THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

PPS - Unfilled

Semi-Crystalline High-Performance Plastic

PPS (Polyethylene Sulphide) is a high-performance thermoplastic. It is not part of the PI family. It has a lower heat and hostile environment resistance than the PI family but at a lower cost. PPS attributes include outstanding dimensional stability, minimal moisture absorption, and a low coefficient of linear thermal expansion. It maintains properties in corrosive environments and is extremely easy to machine to close tolerances. The sheet color is off-white.

The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers. We offer our customers the proper product for their specific application. A variety of dimensions and diameter sizes are available. Product colors vary according to material type.

		ISO/IEC			ASTM		
PROPERTIES		**Test Method**	**Units**	**Typical Values**	**Test Method**	**Units**	**Typical Values**
PHYSICAL	Density	ISO 1183-1	g/cm³	1.35			
	Specific Gravity				ASTM D792		1.35
	Water Absorption: 24 hrs. in water at 73°F	ISO 62	%	0.01	ASTM D570	%	0.01
	Water Absorption: Saturation in water at 73°F		%	0.10	ASTM D570	%	0.03
	Wear Rate	ISO 7148-2		70	QTM 55010	$In^3 \cdot min/ft \cdot lbs \cdot hr \cdot 10^{-10}$	2,400
	Coefficient of Friction: Dynamic	ISO 7148-2		0.40 - 0.60	QTM 55007		0.40
	Limiting PV at 100 FPM				QTM 55007	$ft \cdot lbs/in^2 \cdot min$	3,000
THERMAL	Melting Temperature: DSC, 10°C(50°F)/min	ISO 11357-1/-3	°C	280	ASTM D3418	°F	540
	Glass Transition Temperature (DMA- Tanδ)		°C	-		°F	-
	Thermal Conductivity at 23°C (73°F)		W/m·K	0.30		$BTU \cdot in/ft^2 \cdot hr \cdot °F$	2
	CLTE (-40 to 150°C) (-40 to 300°F)				ASTM E831 (TMA)	µin/in·°F	28
	CLTE (23 to 100°C) (73 to 210°F)		µm/m·°C	60			
	CLTE (23 to 150°C) (73 to 300°F)		µm/m·°C	80			
	CLTE (>150°C) (>300°F)		µm/m·°C	145			
	Heat Deflection Temperature (264 PSI)	ISO 75-1/-2	°C	115	ASTM D648	°F	250
	Continuous Service Temperature in Air: 20 hrs.		°C	220		°F	425
	Min. Service Temperature		°C	-30		°F	-
	Flammability: UL94 (3 mm (1/8 in.))			V-0			V-0
	Flammability: Oxygen Index	ISO 4589-1/-2	%	44			
MECHANICAL	Ultimate Tensile Strength	ISO 527-1/-2	MPa	102	ASTM D638	PSI	13,500
	Tensile Strain at Yield	ISO 527-1/-2	%	12	ASTM D638	%	3.60
	Tensile Strain at Break	ISO 527-1/-2	%	12	ASTM D638	%	20
	Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	4,000	ASTM D638	KSI	500
	Shear Strength			62	ASTM D732	PSI	9,000
	Compressive Stress: 1 / 2 / 5 % nominal strain	ISO 604	MPa	39 / 77 / 122			
	Compressive Strength				ASTM D695	PSI	21,500
	Charpy Impact Strength: Unnotched	ISO 179-1/1eU	kJ/m^2	NB			
	Charpy Impact Strength: Notched	ISO 179-1/1eA	kJ/m^2	2			
	IZOD Impact Strength: Notched				ASTM D256	ft-lb/in	0.60
	Flexural Strength	ISO 178	MPa	155	ASTM D790	PSI	21,000
	Flexural Modulus	ISO 178	GPa	-	ASTM D790	KSI	575
	Rockwell Hardness: M Scale	ISO 2039-2		100	ASTM D785		95
	Rockwell Hardness: R Scale	ISO 2039-2		-	ASTM D2240		125
ELECTRICAL	Dielectric Strength (Perp. in Oil)	IEC 60243-1	kV/mm	18	ASTM D149	V/mil	540
	Volume Resistivity	IEC 62631-3-1	Ohm-cm	10^{13}	ASTM D257	Ohm-cm	-
	Surface Resistivity				ANSI/ESDSTM 11.11	Ohms/sq	10^{12}
	Dielectric Constant at 1 MHz	IEC 62631-2-1		3	ASTM D150		3
	Dissipation Factor at 1 MHz	IEC 62631-2-1		0	ASTM D150		0