

# TLA-6

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Special Antenna Material for Low Cost  
Excellent Peel Strength  
Exceptionally Low Loss  
Low stable Dielectric Constant  
Excellent Mechanical & Thermal Properties

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# Applications

# TLA-6

## Antennas

Taconic has over 50 years of experience coating fiberglass fabric with PTFE (PolyTetraFluoroEthylene). This enables Taconic to manufacture copper clad PTFE/woven glass laminates with exceptionally well controlled electrical and mechanical properties.

Taconic TLA-6 laminates are engineered to provide a cost effective substrate. TLA-6 laminates are suitable for a wide range of microwave applications. Especially TLA-6 laminates are designated for various antennas and offer far superior electrical performance compared to thermoset laminate (e.g FR-4, PPO, BT, Polyimide, and Cyanate ester). The construction of the laminate provides exceptional mechanical stability. The dielectric constant (Dk) is typically offered 2.62

TLA-6 laminates can be sheared, drilled, milled, and pated using standard methods for PTFE/woven fiberglass materials. The laminates are dimensionally stable, and exhibit virtually no moisture absorption during fabrication process.

TLA-6 laminates are generally ordered clad on one or both side with ½, 1, and 2 oz electrodeposited copper. Contact our customer service department for alternate claddings.

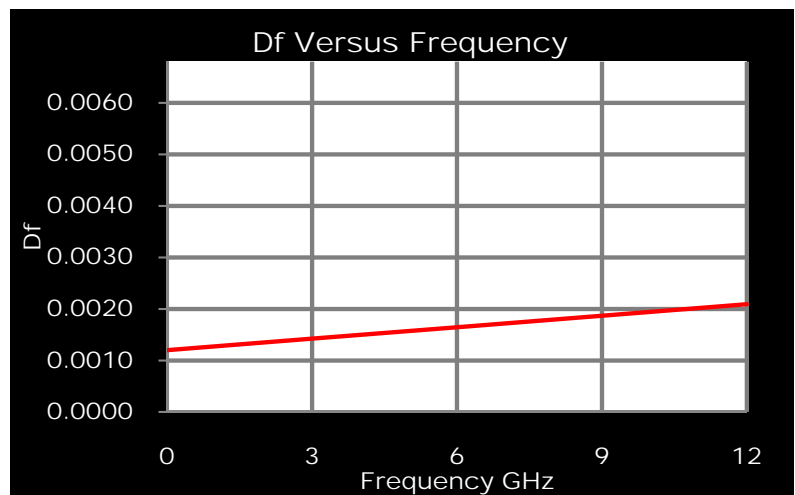
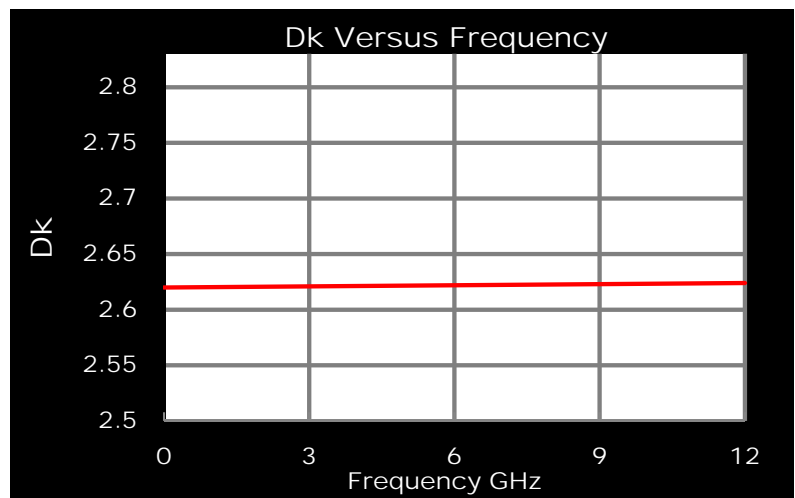
TLA-6 laminate are tested in accordance with IPC-TM 650. A certificate of compliance containing lot-specific test data accompanies each shipment.

