



SIGMA 522 is a biaxially orientated barium sulfate-filled PTFE sheet with exceptional compression characteristics. The structure consists of a Sigma 533 core with soft, conformable PTFE facings, making it suitable for use with glass-lined flanges or any other application where loading problems exist. Sigma 522 (also Sigma 533) is acceptable for use in aqueous hydrofluoric acid depending on operating conditions, but is not suitable for sealing molten alkali metals or fluorine gas. Sigma 522 complies with FDA regulations. The data below is based on a 1/16" sheet.

SERVICE

Max T	500°F (260°C)
Max P	1235 psi (8.5 MPa)
pH Range	0 - 14

PHYSICAL PROPERTIES

Color	White with off-white core
Density	125 lb/ft ³ (2.00 g/cc)
Sheet Thickness	1/16" - 1/8" (1.50 mm - 3.20 mm)
Sheet Size	60" x 60" (1.50 m x 1.50 m)

MECHANICAL PROPERTIES (ASTM F152)

Cross Grain Tensile	1220 psi (8.4 MPa)
With Grain Tensile	1250 psi (8.6 MPa)

IMMERSION PROPERTIES (ASTM F146)

Thickness Increase	Oil #3 @ 300°F	1%
	Fuel B @ 70 - 85°F	1%
Weight Increase	Oil #3 @ 300°F	12%
	Fuel B @ 70 - 85°F	4%

SEALING PROPERTIES

ASTM F36J	Compressibility	33.6%
	Recovery	23%
ASTM F37A	Fuel A @ 10 psi & 1000 psi Gasket Stress	0.66 mL/hr.
ASTM F38	Creep Relaxation	42%
BS 7531	Nitrogen Gas Permeability	0.01 mL/min.



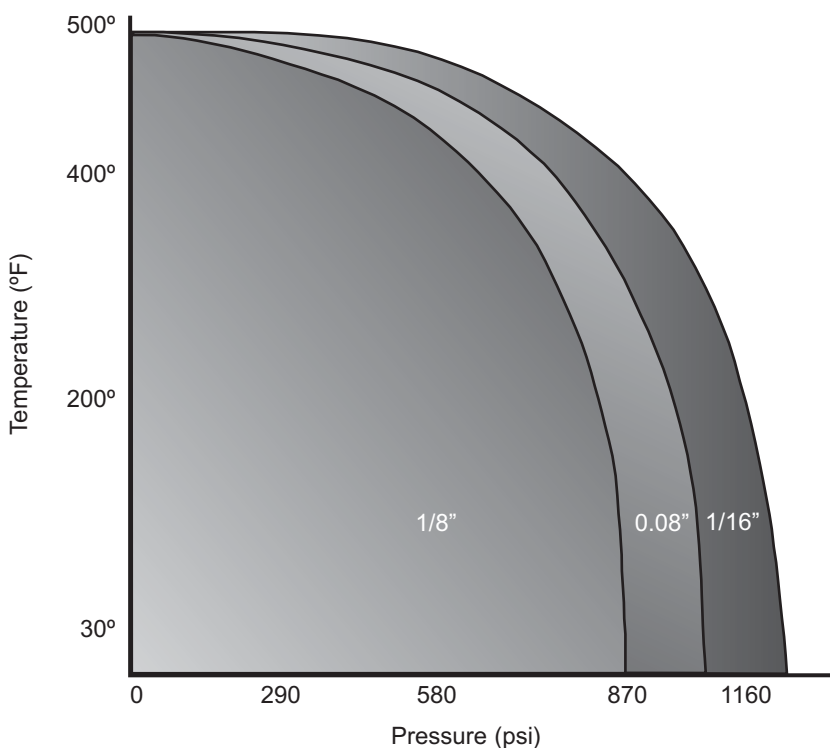
DESIGN INFORMATION

Gasket Constants	m	1.4
	y	1885 psi (13.0 MPa)
PVRC Constants (1/16" thick)	Gb	472 psi
	a	0.25
	Gs	0.0370 psi
TPmax	26600	
Recommended Surface Finish	125 - 250 μ in (3.2 - 6.3 μ m)	
Dielectric Strength	8.2 kv/mm	
ASTM Callout	455120E12M4 †	† some digits may be chosen differently

PRESSURE CONTAINMENT AND TEMPERATURE

SIGMA 522 Thickness	up to 1/16"	0.08"	1/8"
Max. Temperature	500°F	500°F	500°F
Max. Pressure (psi)	1235	1015	870

NOTE: Above pressure/temperature cannot be used simultaneously.



Major Manufacturing Plants

Flexitallic L.P.
6915 Highway 225
Deer Park, Texas 77536
Tel: 281-604-2400
Fax: 281-604-2415

Flexitallic Ltd.
P.O. Box 3, Dewsbury Rd., Cleckheaton
West Yorkshire BD19 5BT
Tel: 44 1274 851 273
Fax: 44 1274 851 386

This Data Sheet relates to the material as supplied. The information contained herein is given in good faith, but no liability will be accepted by the Company in relation to same. The acquisition of additional information may necessitate revisions to parts or all of this Data Sheet, and such information will be supplied as it becomes available.

As the Company's products are used for a multiplicity of purposes, and as the Company has no control over the method of their application or use, the Company excludes all conditions or warranties, express or implied, by statute or otherwise, as to their products and/or their fitness for any particular purpose. Any technical co-operation between the Company and the Customer is given for the Customer's assistance only and without liability on the part of the Company.