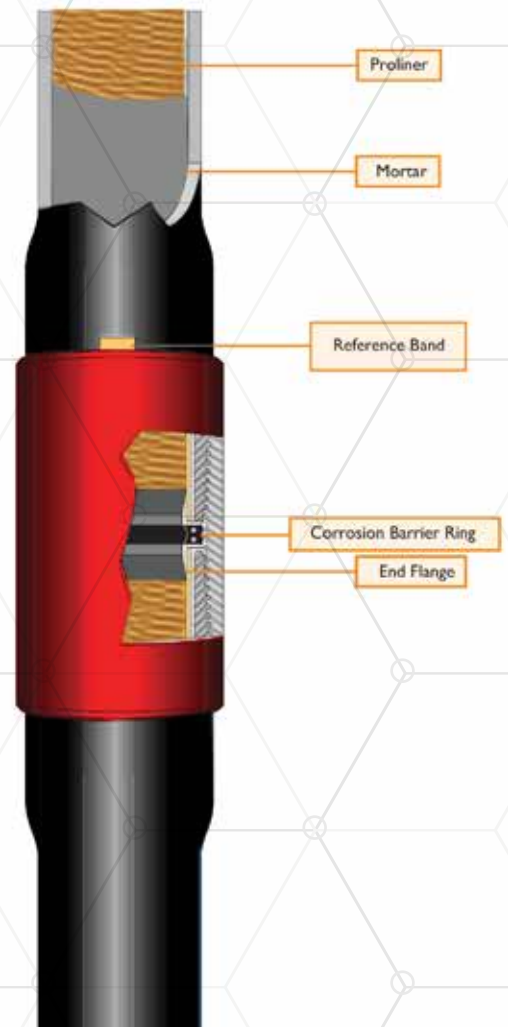
Advantages

- High hoop strength; unlike IPC, the low hoop strength of thermoplastics creates a tendency towards liner collapse in CO₂ injection service and gas-lifted production.
- Suitable for both API and Premium connection / Used and New OCTG
- No modification to the connection.
- Cost effective comparing to special alloys.
- No special handling is required.
- Reduced work over costs.
- Unlike steel tubing, no deterioration in the surface of GRE with aging.
- Decrease in the likelihood of leaks in surface flow-lines, less risk to the environment.
- Combination of GRE liner and cement grout works as a thermal insulator.
- Eliminates the need and cost of using paraffin inhibitors.
- Enhanced flow properties.
- Serves as a thermal insulator.

