

Dow CYCLOTENE™ 4024-40 Advanced Electronic Resins (PhotoBisbenzocyclobutene BCB)

Category : Polymer

Material Notes:

CYCLOTENE™ 4024-40 advanced electronic resin is I-line-, G-line-, and broad band-sensitive photopolymer that has been developed for use as a dielectric in thin film microelectronic applications. Information provided by Dow

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-CYCLOTENE-4024-40-Advanced-Electronic-Resins-PhotoBisbenzocyclobutene-BCB.php

Physical Properties	Metric	English	Comments
Viscosity Measurement	350	350	[cSt]
Thickness	3.50 - 7.50 microns	0.138 - 0.295 mil	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	78.0 - 96.0 MPa	11300 - 13900 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 $\mu\text{m}/\text{m}\cdot\text{°C}$	23.3 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft ² -°F	
Glass Transition Temp, Tg	>= 350 °C	>= 662 °F	
Decomposition Temperature	350 °C	662 °F	1.7% weight loss per hour

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+19 ohm-cm	1.00e+19 ohm-cm	
Dielectric Constant	2.65	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	

Designation Factory Electrical Properties	0.00080 Metric	0.00080 English	Comments
Descriptive Properties	Value		Comments
Leakage Current A/cm ²	0.00000000047		at 1.0 MV/cm ²
Stress on Si MPa, Min	26 - 30		

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