

B-322

MINDEL B-322 is a glass filled modified polysulfone developed specifically for molded electrical connector applications requiring excellent dimensional stability and resistance to warpage. This material also has a high heat deflection temperature, good creep resistance and high rigidity, tensile and flexural strengths. It has outstanding electrical properties even at high frequencies and temperatures and is rated UL94 V-0⁽¹⁾ at 1/32" or 0.031" (0.8 mm) in all colors.

Humidity resistance is another strong point. MINDEL B-322 retains a high level of mechanical and electrical properties even at elevated temperatures which can make it a suitable replacement for high performance thermosets

MINDEL B-322 is a creamy white translucent material in its natural form and may be readily colored.

Typical Properties of MINDEL B-322 Resin

Property	ASTM Test Method	Typical Values ⁽²⁾			
		U.S. Customary Units		SI Units	
		Value	Units	Value	Units
Mechanical					
Tensile Strength	D-638	15.0	kpsi	103.0	MPa
Tensile Elongation at Break	D-638	2.5	%	2.5	%
Flexural Strength	D-790	23.0	kpsi	159	MPa
Flexural Modulus	D-790	1,000	kpsi	6.2	GPa
Tensile Impact Strength	D-1822	40	ft-lb/in ²	84	kJ/m ²
Izod Impact Strength - Notched	D-256	1.0	ft-lbs/in	53.4	J/m
Thermal					
Coefficient of Thermal Expansion	D-696	15	ppm/°F	27	ppm/°C
Thermal Conductivity	C-177	1.5	BTU in/hr ft ² °F	0.22	W/m°C
Heat Deflection Temp., annealed, at 264 psi (1.8 MPa) load	D-648	320	°F	160	°C
Flammability Rating ⁽¹⁾ 0.031", (0.79 mm) thickness	UL-94	V-0		V-0	
Oxygen Index Rating	D-2863T	35		35	
U.L. Temperature Index	UL-746B	320	°F	160	°C
Electrical					
Dielectric strength, short time, 1/32" (0.8 mm)	D-149	750	V/mil	30	kV/mm
Dielectric strength, short time, 1/8" (3.2 mm)		500	V/mil	20	kV/mm
Dielectric strength, step by step, 1/32" (0.8 mm)		730	V/mil	29	kV/mm
Dielectric strength, step by step, 1/16" (1.6 mm)		520	V/mil	20	kV/mm
Dielectric Constant, 60 Hz	D-150	3.7		3.7	
Dielectric Constant, 10 ³ Hz		3.7		3.7	
Dielectric Constant, 10 ⁶ Hz		3.7		3.7	
Dissipation Factor, 60 Hz	D-150	0.002		0.002	
Dissipation Factor, 10 ³ Hz		0.003		0.003	
Dissipation Factor, 10 ⁶ Hz		0.009		0.009	
Arc Resistance	D-495	125	sec	125	sec
Fabrication					
Melt Flow, 275°C (527°F), 2.16 kg	D-1238	4-9	g/10 min	4-9	g/10 min
Mold Shrinkage, MD	D-955	0.3	%	0.3	%
Mold Shrinkage, TD		0.5	%	0.5	%
General					
Specific Gravity	D-1505	1.47		1.47	
Hardness, Rockwell	D-785	M80		M80	
Water Absorption, % in 24 hours	D-570	0.14		0.14	

⁽¹⁾ This flammability rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

⁽²⁾ Actual properties of individual batches will vary within specification limits.

Drying

Before fabrication, MINDEL B-322 resin must be dried to a moisture level of 200 ppm or less, in a circulating hot air oven or preferably a dehumidified hopper dryer. For 1-2" deep tray drying, pellets should be dried at 325°F (163°C) for 3 hours.

Air temperatures measured at the hopper dryer inlet should be 300-325°F (149-163°C) and have a dewpoint of no higher than -40°F (-40°C). The outlet air temperature should not be less than 250°F (121°C), with a residence time of 3 to 4 hours. Dryer outlet temperature can vary with air velocity, bed size, inlet air temperature, and other factors; and may be difficult to measure. In all cases, pellets should reach and maintain a minimum temperature of 275°F (135°C) and maximum temperature of 325°F (163°C) for 3 to 4 hours.

Dried resin should be handled carefully to prevent reabsorption of moisture from the atmosphere by using closed dry containers and covered hoppers.

Injection Molding

MINDEL B-322 resin can be readily molded in most screw injection molding machines. Stock temperatures will generally range from 520-600°F (271-316°C) depending on mold design and the type of equipment used. The stock temperature should be minimized to avoid possible degradation of the resin. In most cases, fast injection speeds and moderate injection pressures are used. Mold temperatures of 150-210°F (65-99°C) are recommended.

Regrind may be processed at higher than 25% levels. This compound has been molded four times at 100% regrind with minimal loss of properties.

Standard Packaging and Labeling

MINDEL B-322 resin is packaged in foil lined, multiwall paper bags containing 55.115 pounds (25 kg) of material. Special packaging can be supplied upon request. Individual packages will be plainly marked with the product number, the color, the lot number, and the net weight.

Precautionary Labeling

On the basis of the toxicological, physical, and chemical properties of MINDEL B-322 resin, labeling used on containers is as follows:

Caution! Handling and/or processing this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose, and throat.

Product Safety and Emergency Service

For product safety information or a Material Safety Data Sheet on a product of Solvay Advanced Polymers

1 (800) 621-4557

1 (770) 772-8880 outside of U.S.

For information or help in an emergency such as a spill, leak, fire or explosion, call day or night:

Emergency Health Information

1 (800) 621-4590

1 (770) 772-5177 outside of U.S.

Emergency Spill Information

CHEMTREC 1 (800) 424-9300

1 (703) 527-3887 outside of U.S.

collect calls accepted

For Additional Information

Technical Service

1 (800) 621-4557

Customer Service

1 (800) 848-9744

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