Premium Connection



API Connection

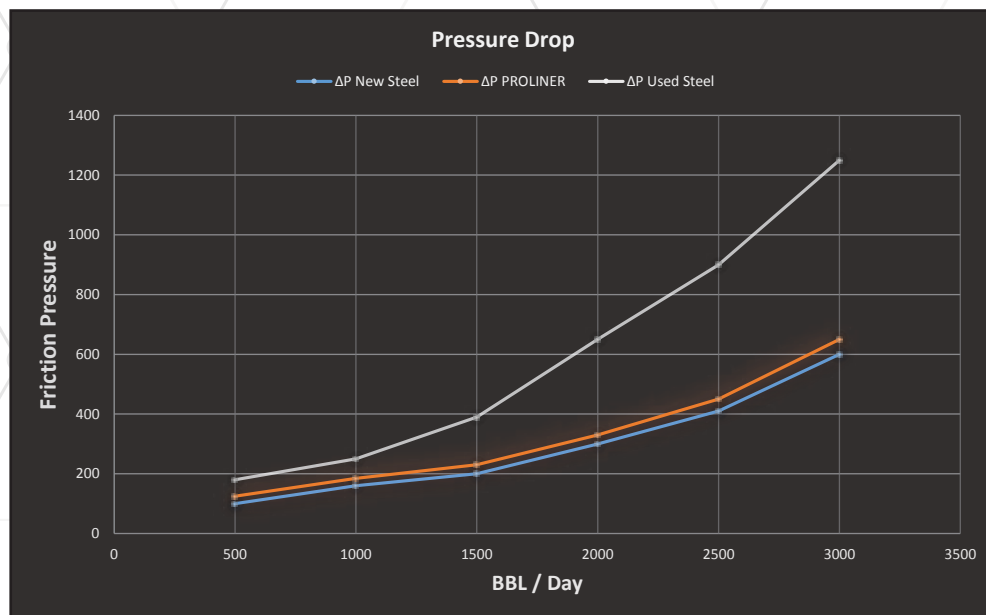


Pipe Diameter (Inches)	Weight (lb/ft.)	Liner ID (Inches)	End Flange ID (Inches)	Liner Wall Thickness (Inches)	Weight Addition (lb/ft.)	Drift Dia. (API)	Drift Dia. (Premium)
2 3/8	4.7	1.810	1.750	0.040	0.50	1.500	1.625
2 7/8	6.5	2.251	2.195	0.040	0.50	1.945	2.070
3 1/2	9.3	2.750	2.670	0.045	0.80	2.420	2.545
4 1/2	12.75	3.691	3.600	0.060	1.50	3.350	3.475
5	18	4.010	3.900	0.065	1.65	3.650	3.775
5 1/2	23	4.395	4.275	0.075	1.80	4.025	4.150
7	29/32	5.800	5.685	0.095	2.50	5.435	5.560
9 5/8	47.00	8.260	8.100	0.135	3.60	7.85	7.795
10 3/4	60.7	9.170	9.010	0.155	6.50	8.760	8.885

Flow characteristics

The chart illustrates nearly equivalent efficiency of flow through a string of **PROLINER** tubing compared to that of new bare tubing despite the minimal reduction in the ID.

As new tubing corrodes (Used Steel curve) the benefit of GRE lining becomes even more apparent.



APPLICATIONS

- Sour down-hole conditions containing H₂S and CO₂.
- Disposal Wells.
- Water Injector wells.
- CO₂ WAG.
- Oil Producers.
- Surface flow-lines.

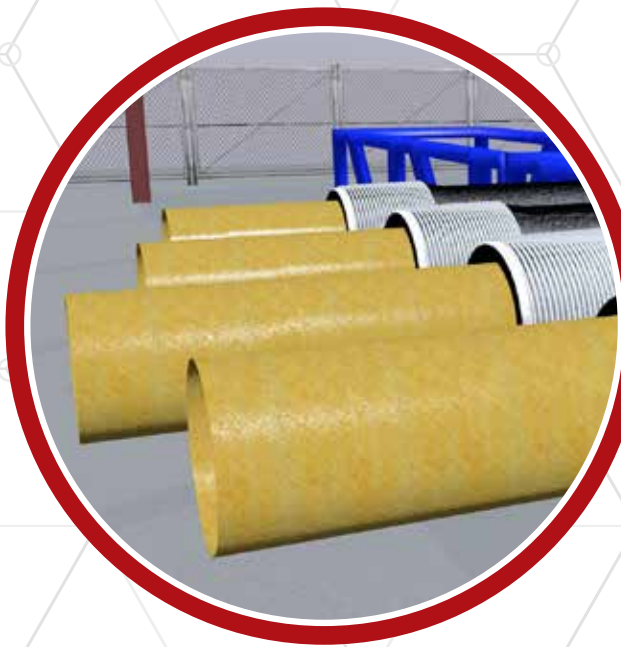
SPECIFICATIONS

- Hazen Williams C factor: C=150 compared to 100 in new steel pipe and 80 in used steel pipe.
- Absolute Roughness = 0.00021 inches
- Operating Temperature up to 293F. °
- Pressure: Up to pipe yield
- PROLINER HT for higher temp applications is also available.

L I N I N G P R O C E D U R E

PROLINER[®]
TUBULAR LINING SERVICES

EPS
ENGINEERING PETROLEUM SERVICES



1-Insertion of GRE liners into bare steel tubing.

2- Box end preparation.



3- Pumping Hoses Installation.

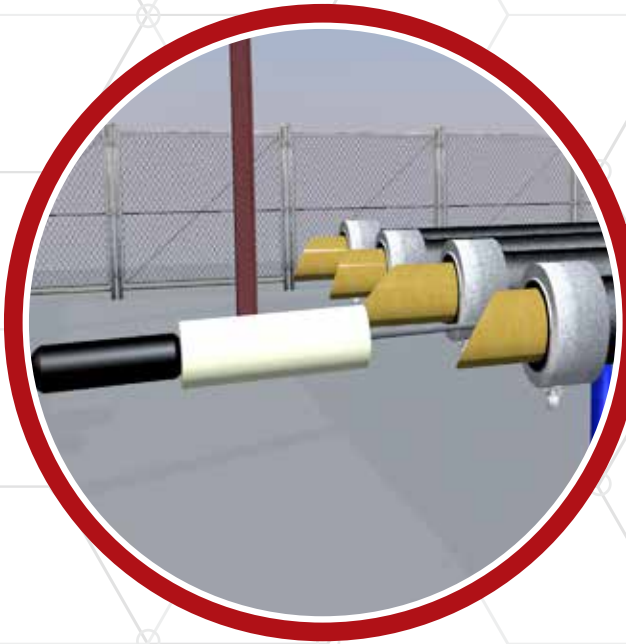
4- Elevated pumping section.



