

Fluorosint[®] 500 (Filled PTFE)

KEY FEATURES

- Low Coefficient of Thermal Expansion
- Greater Resistance to Deformation Under Load Compared to Unfilled PTFE
- Very Low Coefficient of Friction
- Good Chemical Resistance

DESCRIPTION

FLUOROSINT[®] 500 is an enhanced PTFE produced by Quadrant Plastics. Fluorosint[®] 500 has 9 times greater resistance to deformation under load than unfilled PTFE. Its coefficient of linear thermal expansion is 1/5 that of virgin PTFE. Fluorosint[®] 500 is harder than virgin PTFE, has better wear characteristics and maintains low frictional properties. There are several other versions of Fluorosint[®] that are FDA compliant (207) as well as bearing grades.

TYPICAL PROPERTY VALUES

Physical	Properties	Condition	Units	Value	ASTM Test
	Density		g/cm ³	2.32	D792
	Chemical Designation			PTFE	
	Filler			Mica	

Mechanical	Properties	Condition	Units	Value	ASTM Test
	Tensile Modulus	@ 73 °F	PSI	300,000	D638
	Tensile Strength	@ 73 °F	PSI	1,100	D638
	Tensile Elongation @ Brk	@ 73 °F	%	30	D638
	Flexural Modulus	@ 73 °F	PSI	500,000	D790
	Flexural Strength	@ 73 °F	PSI	2,200	D790
	Compressive Modulus	@ 73 °F	PSI	250,000	D695
	Compressive Strength	@ 73 °F, 10% strain	PSI	4,000	D695
	Izod (Charpy) Impact Strength	@ 73 °F	ft-lbs/in	0.9	D256
	Hardness, Shore D	@ 73 °F		D70	D785
	Deformation Under Load	@2,000 PSI, 122°	%	1.1	
	Coefficient of Friction	Dynamic		0.15	QTM55007
	Limiting PV		psi-ft/min	8,000	QTM55007
	Wear Factor		in ³ -min/ft-lb-hr	600	QTM55010

Thermal	Properties	Condition	Units	Value	ASTM Test
	Thermal Expansion (CLTE)		in/in/°F	2.5*10 ⁻⁵	E-831
	Heat Deflection Temperature	@ 264 PSI	°F	270	D648
	Service Temperature	Continuous	°F	500	
	Specific Heat		BTU/lb-°F		
	Thermal Conductivity		BTU-in/hr-ft ² -°F	5.3	F433

Electrical	Properties	Condition	Units	Value	ASTM Test
	Surface Resistivity		ohms/square	>10 ¹³	EOS/ESD S11.11
	Volume Resistivity		ohm-cm		
	Dielectric Strength		V/mil	275	D149
	Dielectric Constant	@10 ⁶ Hz		2.85	D150
	Dissipation Factor	@10 ⁵ Hz		0.008	D150

Other	Properties	Condition	Units	Value	ASTM Test
	Moisture Absorption	@ 24 hrs, 73 °F	%	0.1	D570
	Moisture Absorption	@ Saturation, 73 °F		3	D570
	Flammability	@3.1mm		V-O	UL94
	Food Grade			N	
	Relative Cost			\$\$	

• The data stated above are typical values intended for reference and comparison purposes only.
• The data should not be used as a basis for design specifications or quality control.

• The information is provided as a guide to the best of our knowledge and given without obligation or liability.
• Testing under individual application circumstances is recommended