See “How to Order” on the back page for a complete product listing.

## TLA-6 TYPICAL VALUES

Property	Test Method	Units	Value	Units	Value
Dielectric Constant @ 1.9 GHz	IPC-TM 650 2.5.5.5.1 Mod		2.62		2.62
Dissipation Factor @ 1.9 GHz	IPC-TM 650 2.5.5.5.1 Mod		0.0012		0.0012
Water absorption	IPC-TM 650 2.6.2.1	%	0.02	%	0.02
Dielectric Breakdown	IPC-TM-650 2.5.6	KV	>60	KV	>60
Peel Strength (1 oz. RTF copper)	IPC-TM 650 2.4.8	Lbs./linear inch	10	N/mm	1.8
Volume Resistivity	IPC-TM 650 2.5.17.1	Mohm/cm	10 <sup>7</sup>	Mohm/cm	10 <sup>7</sup>
Surface Resistivity	IPC-TM 650 2.5.17.1	Mohm	10 <sup>7</sup>	Mohm	10 <sup>7</sup>
Flexural Strength Lengthwise	IPC-TM 650 2.4.4	psi	13,000	N/mm <sup>2</sup>	90
Flexural Strength Crosswise	IPC-TM 650 2.4.4	psi	12,000	N/mm <sup>2</sup>	83
Thermal Conductivity	ASTM F433	W/m/K	0.22	W/m/K	0.22
x-y CTE (50 ~ 150°C)	ASTM D3386 (TMA)	ppm/°C	9-12	ppm/°C	9-12
z CTE (50 ~ 150°C)	ASTM D3386 (TMA)	ppm/°C	130-145	ppm/°C	130-145
Flammability	UL-94		V-0		V-0

Type	Dk	
TLY-5A	2.17	
TLY-5	2.20	
TLY-3	2.33	
TLT-0	TLX-0	2.45
TLT-9	TLX-9	2.50
TLT-8	TLX-8	2.55
TLT-7	TLX-7	2.60
<b>TLA-6</b>	<b>2.62</b>	
TLT-6	TLX-6	2.65
TLE-95	2.95	
TLC-27	2.75	
TLC-30	RF-30	3.00
TLC-32		3.20
TLF-34		3.40
TLF-35		3.50
RF-35	RF-35A2	3.50
TRF-41		4.10
TRF-43		4.30
TRF-45		4.50
RF-60A		6.15
CER-10	10	



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 Constant	Typical Thickness	
TLA-6	2.62 +/- 0.05	0.0300"	0.76mm
		0.0370"	0.94mm
		0.0400"	1.02mm
		0.0570"	1.45mm
		0.0600"	1.52mm
		0.0770"	1.96mm

Available Sheet Sizes <sup>1</sup>	
12"x18"	305mmx457mm
16"x18"	406mmx457mm
18"x24"	457mmx610mm
16"x36"	406mmx914mm
24"x36"	610mmx914mm
18"x48"	457mmx1220mm

<sup>1</sup>Our standard sheet size is 36" x 48" (914mm x 1220mm). Please contact our Customer Service Department for availability of other sizes.

Available Copper Cladding						
Designation	Weight	Copper Thickness		R <sub>ms</sub> Treated Side		Description
CLH	½ oz./sq. ft.	~ .0007"	~ 18µm	13µin	0.3µm	Reverse treated / Electrodeposited
CL1	1 oz./sq. ft.	~ .0014"	~ 35µm	13µin	0.3µm	Reverse treated / Electrodeposited
CVH (CH)	½ oz./sq. ft.	~ .0007"	~ 18µm	27µin	0.7µm	Very low profile / Electrodeposited
CV1 (C1)	1 oz./sq. ft.	~ .0014"	~ 35µm	25µin	0.6µm	Very low profile / Electrodeposited
C2	2 oz./sq. ft.	~ .0028"	~ 70µm	77µin	2.0µm	Electrodeposited

An example of our part number is: TLA-6-0300-CV1/CV1-18" x 24" (TLA-6-0300-C1/C1-457mm x 610mm)



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