



SIERRA SALES'
1" TO 36" DIAMETER LINED STEEL PIPE

Who can supply industry with 36" diameter lined steel pipe and spools? We have!
And, in four [4] weeks!

We have supplied 24' of 36" diameter ETFE lined steel pipe, yes, and in one 4 week delivery, with accessory fluoroplastic lined spools. We can supply your lined steel requirements in 1" all the way through 36" diameter. Custom made components and accessories for your PTFE/PFA plastic lined steel piping, plastic lined pipe fittings and valve systems.

Available liner material: PP, PVDF, ECTFE, PTFE, ETFE, PFA, MFA, HDPE.

Any plastic produced today! Need more plastic lined pipe liner info? [Read all about it.](#) The most complete lining capability in the industry, offering any fitting configuration imaginable. Uniform plastic wall thickness guaranteed in fittings as well as in pipe.

Warranted 100%. We do not bend, stretch, blow, seam or distort our homogeneous plastic lined pipe linings in anyway.

SIERRA's lined steel combines the corrosion resistance of plastic with the inherent strength of metal. Each piece of plastic lined pipe or plastic lined fitting is cycled from ambient temperature through its temperature range prior to shipment. Every plastic lined pipe and plastic lined fitting is spark tested with a minimum of 10,000 volts insuring lining continuity and system longevity once in service. That is quality!

As a service to our lined steel customers we offer a complete line of flange shields manufactured from single and multi-layered clear cloth for easy visibility or a colored cloth with a leak indicating patch. Teflon®, Polypropylene, Polyvinyl Chloride, Polyethylene, and Saran are stocked daily. Stainless and galvanized shields are available for high temperature, high pressure, or when conditions are unfavorable for cloth shields. Drain Shields, Shields for Fittings, Valve Shields, Expansion Joint Shields, and Pipe Vent Covers, always available at SIERRA.

Liner Selection



Handling acids, caustics or high-purity fluids demands the finest piping and fittings. Metallic pipe is subject to corrosion; even mildly corrosive fluids can rapidly eat away its inner surface.

Nonmetallic piping resists corrosion but thermoplastics cannot match the physical strength of metallic piping. Plastic lined piping combines the best of both. On the inside, an inert plastic lining material. The outside, strong metallic shell. In addition to safety factors, the extended life cycle of plastic lined steel pipe more than compensates for the initial cost of procurement and installation.

We even have a field fix for 'COLD FLOW' ISSUES

Selecting a polymer, copolymer or fluoropolymer liner for your plastic lined steel project has never been easier. At SIERRA we supply Polypropylene PP (copolymer), Kynar Flex® PVDF (copolymer), Halar® ECTFE (fluoropolymer), Tefzel ETFE (fluoropolymer), Teflon® PTFE, Teflon® PFA, and MFA. All linings are molded in place after the fitting is cast or fabricated. All products are warranted 100%.

Teflon®

(PFA) Perfluoroalkoxy is virtually inert to all chemicals except elemental fluorine and molten Alkali metals. It has better mechanical properties and does not creep or cold flow like PTFE. Tensile strength is 4000 to 4500 psi. Temperature range from -20F (-29C.) to 500 F. (260C.). Metal requires venting.

Teflon®

(PTFE) Polytetrafluoroethylene has the same corrosion resistance but is softer and has less strength for a given thickness than our other liners so it requires special design considerations. PTFE because of its micro porosity has a higher gas permeation rate which can be improved by increasing the liner thickness, which also helps its overall strength. Special attention to piping alignment and torquing of the flange bolts may keep creep and cold flow to a minimum. Tensile strength apx. 3000 psi. Temperature -20F. (-29C.) to 450 F. (232 C.) metal requires venting.

Tefzel®

(ETFE) Ethylene Tetra Fluroethylene is a fluoropolymer with superior physical properties and chemical resistance approaching that of PTFE and PFA. It is excellent where high pressure, vacuum, cold flow, or joint creep is a problem. Tensile strength is apx. 6700 psi. Temperature range is -20 F. (-29 C.) to 311 F. (155 C.). Metal is not vented and fittings are Fusion Bonded.

