MANUFACTURERS OF
ELECTRICAL INSULATION MATERIALS

INSULATING COMPONENTS FOR POWER SYSTEMS EQUIPMENT

The Gund Company, Inc
St. Louis, Missouri – USA
TEL - 314.423.5200
FAX - 314.423.9009

MATERIAL DATA SHEET

Item: Acrylic

Description: Commonly called Plexiglas or Lucite. Acrylics have substantially more impact resistance than glass (17 times) in the same thickness at half the weight. Acrylics are virtually unaffected by sunlight, humidity, and temperature extremes. However, it is a flammable plastic when exposed to open flames.

It can easily be sawed, drilled, cemented, polished, and heat formed at approximately 150 - 160 F^o (66 - 71 C^o). It is used for general maintenance for glazing and machine guards. Acrylics are non-spalling when broken; its pieces are not as sharp as glass either.

Availability: Fabricated Parts: The Gund Company custom fabricates insulation materials to the exact specifications and drawings of our customers.

Key Physical Properties	Units	Typical Values
Specific Gravity	--	1.17-1.20
Rockwell Hardness	M Scale	80-100
Specific Volume	cu in/lb	23.1-23.7
Compressive Strength	psi	11,000 - 19,000
Flexural Strength	psi	12,000-17,000
Impact Strength	ft. - lb/in of notch	.4 - .5
Refractive Index		1.48-1.50
Tensile Strength	psi	8,000 - 11,000
Elongation	%	2 - 7
Modulus of Elasticity in Tension	10^3, psi	3.5 - 5.0
Thermal Conductivity		4 - 6
Specific Heat	cal/ C^0/gm	.35
Thermal Expansion	.001/ C^0	5 - 9
Resistance to Heat	F^0	140 - 200
Heat Distortion Temperature	F^0	150 - 210
Volume Resistivity		$>10^{15}$
Key Chemical Properties	**Units**	**Typical Values**
Water Absorbtion	24 hr, 1/8" think, %	.3 - .4
Burning Rate		Slow
Effect of Sunlight		Very Slight

All of the information, suggestions, and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the use contemplated, 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 warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.

MANUFACTURERS OF
ELECTRICAL INSULATION MATERIALS

INSULATING COMPONENTS FOR POWER SYSTEMS EQUIPMENT

The Gund Company, Inc
St. Louis, Missouri – USA
TEL - 314.423.5200
FAX - 314.423.9009

MATERIAL DATA SHEET

Item: Acrylic continued

Key Chemical Properties con...	Units	Typical Values
Effect of Weak Acids		Practically Nil
Effect of Strong Acids		Attacked on by high concentrates of oxidizing acids
Effect of Weak Alkalies		Practically Nil
Effect of Organic Solvents		Soluble in key tones, esters, aromatic, chlorinated hydrocarbons
Clarity		Opaque
Key Electrical Properties	**Units**	**Typical Values**
Dielectric Strength	Short time 1/8" thick	450 - 550
Dielectric Strength	step-by step 1/8" thick	350 - 400
Dielectric Constant	60 Cycles	3.5 - 4.5
Dielectric Constant	10^3 Cycles	3.0 - 3.5
Dielectric Constant	10^6 Cycles	2.2 - 3.2
Dissipation Factor	60 Cycles	.05 - .06
Dissipation Factor	10^3 Cycles	.04 - .06
Dissipation Factor	10^6 Cycles	.02 - .03
Arc Resistance	seconds	No track

All of the information, suggestions, and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the use contemplated, 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 warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.