

SIGMA 533

BIAXIALLY ORIENTATED PTFE SHEET MATERIAL

PRODUCT PROFILE

SIGMA 533 is a pigment-free biaxially orientated, barium sulfate-filled PTFE sheet for use in sealing food, pharmaceutical applications, aqueous hydrogen fluoride solutions, sealing strong alkaline solutions (eg caustic soda, black liquor) and other general chemical media. Sigma 533 is acceptable for use in hydrofluoric acid, but is not suitable for sealing molten alkali metals or fluorine gas. The data given 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	Off White
Density	2.89 g/cc (180 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	15.60 MPa (2260 psi)
With Grain Tensile	15.70 MPa (2275 psi)

IMMERSION PROPERTIES (ASTM F146)

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

SEALING PROPERTIES

ASTM F36J	Compressibility	11%
	Recovery	46%
ASTM F37A	Fuel A @ 10 psi & 1000 psi Gasket Stress	0.42 mL/hr.
ASTM F38	Creep Relaxation	16.8%
DIN 3754	Nitrogen Gas Permeability	0.01 mL/min.

Flexitallic
Member of The Flexitallic Group

Distributed & Fabricated by:

ES P
ESSENTIAL SEALING
PRODUCTS, INC.

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DESIGN INFORMATION

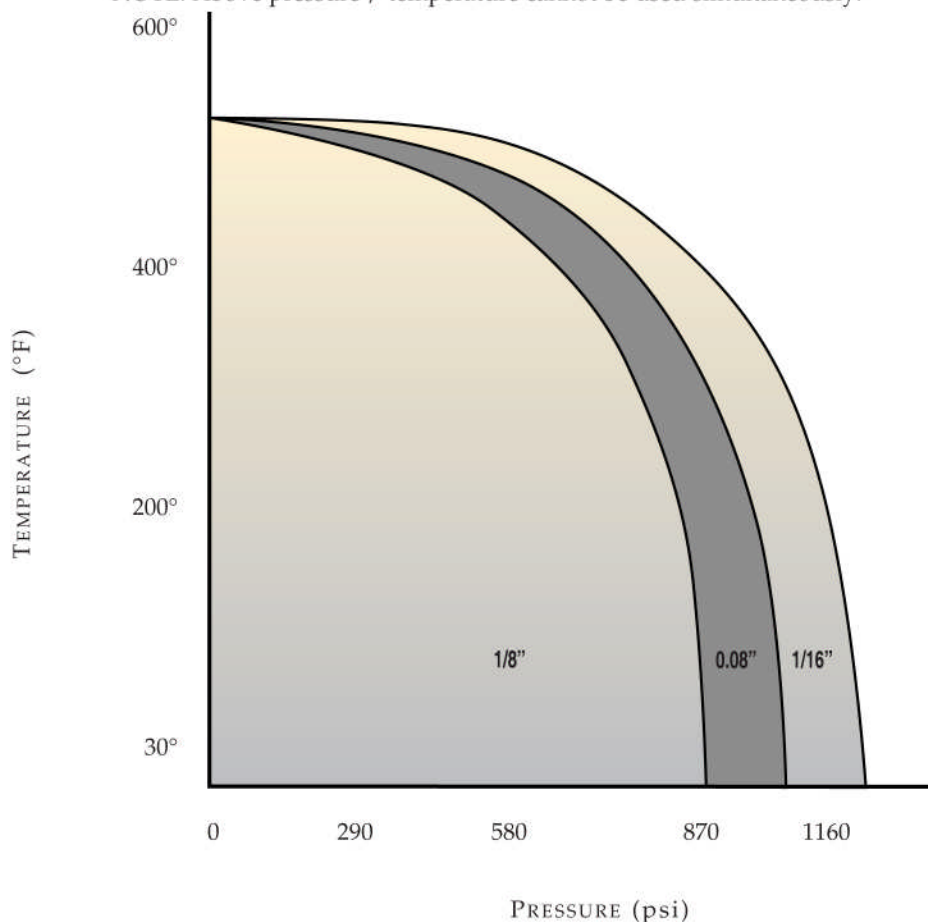
FSA Gasket Constants	m	1.4
	y	16.00 MPa (2320 psi)
PVRC Constants (1/16" thick)	Gb	115 psi
	a	0.382
	Gs	0.000065 psi
Recommended Surface Finish	3.2 - 6.3 μm (125-250 μin)	
Dielectric Strength	11.00 kv/mm	
ASTM Callout	452110E11M6 †	

† some digits may be chosen differently

PRESSURE CONTAINMENT AND TEMPERATURE

SIGMA 533 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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