

Dow SiLK™ I 1500 Semiconductor Dielectric Resin

Category : Polymer

Material Notes:

SiLK™ I 1500 is designed for easy integration and extendibility, and its formulations offer a robust feature set. High thermal stability and fracture toughness means SiLK™ I 1500 is compatible with standard IC processing tools in today's fabrications. SiLK™ I 1500 is fluorine-free, thus is compatible with Ti and Ta barrier materials. Information provided by Dow

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-SiLK-I-1500-Semiconductor-Dielectric-Resin.php

Physical Properties	Metric	English	Comments
Water Absorption	0.24 %	0.24 %	80% R.H.
Thickness	1.50 microns	0.0591 mil	3000 rpm
	1.30 - 1.84 microns	0.0512 - 0.0724 mil	2000-4000 rpm

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	89.0 MPa	12900 psi	
Tensile Strength, Yield	60.0 MPa	8700 psi	
Tensile Modulus	2.45 GPa	355 ksi	

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

Optical Properties	Metric	English	Comments
Refractive Index	1.63	1.63	

Electrical Properties	Metric	English	Comments
	2.6	2.6	

Dielectric Constant Electrical Properties	Metric @ Frequency 100000 Hz	English @ Frequency 100000 Hz	Comments
Dielectric Strength	>= 400 kV/mm	>= 10200 kV/in	

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