



# STABLCOR®

**ST10-EP387-0.006**

## TYPICAL ENGINEERING VALUES

Property / Condition	Sample Thickness	Value (U.S. Units)	Value (Metric Units)	Test Method
<b>Mechanical</b>				
<b>Peel Strength - Standard profile 1 oz. copper</b>				
a. After Thermal Stress (Solder Float)	.15 mm (0.006 in)	5 lb/inch minimum	0.9N/mm minimum	IPC-TM-650.2.4.8
b. At 170°C (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 125°C (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
<b>Z - CTE</b>				
Below Glass Transition	.61 mm (0.024 in)	40ppm/°C		IPC-TM-650.2.4.24
Above Glass Transition	(0.024 in)	164ppm/°C		IPC-TM-650.2.4.24
<b>Flexural Strength</b>				
a. Lengthwise Direction	.56 mm (0.022 in)	150kpsi minimum	1000 N/mm <sup>2</sup> minimum	IPC-TM-650-2.4.4
b. Crosswise Direction	(0.022 in)	150kpsi minimum	1000 N/mm <sup>2</sup> minimum	IPC-TM-650-2.4.4
<b>Thermal</b>				
<b>Glass Transition Temperature</b>				
by DSC	.61 mm (0.024 in)	180°C		IPC-TM-650.2.4.25c
by TMA	.61 mm (0.024 in)	170°C		IPC-TM-650.2.4.25c
Decomposition Temperature (Td) at 5% Wt. loss	.61 mm (0.024 in)	310°C		ASTM D3850
Pressure Vessel	.61 mm (0.024 in)	Level 5		IPC-TM-650.2.6.16
<b>Chemical / Physical</b>				
Moisture Absorption	.56 mm (0.022 in)	0.50%		IPC-TM-650.2.6.2.1
Chemical Resistance	.15 mm (0.006 in)	0.18%		IPC-TM-650.2.3.4.3
Density (g/cc)	.15 mm (0.006 in)	1.58		TBD
Flammability	.15 mm (0.006 in)	94V-0		UL94
Outgassing (CVCm<0.1% and TML<=1.0%)	.61 mm	CVCm=0.011%, TML=0.60%		ASTM E-595-93
Water Vapor Regain (%WVR)	(0.024 in)	0.27%		ASTM E-595-93
<b>Electrical</b>				
<b>Volume Resistivity (UnClad Samples)</b>				
After 48hrs Laboratory Conditions (23C/50%RH)	.15 mm	2.96E+09 MegOhms-cm		IPC-TM-650.2.5.17.1
After Temperature/Humidity (35C/90%RH)	(0.006 in)	8.05E+09 MegOhms-cm		IPC-TM-650.2.5.17.1
<b>Surface Resistivity (UnClad Samples)</b>				
After 48hrs Laboratory Conditions (23C/50%RH)	.15 mm	4.68E+07 MegOhms		IPC-TM-650.2.5.17.1
After Temperature/Humidity (35C/90%RH)	(0.006 in)	2.33E+07 MegOhms		IPC-TM-650.2.5.17.1
Electric Strength	.61 mm	n/a		IPC-TM-650.2.5.6.2; ASTM-D-149
Dielectric Breakdown	(0.024 in)	n/a		ASTM-D-299
Permittivity at 1Mhz, maximum		n/a		IPC-TM-650.2.5.5.2
<b>Thermal Stress, 10 seconds at 288°C</b>				
A. Unetched	.61 mm	PASS		IPC-TM-650.2.4.13.1
B. Etched	(0.024 in)	PASS		IPC-TM-650.2.4.13.1
<b>STANDARD THICKNESS</b>		<b>STANDARD PANEL SIZE</b>		<b>STANDARD COPPER CLADDING</b>
<b>ST10-EP387:</b>				
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 Stablor® 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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