THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

Tuffak® Series

Engineered Polycarbonate Sheet

Tuffak® polycarbonate is a thermoplastic with high dimensional stability and excellent heat resistance. It is robust, lightweight, and impact-resistant (even at low temperatures). Tuffak® is easily fabricated. Applications include medical devices, automotive headlamps, sporting equipment, electronics, and numerous other products.

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.

		ASTM		TYPICAL VALUES	
	PROPERTIES	Test Method	Units	General (GP)	Low Flammability (LF)
PHYSICAL	Specific Gravity	ASTM D792	g/cc	1.20	1.20
	Water Absorption: 24 hrs.	ASTM D570	%	0.15	-
THERMAL	Coefficient of Thermal Expansion	ASTM D696	µin/in·°F	37.5	37.5
	Coefficient of Thermal Conductivity	ASTM C177		1.35	-
	Heat Deflection Temperature at 264 PSI	ASTM 648	°F	270	270
	Heat Deflection Temperature at 66 PSI	ASTM D648	°F	280	280
	Brittle Temperature	ASTM D746	°F	-200	-
	Shading Coefficient: Clear at 1/8"	ASHRAE		1.02	-
	Shading Coefficient Gray: Bronze at 1/8"	ASHRAE		0.70	-
	Value 1/4" (Summer gain / Winter loss)			0.90 / 0.96	-
	Horizontal Burn: Average Extent of Burning	ASTM D635	Inches	<1	-
	Ignition Temperature: Self / Flash	ASTM D1929	°F	1070 / 870	-
	Flammability: Clear at 0.060"	UL 94		HB	-
	Flammability: Clear at 0.080"	UL 94		-	V-0
MECHANICAL	Tensile Strength at Yield	ASTM D638	PSI	9,000	-
	Tensile Strength: Ultimate	ASTM D638	PSI	9,500	9,500
	Tensile Modulus	ASTM D638	PSI	345,000	-
	Flexural Strength	ASTM D790	PSI	13,500	13,500
	Flexural Modulus	ASTM D790	PSI	345,000	-
	Compressive Strength	ASTM D695	PSI	12,500	12,500
	Compressive Modulus	ASTM D695	PSI	345,000	345,000
	Elongation	ASTM D638	%	110	-
	Poisson's Ratio			0.38	-
	Izod Impact Strength: Notched at 1/8"	ASTM D256	ft-lbs/in	12-16	15
	Izod Impact Strength: Unnotched at 1/8"	ASTM D256	ft-lbs/in	60 (No failure)	60 (No Failure)
	Instrumented Impact: 1/8"	ASTM D3763	ft-lbs	>45	>46
	Shear Strength at Yield	ASTM D732	PSI	6,000	-
	Shear Strength: Ultimate	ASTM D732	PSI	10,000	-
	Shear Modulus	ASTM D732	PSI	114,000	-
	Rockwell Hardness: M Scale	ASTM D785		70	-
	Rockwell Hardness: R Scale	ASTM D785		118	-
ELECTRICAL	Dielectric Constant at 10 Hz	ASTM D150		2.96	-
	Dielectric Constant at 60 Hz	ASTM D150		3.17	-
	Volume Resistivity	ASTM D257	Ohm-cm	$8.2 \cdot 10^{16}$	-
	Dissipation Factor at 60 Hz	ASTM D150		0.0009	-
	Dissipation Factor at 1 MHz	ASTM D150		0.01	-
	Arc Resistance: Stainless Steel Strip Electrode		Seconds	45,941	-
	Arc Resistance: Tungsten Electrodes		Seconds	120	-
	Dielectric Strength: in Air (125 mils)	ASTM D149	V/mil	380	-