

Dow CYCLOTENE™ 3022-46 Bisbenzocyclobutene (BCB) Electronic Resin

Category : Polymer

Material Notes:

This product was developed for use as spin-on dielectric materials in microelectronic fabrication. Information provided by Dow

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-CYCLOTENE-3022-46-Bisbenzocyclobutene-BCB-Electronic-Resin.php

Physical Properties	Metric	English	Comments
Water Absorption	<= 0.20 %	<= 0.20 %	
Viscosity Measure	52 cSt	52 cSt	
	@Temperature 25.0 °C	@Temperature 77.0 °F	
Thickness	2.40 - 5.80 microns	0.0945 - 0.228 mil	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	80.0 - 94.0 MPa	11600 - 13600 psi	
Elongation at Break	5.5 - 10.5 %	5.5 - 10.5 %	
Tensile Modulus	2.70 - 3.10 GPa	392 - 450 ksi	
Poissons Ratio	0.34	0.34	
Shear Modulus	1.01 - 1.16 GPa	146 - 168 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	42.0 µm/m-°C	23.3 µin/in-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft²-°F	
Glass Transition Temp, Tg	>= 350 °C	>= 662 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+19 ohm-cm	1.00e+19 ohm-cm	
Dielectric Constant	2.5 - 2.65	2.5 - 2.65	
	@Frequency 1.00e+9 - 2.00e+10 Hz	@Frequency 1.00e+9 - 2.00e+10 Hz	
Dielectric Strength	530 kV/mm	13500 kV/in	
	0.00080 - 0.0020	0.00080 - 0.0020	

Electrical Properties	Metric	English	Comments
	@ Frequency 1.00e+9 - 2.00e+10 Hz	@ Frequency 1.00e+9 - 2.00e+10 Hz	

Descriptive Properties	Value	Comments
Leakage Current A/cm ²	0.00000000068	at 1.0 MV/cm ²
Residual Stress MPa, min	26 - 30	

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