



STABLCOR®

ST10-EP450-0.009**TYPICAL ENGINEERING VALUES**

Property / Condition	Sample Thickness	Value (U.S. Units)	Value (Metric Units)	Test Method
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Mechanical**Peel Strength - Standard profile 1 oz. copper**

a. After Thermal Stress (Solder Float)	.20 mm (0.008 in)	5 lb/inch minimum	0.9N/mm minimum	IPC-TM-650.2.4.8
b. At 170C (338F) temp.		5 lb/inch minimum	0.9N/mm minimum	IPC-TM-650.2.4.8 / 2.4.8.2 / 2.4.8.3
b. At 125C (257F) temp.		5 lb/inch minimum	0.9N/mm minimum	IPC-TM-650.2.4.8 / 2.4.8.2 / 2.4.8.3
c. After process solutions		5 lb/inch minimum	0.9N/mm minimum	IPC-TM-650.2.4.8

X - CTE	0.61 mm	2 - 5 ppm/C		IPC-TM-650.2.4.24
Y - CTE	(0.024 in)	2 - 5 ppm/C		IPC-TM-650.2.4.24

Z - CTE

Below Glass Transition	0.61 mm	42ppm/C		IPC-TM-650.2.4.24
Above Glass Transition	(0.024 in)	112ppm/C		IPC-TM-650.2.4.24

Flexural Strength

a. Lengthwise Direction	0.56 mm	120kpsi minimum	800 N/mm ² minimum	IPC-TM-650-2.4.4
b. Crosswise Direction	(0.022 in)	120kpsi minimum	800 N/mm ² minimum	IPC-TM-650-2.4.4

Thermal**Glass Transition Temperature**

by DSC	0.61 mm (0.024 in)	Not Detectable		IPC-TM-650.2.4.25c
by TMA	0.61 mm (0.024 in)	225°C		IPC-TM-650.2.4.25c

Decomposition Temperature (Td) at 5% Wt. loss	0.61 mm (0.024 in)	310°C		ASTM D3850
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Pressure Vessel	.61 mm (0.024 in)	Level 4		IPC-TM-650.2.6.16
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Chemical / Physical

Moisture Absorption	.56 mm (0.022 in)	0.53%		IPC-TM-650.2.6.2.1
Chemical Resistance	.20 mm (0.008 in)	0.13%		IPC-TM-650.2.3.4.3
Density (g/cc)	.20 mm (0.008 in)	1.58		TBD
Flammability	.20 mm (0.008 in)	94V-0		UL94
Outgassing (CVC<0.1% and TML<=1.0%)	.61 mm	CVC=0.038%, TML=0.33%		ASTM E-595-93
Water Vapor Regain (%WVR)	(0.024 in)	0.23%		ASTM E-595-93

Electrical**Volume Resistivity (UnClad Samples)**

After 48hrs Laboratory Conditions (23C/50%RH)	.20 mm	1.82E+10 MegOhms-cm		IPC-TM-650.2.5.17.1
After Temperature/Humidity (35C/90%RH)	(0.008 in)	1.09E+10 MegOhms-cm		IPC-TM-650.2.5.17.1

Surface Resistivity (UnClad Samples)

After 48hrs Laboratory Conditions (23C/50%RH)	.20 mm	9.10E+07 MegOhms		IPC-TM-650.2.5.17.1
After Temperature/Humidity (35C/90%RH)	(0.008 in)	5.43E+07 MegOhms		IPC-TM-650.2.5.17.1

Electric Strength	0.61 mm	n/a		IPC-TM-650.2.5.6.2; ASTM-D-149
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Dielectric Breakdown	(0.024 in)	n/a		ASTM-D-299
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Permittivity at 1Mhz, maximum		n/a		IPC-TM-650.2.5.5.2
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Thermal Stress, 10 seconds at 288°C

A. Unetched	0.61 mm	PASS		IPC-TM-650.2.4.13.1
B. Etched	(0.024 in)	PASS		IPC-TM-650.2.4.13.1

STANDARD Core THICKNESS**STANDARD PANEL SIZE****STANDARD COPPER CLADDING**

ST10-EP450:				
0.009" (0.229mm)	18" X 24" (457 X 610 mm)	1/2 OZ. (17uM) Electrodeposited Copper Foil		
0.006" (0.153mm), Ask for a Lead Time		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@stablcOR.com

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