

CeramTec Ceramtape GC Glass Ceramic

Category : Ceramic , Glass , Glass Ceramic

Material Notes:

LTCC (Low Temperature Cofired Ceramic) is a new type of ceramic film developed by CeramTec AG's Electronics division. With the aid of these ceramics and their almost shrinkage-free sintering process, highly complex multilayer assemblies for electronic applications are possible. Apart from the automotive sector, LTCC is also ideally suited for the up-and-coming Bluetooth applications, medical apparatus, and consumer electronics. In the automotive sector, it is used for motor-management and ABS-systems. Ceramtape GC is a glass ceramic made of alumina and anorthite.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CeramTec-Ceramtape-GC-Glass-Ceramic.php

Physical Properties	Metric	English	Comments
Bulk Density	1.63 - 1.93 g/cc	0.0589 - 0.0697 lb/in ³	Green
Density	2.87 - 2.97 g/cc	0.104 - 0.107 lb/in ³	Fired
Thickness	40.0 - 60.0 microns	1.57 - 2.36 mil	PET
	324 - 396 microns	12.8 - 15.6 mil	Blank on PET

Mechanical Properties	Metric	English	Comments
Flexural Strength	>= 170 MPa	>= 24700 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	4.90 - 5.70 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	2.72 - 3.17 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
Thermal Conductivity	1.20 - 3.20 W/m-K	8.33 - 22.2 BTU-in/hr-ft ² -°F	
Shrinkage	17.5 - 18.5 %	17.5 - 18.5 %	2-layer Laminate; z-direction
	20.5 - 21.5 %	20.5 - 21.5 %	2-layer Laminate; x-direction
	20.9 - 21.9 %	20.9 - 21.9 %	2-layer Laminate; y-direction

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	
Dielectric Constant	7.3 - 8.5	7.3 - 8.5	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	>= 100 kV/mm	>= 2540 kV/in	

Electrical Properties	≤ 0.0020 Metric	≤ 0.0020 English	Comments
Dissipation Factor	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	$\tan\delta$

Descriptive Properties	Value	Comments
Cooling Rate (K/min)	1 to 6	Firing Conditions
Dwell Time at Peak Temperature (min)	10 to 40	Firing Conditions
Heating Rate (K/min)	1 to 4	Firing Conditions
Laminating Pressure (kg/cm ³)	50-130	
Laminating Temperature (°C)	30-80	
Laminating Time (min)	0.5-3	
Peak Temperature (°C)	880-920	Firing Conditions

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