



**POLARCHIP™ CP8000 Thermal Interface Material Properties**

Construction							
Property	Units	CP8000					Test Method
Filler	—	Boron Nitride					—
Matrix	—	ePTFE					—
Color	—	White					—
Adhesive	—	1 mil PSA					—
Thickness	mm (mils)	0.5 (20)	0.75 (30)	1.0 (40)	1.5 (60)	2.0 (80)	ASTM D347, method C
Thermal							
Property	Units	CP8000					Test Method
Thermal Impedance @ 0.07 Mpa (10 psi)	°C-cm <sup>2</sup> /W (°C-in <sup>2</sup> /W)	16.1 (2.5)	26.5 (4.1)	34.8 (5.4)	43.2 (6.7)	61.9 (9.6)	ASTM E1530
Thermal Impedance @ 0.17 Mpa (25 psi)		8.4 (1.3)	12.9 (2.0)	18.1 (2.8)	20.6 (3.2)	29.0 (4.5)	
Thermal Impedance @ 0.34 Mpa (50 psi)		5.2 (0.81)	6.5 (1.0)	9.7 (1.5)	12.3 (1.9)	16.1 (2.5)	
Thermal Conductivity @ 0.07 Mpa (10 psi)	W/m-K	0.28	0.28	0.28	0.28	0.28	
Thermal Conductivity @ 0.17 Mpa (25psi)		0.46	0.46	0.46	0.46	0.46	
Thermal Conductivity @ 0.34 Mpa (50 psi)		0.74	0.74	0.74	0.74	0.74	
Heat Capacity, 40 to 110°C	J/g	1.24	1.22	1.25	1.12	1.23	ASTM E 1269
Flammability Rating	—	HB					UL94, file E 130607
Mechanical							
Property	Units	CP8000					Test Method
Compression @ 0.07 Mpa (10 psi)	%	33.8	35.8	30.3	31.7	30.3	ASTM D575, modified
Compression @ 0.17 Mpa (25 psi)		52.5	56.0	49.6	51.4	50.4	
Compression @ 0.34 Mpa (50 psi)		60.6	65.3	61.9	61.3	60.9	
Hardness	Shore A	20	18	25	19	23	ASTM D2240
Specific Gravity	g/cm <sup>3</sup>	0.37	0.37	0.39	0.36	0.51	ASTM D792
Electrical							
Property	Units	CP8000					Test Method
Volume Resistivity	Ω-cm	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	ASTM D257
Dielectric Constant	—	1.21	1.24	1.25	2.13	1.39	ASTM D150
Dielectric Breakdown Voltage	Volts/mil	82	68	104	76	76	ASTM D149
Environmental							
Property	Units	CP8000					Test Method
Silicone Extraction	Pass/Fail	Pass	Pass	Pass	Pass	Pass	Bellcore Specs TR-NWT-000930 sec 10.3
Outgassing – Total Mass Loss	%	0.76	0.60	0.58	0.58	0.57	ASTM E595
Outgassing – Collected Volatile Condensable Materials		0.12	0.09	0.08	0.08	0.09	
Outgassing – Water Vapor Recovered		0.04	0.03	0.03	0.03	0.06	

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