

Dow SiLK™ D Semiconductor Dielectric Resin

Category : Polymer

Material Notes:

SiLK™ D resin provides a more controlled coefficient of thermal expansion (CTE) profile at elevated temperatures as compared to earlier versions of SiLK™ resin. Information provided by Dow

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-SiLK-D-Semiconductor-Dielectric-Resin.php

Physical Properties	Metric	English	Comments
Water Absorption	0.30 %	0.30 %	80% R.H.
Thickness	0.0750 - 1.00 microns	0.00295 - 0.0394 mil	Film Thickness

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	210 MPa	30500 psi	Measured by nanoindentation
Tensile Strength, Ultimate	89.0 MPa	12900 psi	
Tensile Strength, Yield	60.0 MPa	8700 psi	
Tensile Modulus	3.50 GPa	508 ksi	Measured by nanoindentation

Thermal Properties	Metric	English	Comments
CTE, linear	62.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	34.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 50.0 - 150 °C	@Temperature 122 - 302 °F	
Thermal Conductivity	90.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	50.0 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 500 °C	@Temperature 932 °F	
Glass Transition Temp, Tg	0.190 W/m-K	1.32 BTU-in/hr-ft ² -°F	
	0.230 W/m-K	1.60 BTU-in/hr-ft ² -°F	
Decomposition Temperature	@Temperature 125 °C	@Temperature 257 °F	
	>= 490 °C	>= 914 °F	
	450 °C	842 °F	1% weight loss per hour

Optical Properties	Metric	English	Comments
Refractive Index	1.63	1.63	

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.6	2.6	
Dielectric Strength	>= 400 kV/mm	>= 10200 kV/in	

Descriptive Properties	Value	Comments
Leakage Current A/cm ² , max	0.00000000005	0.5 MV/cm
Leakage Current A/cm ² , max	0.00000000005	1.0 MV/cm

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