



STABLCOR®

ST325-EP387-0.008"

TYPICAL ENGINEERING VALUES

Property / Condition	Sample Thickness	Value (U.S. Units)	Value (Metric Units)	Test Method
Mechanical				
ST325 composite material have inherent micro-cracks due to very high modulus fiber stress relief				
Peel Strength - Standard profile 1 oz. copper				
a. After Thermal Stress (Solder Float)	.20 mm (0.008 in)	5.0 lb/inch minimum	0.72N/mm minimum	IPC-TM-650.2.4.8
b. At 170C (338F) temp.		5.0 lb/inch minimum	0.72N/mm minimum	IPC-TM-650.2.4.8 / 2.4.8.2 / 2.4.8.3
b. At 125C (257F) temp.		5.0 lb/inch minimum	0.72N/mm minimum	IPC-TM-650.2.4.8 / 2.4.8.2 / 2.4.8.3
c. After process solutions		5.0 lb/inch minimum	0.72N/mm minimum	IPC-TM-650.2.4.8
X - CTE	0.61 mm	0 - 3 ppm/C		Surface Strain Gauge
Y - CTE	(0.024 in)	0 - 3 ppm/C		Surface Strain Gauge
Z - CTE				
Below Glass Transition	0.61 mm	30 - 50 ppm/C		IPC-TM-650.2.4.24
Above Glass Transition	(0.024 in)	120 - 200 ppm/C		IPC-TM-650.2.4.24
Flexural Strength				
a. Lengthwise Direction	0.56 mm	75kpsi minimum	500 N/mm ² minimum	IPC-TM-650-2.4.4
b. Crosswise Direction	(0.022 in)	75kpsi minimum	500 N/mm ² minimum	IPC-TM-650-2.4.4
Flexural Modulus				
a. Lengthwise Direction	0.56 mm	23Msi minimum	15,333 N/mm ² min	IPC-TM-650-2.4.4
b. Crosswise Direction	(0.022 in)	23Msi minimum	15,333 N/mm ² min	IPC-TM-650-2.4.4
by DSC	0.61 mm	180°C		IPC-TM-650.2.4.25c
	(0.024 in)			
by TMA	0.61 mm	175°C		IPC-TM-650.2.4.25c
	(0.024 in)			
Decomposition Temperature (Td) at 5% Wt. loss	0.61 mm	310°C		ASTM D3850
	(0.024 in)			
Pressure Vessel	.61 mm	Level 4		IPC-TM-650.2.6.16
	(0.024 in)			
Chemical / Physical				
Chemical Resistance	.20 mm	0.18%		IPC-TM-650.2.3.4.3
	(0.008 in)			
Density (g/cc)	.20 mm	1.58		TBD
	(0.008 in)			
Flammability	.20 mm	94V-0		UL94
	(0.008 in)			
Outgassing (CVC<0.1% and TML<=1.0%)	.61 mm	CVC<0.03%, TML<=0.5%		ASTM E-595-93
Water Vapor Regain (%WVR)	(0.024 in)	<0.30%		ASTM E-595-93
Electrical				
Volume Resistivity (UnClad Samples)				
After 48hrs Laboratory Conditions (23C/50%RH)	.20 mm	2.85E+09 MegOhms-cm		IPC-TM-650.2.5.17.1
	(0.008 in)			
After Temperature/Humidity (35C/90%RH)	.20 mm	8.19E+08 MegOhms-cm		IPC-TM-650.2.5.17.1
	(0.008 in)			
Surface Resistivity (UnClad Samples)				
After 48hrs Laboratory Conditions (23C/50%RH)	.20 mm	3.14E+07 MegOhms		IPC-TM-650.2.5.17.1
	(0.008 in)			
After Temperature/Humidity (35C/90%RH)	.20 mm	1.06E+07 MegOhms		IPC-TM-650.2.5.17.1
	(0.008 in)			
Electric Strength	0.61 mm	n/a		IPC-TM-650.2.5.6.2; ASTM-D-149
	(0.024 in)			
Dielectric Breakdown	0.61 mm	n/a		ASTM-D-299
	(0.024 in)			
Permittivity at 1Mhz, maximum	0.61 mm	n/a		IPC-TM-650.2.5.5.2
	(0.024 in)			
Thermal Stress, 10 seconds at 288°C				
A. Unetched	0.61 mm	PASS		IPC-TM-650.2.4.13.1
	(0.024 in)			
B. Etched	0.61 mm	PASS		IPC-TM-650.2.4.13.1
	(0.024 in)			

STANDARD Core THICKNESS	STANDARD PANEL SIZE	STANDARD COPPER CLADDING
ST325-EP387: 0.008" (0.229mm)	18" X 24" (457 X 610 mm)	1/2 OZ. (17uM) Electrodeposited Copper Foil 1.0 OZ. (35uM) Electrodeposited Copper Foil

The Information provided in this data sheet represents general typical values obtained under certain test conditions and is not a specific representations of values for any specific or intended application. The value provided does not constitute a warranty or guarantee of performance of STABLCOR® in a particular application or that the results shown on this data sheet will be achieved by a user for a particular purpose. The user should determine the suitability of STABLCOR® material for each application. Carbon Core Laminates reserves the right to amend and change the general typical values provided based on different testing conditions and/or techniques. Carbon Core Laminates can be contacted at Ph: (800) 520-2830. To obtain detailed validation results, please send inquires to Engineering@stablor.com

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