Halar®

(ECTFE) Ethylene ChlorotriFluroethylene is a fluoropolymer with exceptional properties. It has by far the best combination of chemical resistance and

toughness of any lining we offer. It's superior where temperature cycling, mechanical stress, abrasion, or permeation are a problem. Tensile strength is typically in the 6000 to 7000 psi range. Temperature range is -20F (-29 C.) to 300 F. (149 C.) Metal is not vented.

Kynar®

Flex (PVDF) Polyvinylidene Fluoride has excellent mechanical properties and is resistant to most chemicals. Tensile strength is 4500 to 6000 psi. Temperature range is -20 F. (-29 C.) to 275 F. (135 C.) metal is not vented.

Polypropylene(pp) Has a proven chemical resistance in a wide variety of applications and because it's a copolymer it can be used from -20 F. (-29 C.) to 225 F. (107 C.) mechanical properties are good and tensile strength is generally in the 4000 to 4500 psi range. Metal is not vented.

High Density (HDPE) The least expensive of all our liner systems. Good in abrasive service and where PP has a problem stress cracking in HCL. Tensile strength. Temperature Range -20 F. (-29 C.)

Liner Thickness

Pipe Size	HDPE	Polypro	Kynar, Halar, Tefzel	PTFE	PFA, MPFA
1"	.140	.150	.125	.150	.125
1 1/2"	.140	.150	.125	.150	.125
2"	.140	.175	.125	.150	.125
3"	.205	.175	.125	.160	.125
4"	.205	.210	.145	.160	.125
6"	.205	.240	.190	.275	.140
8"	.265	.285	.250	.285	.155
10"	.331	.285	.250	.320	
12"	.392	.285	.285	.400	

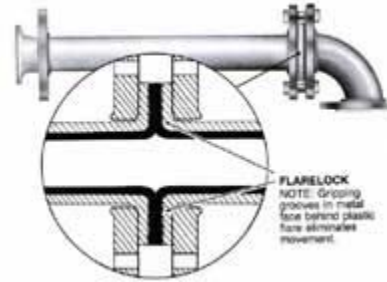
The most complete lining capability in the industry, offering any fitting configuration imaginable. Uniform plastic wall thickness guaranteed in fittings as well as in pipe. **Warranted 100%**. We do not bend, stretch, blow, seam or distort our homogeneous linings in anyway. That's quality.

ELIMINATE PTFE COLD FLOWS

Flarelock, Flexible Hose, and Flaring Tools

FLARELOCK

The newest innovation keeps PTFE joints tight under adverse conditions. Everyone knows PTFE cold flows. At elevated temperatures things get even worse. "FlareLock" can solve the problem. High pressure, cycling temperatures or long straight runs can result in leakage. Only "FlareLock" can stand the higher plastic face load necessary to keep the joint tight. Belleville Disc Springs can also be used with the flange bolts to maintain the plastic Face Sealing pressure when extreme conditions are encountered on pipe and fittings. FlareLock is available thru 12" size. Remember when using a PTFE lined loose flange system only FlareLock does it better.



LINED FLEXIBLE HOSE



- A- PTFE liner, PFA liner or Kynar Flex® Liner
- B- Carbon steel lap joint stub end. Both ends.
- C-150 lb. ANSI Flange, DI or steel.
- D- Stainless steel metal hose & braid.
- E-1/8" dia. vent holes. Two holes 180° apart each end except Kynar Flex®.

Nominal I.D.	Working Pressure (PSI)		Vacuum @70°F	Liner Thickness	Flange Thickness
	@70°F	@350°F			
1/2"-3/4"-1"	500	415	30"	S T E E L	3/4"
1 1/2"	400	330	30"		3/4"
2"	300	250	30"		3/4"
3"	200	165	30"	C H A R T O N	1"
4"	150	120	20"		1"
6"	150	120	20"		1"
8"	125	100	20"		1"
10"	100	80	20"		1"
12"	90	70	20"	1 1/2"	

FIELD FLARING TOOLS

1. Hydraulic Flaring Assembly
2. Hot Plate
3. Heat Gun
4. Thermometer
5. Flaring Heads



Perfect faces each and every time with Sierra's field flaring tools. Quick and easy field flaring by just heating the head and hydraulically pushing it against the flange face. It's just that fast and simple. Ask for a demonstration.

For complete information ask for our Field Fabrication and installation manual or our instructional video.

