

TECHNICAL DATA SHEET

Rexolite

Rexolite® is a thermoset, rigid, translucent plastic produced by cross linking and Rexolite is specifically geared for the microwave industry. The main feature of Rexolite is its stable electrical properties into the GHz frequency range. It is also optically clear (very similar to Acrylic), dimensionally stable, and has excellent sound transmission characteristics. Because of these features, Rexolite® is often used for high-frequency circuit substrates, microwave components, and lenses for acoustic, optical and radio-frequency applications. Rexolite has a Dielectric constant of 2.53 (up to 500 GHz) and exhibits an extremely low dissipation factor.

Grades of Rexolite

Rexolite® 1422 - unfilled

Unfilled Rexolite® 1422 is chemically resistant, light weight, resists water absorption, and has negligible outgassing.

Rexolite® 2200 - glass-filled

Glass reinforced Rexolite® 2200 provides greater rigidity and dimensional stability while maintaining many of the useful characteristics of basic Rexolite®. The glass reinforcement yields a product with an exceptional strength-to-weight ratio and increased tensile strength.

Rexolite® copper-clad

For use in electronic circuits, both Rexolite® 1422 and 2200 may be ordered in sheet thicknesses to 1/4" with copper-clad surface in thicknesses ranging from 1/2-ounce to 2-ounce copper.

Benefits

- Outstanding dielectric properties
- High voltage insulation
- Radiation resistance
- Rigidity
- Chemical resistance
- Self-extinguishing
- Light Wight

Applications

- Microwave lenses
- Microwave circuitry
- Antenna
- Coaxial cable connectors
- Sound transducers
- Satellite applications
- Surveillance equipment
- Radar
- Radomes

SHAPES AVAILABLE



SEE NEXT PAGE FOR ADDITIONAL INFORMATION

REXOLITE® is a registered trademark of C-Lec Plastics Company.

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.

All values at 73°F (23°C) unless otherwise noted.



TYPICAL PROPERTIES of REXOLITE®			
ASTM or UL test	Property	Rexolite® 1422 unfilled	Rexolite® 2200 glass-filled
PHYSICAL			
D792	Density (lb/in ³) (g/cm ³)	0.038 1.05	0.042 1.11
D570	Water Absorption, 24 hrs (%)	0.08	0.10
MECHANICAL			
D638	Tensile Strength (psi)	9,000	9,500
D638	Flexural Strength (psi)	11,500	10,500
D256	IZOD Notched Impact (ft-lb/in)	0.3	0.75
THERMAL			
D696	Coefficient of Linear Thermal Expansion (x 10 ⁻⁵ in./in./°F)	3.8	3.2
D648	Recommended Operating Temperature Range (°F) (°C)	-76 to +212 -60 to +100	-103 to +212 -75 to +100
C177	Thermal Conductivity (BTU-in/ft ² -hr-°F) (x 10 ⁻⁴ cal/cm-sec-°C)	1.01 3.5	1.45 5.0
ELECTRICAL			
D149	Dielectric Strength (V/mil) short time, 1/8" thick	500	500
D150	Dielectric Constant (1 MHz to 500 GHz)	2.53	2.62
D150	Dissipation Factor at 1 MHz at 10 MHz at 10 GHz	0.00012 0.00025 0.00066	0.0004 0.0005 0.0014
D257	Surface Resistivity (ohm-cm)at 50% RH	>10 ¹⁴	5 x 10 ¹²
D257	Volume Resistivity (ohm-cm)at 50% RH	>10 ¹⁶	5 x 10 ¹³
OPTICAL AND ACOUSTIC			
-	Acoustic Impedance	2.5	-
-	Velocity of Sound (in/sec)	93,000	-
-	Optical Transmittance, Visible Light	87%	-
-	Refractive Index @ 589 nM @ 486 nM @ 656 nM	1.59 1.604 1.585	- - -
-	Velocity of Sound (in/sec)	93,000	-

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