



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.

PROPERTIES	ISO/IEC*			ASTM*			
	Test Method	Units	Typical Values	Test Method	Units	Typical Values	
PHYSICAL	Density	ISO 1183-1	g/cm ³	1.35			
	Specific Gravity				ASTM D792	1.35	
	Water Absorption: 24 hrs. in water @ 73°F	ISO 62	%	0.01	ASTM D 570	%	0.01
	Water Absorption: Saturation in water @ 73°F		%	0.1	ASTM D 570	%	0.03
	Wear Rate	ISO 7148-2		70.0000	QTM 55010	in ³ .min/ft.lbs.hr*10 ⁻¹⁰	2,400
	Dynamic Coefficient of Friction (-)	ISO 7148-2		0.4-0.6	QTM 55007		0.4000
Limiting PV at 100 FPM				QTM 55007	ft.lbs/in ² .min	3,000	
THERMAL	Melting Temperature (DSC, 10°C(50°F)/min)	ISO 11357-1/-3	°C	280	ASTM D 3418	°F	540
	Glass Transition Temperature (DMA- Tanδ)		°C			°F	
	Thermal Conductivity @ 23°C (73°F)		W/m-K	0.30		BTU-in/ft ² .hr.°F	2.00
	CLTE (-40 to 150°C) (-40 to 300°F)				ASTM E 831 (TMA)	µin/in-°F	28.0
	CLTE (23 to 100°C) (73°F to 210°F)		µm/m-°C	60.0			
	CLTE (23 to 150°C) (73°F to 300°F)		µm/m-°C	80.0			
	CLTE (>150°C) (>300°F)		µm/m-°C	145			
	Heat Deflection Temperature (264 PSI)	ISO 75-1/-2	°C	115	ASTM D 648	°F	250
	Continuous Service Temperature in Air 20 hrs.		°C	220.00		°F	425.00
	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 D 638	PSI	13,500
	Tensile Strain at Yield	ISO 527-1/-2	%	12	ASTM D 638	%	3.6
	Tensile Strain at Break	ISO 527-1/-2	%	12	ASTM D 638	%	20
	Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	4,000	ASTM D 638	KSI	500
	Shear Strength			62	ASTM D 732	PSI	9,000
	Compressive Stress: 1 / 2 / 5 % nominal strain	ISO 604	MPa	39 / 77 / 122			
	Compressive Strength				ASTM D 695	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	2.00			
	IZOD Impact Notched				ASTM D 256	ft-lb/in	0.60
	Flexural Strength	ISO 178	MPa	155	ASTM D 790	PSI	21,000
	Flexural Modulus	ISO 178	GPa		ASTM D 790	KSI	575
Rockwell M Hardness	ISO 2039-2		100	ASTM D 785		95	
Rockwell R Hardness	ISO 2039-2			ASTM D 2240		125	
ELECTRICAL	Dielectric Strength (Perp. in Oil)	IEC 60243-1	kV/mm	18	ASTM D 149	V/mil	540
	Volume Resistivity	IEC 62631-3-1	Ohm-cm	10 ¹³	ASTM D 257	Ohm-cm	
	Surface Resistivity	ANSI/ESD STM 11.11	Ohms/sq	10 ¹²	ANSI/ESD STM 11.11	Ohms/sq	10 ¹²
	Dielectric Constant @ 1 MHz	IEC 62631-2-1		3	ASTM D 150		3
	Dissipation Factor @ 1 MHz	IEC 62631-2-1		0	ASTM D 150		0

The data supplied are typical values. They are not to be considered specification values. All of the information, suggestions, and recommendations about these properties and uses of the products herein are based on tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty - expressed or implied - including, without limitation, warranties of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.