

TLP

Lowest Loss, High Volume Laminates

TLP laminates are constructed with a woven matrix of fiberglass fabric coated with PTFE that is more mechanically stable and has a more uniform dielectric constant than traditional nonwoven products. The exceptionally low dissipation factor extends the usefulness of this product to 35 GHz and above.

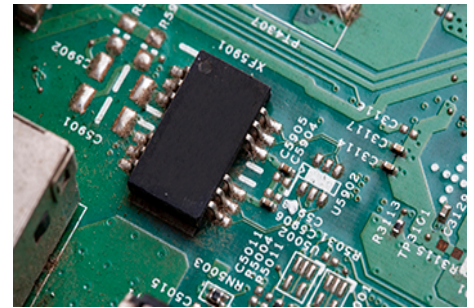
TLP laminates offer a cost effective solution for low loss antenna and radar applications. These laminates can be sheared, drilled, milled and plated using the accepted methods for PTFE/woven fiberglass laminates. The laminates are dimensionally stable and are resistant to the solvents and reagents used during fabrication.

Benefits

- Dimensionally stable
- Low loss
- Low moisture absorption
- High copper peel strength
- Uniform & consistent DK
- Low cost, high performance base material

Applications

- Automotive radar
- Low loss antennas
- Collision avoidance systems



Asia/Australia
Korea Taconic Company
Republic of Korea
Tel: +82-31-704-1858
agc-ml.ktc-sales@agc.com
www.agc-multimaterial.com

China
AGC Multi Material (Suzhou) Inc.
Suzhou City, China
Tel: +86-512-286-7170
tssales@taconic.co.kr
www.agc-multimaterial.com

Europe/Middle East
AGC Multi Material Europe SA
Lannemezan, France
Tel: +33-05-6298-5290
neltecsales@agc-nelco.com
www.agc-multimaterial.com

North&South America
AGC Nelco America Inc.
Tempe, AZ USA 85281
Tel: +602-679-9196
TaconicPO@agc-nelco.com
www.agc-multimaterial.com

TLP TYPICAL VALUES

Property	Test Method	Unit	Value	Unit	Value
Dk @ 10 GHz	IPC-650 2.5.5.5		2.17 - 2.33 +/-0.03		2.17 - 2.33 +/-0.03
Df @ 10 GHz	IPC-650 2.5.5.5		0.0009		0.0009
Moisture Absorption	IPC-650 2.6.2.1	%	<0.02	%	<0.02
Dielectric Breakdown	IPC-650 2.5.6	Kv	>60	Kv	>60
Volume Resistivity	IPC-650 2.5.17.1	Mohms/cm	10 ⁷	Mohms/cm	10 ⁷
Surface Resistivity	IPC-650 2.5.17.1	Mohms	10 ⁷	Mohms	10 ⁷
Arc Resistance	IPC-650 2.5.1	seconds	>180	seconds	>180
Flex strength (MD)	IPC-650 2.4.4	lbs./inch	>12,000	N/mm ²	>83
Flex strength (CD)	IPC-650 2.4.4	lbs./inch	>10,000	N/mm ²	>69
Peel Strength (CH)	IPC-650 2.4.8	lbs./linear inch	10.0	N/mm	1.75
T _d (2% Wt. Loss)	IPC-650-2.4.24.6 (TGA)	°F	>932	°C	>500
Melt Point		°F	620	°C	327
Thermal Conductivity	ASTM F 433	W/M*K	0.22	W/M*K	0.22
CTE (X-Y axis)	ASTM D 3386 (TMA)	ppm/°C	20	ppm/°C	20
CTE (Z axis)	ASTM D 3386 (TMA)	ppm/°C	280	ppm/°C	280

Remark : All reported values are typical and should not be used for specification purposes. In all instances, the user shall determine suitability in any given application.

How to Order

Designation		Dielectric	
TLA-5A		2.17 +/- 0.03	
TLP-5		2.20 +/- 0.03	
TLP-3		2.33 +/- 0.03	
Typical Thicknesses 1		Typical Thicknesses 2	
Inches	mm	Inches	mm
0.0050	0.13	12 x 18	304 x 457
0.0100	0.25	16 x 18	406 x 457
0.0200	0.51	18 x 24	457 x 610
0.0310	0.78	16 x 36	406 x 914
		24 x 36	610 x 914
		18 x 48	457 x 1220

- 1) Other thicknesses may be available. Please call for information.
- 2) Our standard sheet size is 36" x 48" (457 mm x 610 mm). Please contact our customer service department for availability of other sizes.

Please see our Product Selector Guide for information on available copper cladding
An example of our part number is : TLP-005-CVH/CVH - 18" x 24" (457 mm x 610 mm)