



BIAXIALLY ORIENTATED PTFE SHEET MATERIAL

PRODUCT PROFILE

SIGMA 500 is a biaxially orientated sheet sealing material containing PTFE and hollow glass microspheres for use in sealing all chemicals except molten alkali metals, fluorine gas and hydrogen fluoride. SIGMA 500 has exceptional compression characteristics making it good for use in glass lined flanges or where loading problems exist. Sigma 500 is WRAS approved for both hot and cold potable water services and can be used at all concentrations of sulfuric acid. The data below is based on a 1/32" sheet.

SERVICE

Max T	260°C (500°F)
Max P	8.50 MPa (1235 psi)
pH Range	1 - 14

PHYSICAL PROPERTIES

Color	Blue
Density	1.40 g/cc (87 lb/ft ³)
Sheet Thickness	0.75 mm - 3.20 mm (1/32" - 1/8")
Sheet Size	1.50 m x 1.50 m (60" x 60")

MECHANICAL PROPERTIES (ASTM F152)

Cross Grain Tensile	12.00 MPa (1740 psi)
With Grain Tensile	13.40 MPa (1940 psi)

IMMERSION PROPERTIES (ASTM F146)

Thickness Increase	Oil #3 @ 300°F	1%
	Fuel B @ 70 - 85°F	2%
Weight Increase	Oil #3 @ 300°F	3%
	Fuel B @ 70 - 85°F	4%

SEALING PROPERTIES

ASTM F36J	Compressibility	42%
	Recovery	40%
ASTM F37A	Fuel A @ 10 psi & 1000 psi Gasket Stress	0.12 mL/hr.
ASTM F38	Creep Relaxation	21.2%
DIN 3754	Nitrogen Gas Permeability	0.02 mL/min.





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DESIGN INFORMATION

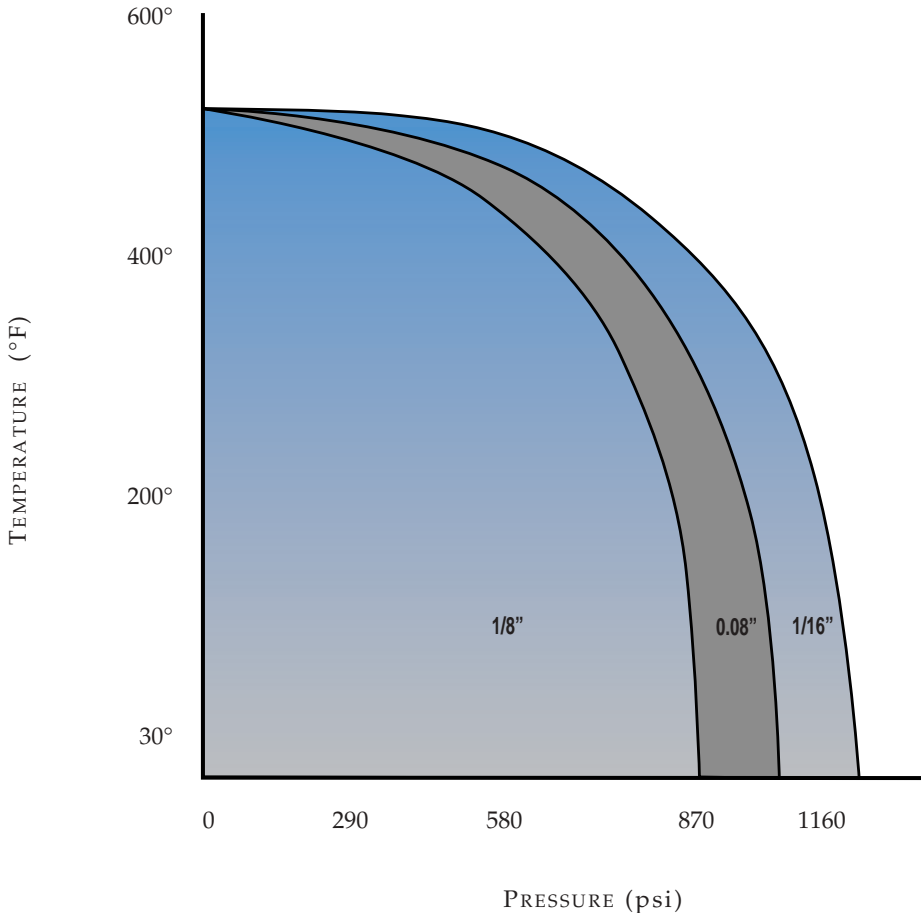
FSA Gasket Constants	m	1.4
	y	13.00 MPa (1885 psi)
PVRC Constants (1/16" thick)	Gb	4 psi
	a	0.804
	Gs	0.115 psi
Recommended Surface Finish	3.2 - 6.3 μ m (125-250 μ in)	
Dielectric Strength	6.10 kv/mm	
ASTM Callout	F452140M5 †	

† some digits may be chosen differently

PRESSURE CONTAINMENT AND TEMPERATURE

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

NOTE: Above pressure / temperature cannot be used simultaneously.



MAJOR MANUFACTURING PLANTS

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