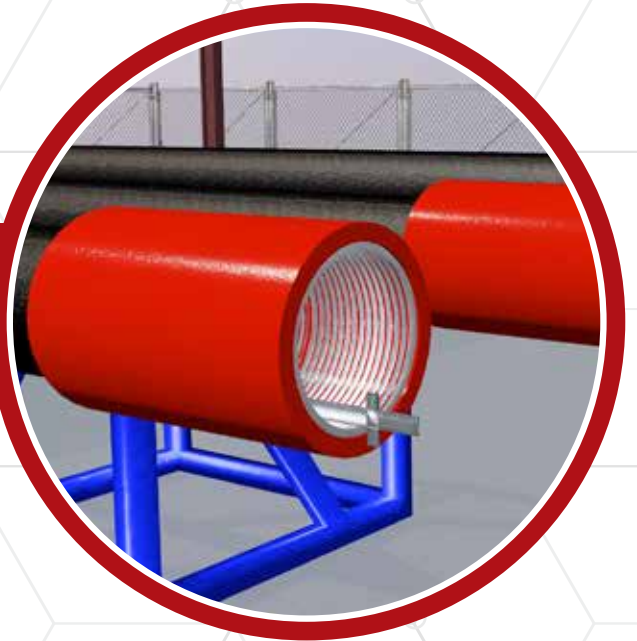
5- Cement grout return.



6- Holiday testing.

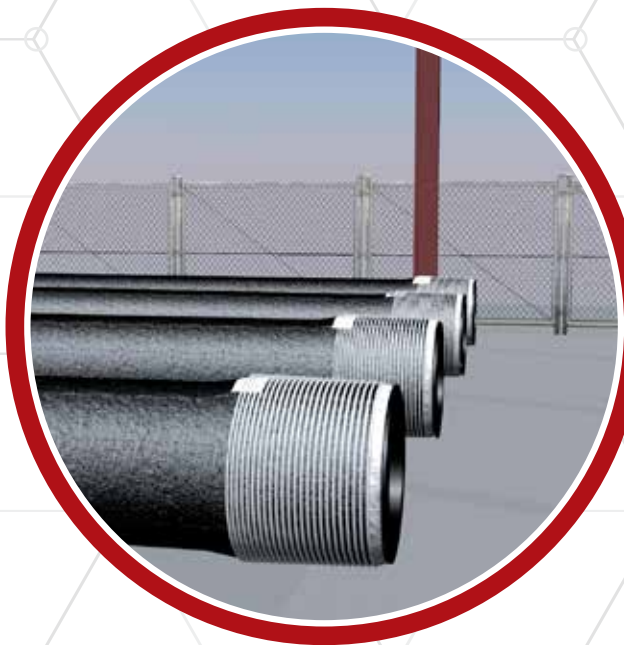


7- Box Depth Setting.



8- Pin end flange installation.





9- Applying makeup reference band.

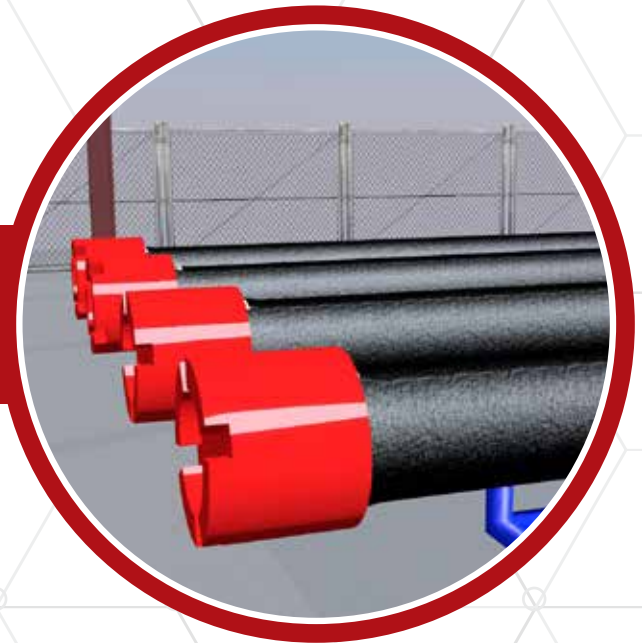


10- Final inspection.



11- Stenciling.

12- Pipes are ready for Installation.



Our Customers





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