

Plastic-Liner Data

Liner Characteristics	PTFE	PFA	PP	PVDF (homopolymer)	PVDF (copolymer)	ETFE
Service Temperature Range, °F ¹	-20°F to 450°F	-20°F to 450°	0°F to 225°	0°F to 275°F	-20°F to 275°F	-20°F to 300°F
Liner Color	White	Natural	Orange ³	Black ³	Black ³	Natural
Color of Liner Identification Band	White with Black Lettering ²	Brown w/ White Lettering	Orange w/ Black Lettering	Black w/ White Lettering	Black w/ White Lettering	Gray w/ White Lettering
Coefficient of Thermal Expansion of Pipe Liner Prior to Lining, in./in./°F	5.5 x 10 ⁻⁵	7.8 x 10 ⁻⁵	4.8 x 10 ⁻⁵	6.6 x 10 ⁻⁵	7.8 x 10 ⁻⁵	7.4 x 10 ⁻⁵
Thermal Conductivity ("K" Factor) of Liner, BTU-in./hr.-sq. ft.-°F	1.7	1.3	0.8	0.9	1.18	1.65
Tensile Strength of Liner at Yield, psi	3,000 - 4,000	3,800 - 4,500	4,000 - 4,500	5,000 - 6,000	4,500 - 5,500	6700
Elongation of Liner at Yield, %	250 - 350	300 - 350	10 - 13	8 - 10	10 - 20	150 - 300
Compressive Strength of Liner at Yield, psi	1,700	3,500	5,500 - 8,000	10,000 - 16,000	5000 - 8500	2,500
Specific Gravity of Liner	2.14 - 2.19	2.12 - 2.17	0.90 - 0.92	1.75 - 1.78	1.76 - 1.78	1.70 - 1.72

PTFE = polytetrafluoroethylene

PFA = perfluoroalkoxy

PP = polypropylene

PVDF = polyvinylidene fluoride

ETFE = ethylene tetrafluoroethylene

¹Max. allowable temperature depend on the specific contact chemicals. Refer to the Chemical Resistance guide on page 227.

²10" - 12" non-vacuum pipe and fittings band is red with black letters.

³Available unpigmented as a special option.