

TLT

Excellent Mechanical & Thermal Properties
Low Dissipation Factor
Low & Stable Dielectric Constant
UL 94 V-O Rating
Tightly Controlled Dielectric Constant

TACONIC

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APPLICATIONS

LNAs, LNBs, and LNCs

PCS/PCN Large Format Antennas

High Power Amplifiers

Passive Components

TLT

Taconic has over 35 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.

These attributes effectively extend the usefulness of these laminates to X-Band and above.

The dielectric constant (DK) range is 2.45 to 2.65. The DK can be specified anywhere within this range with a tolerance of ± 0.05 . The dissipation factor is approximately .0006 when measured @ 1 MHz.

TLT laminates can be sheared, drilled, milled and plated using standard methods for PTFE/woven fiberglass materials. The laminates are dimensionally stable, and exhibit virtually no moisture absorption during fabrication processes.

TLT laminates are generally ordered clad on one or both sides with 1/2, 1, or 2 oz. electrodeposited copper. Contact our Customer Service Department for alternate claddings.

Typical applications for TLT laminates include radar systems, phased array antennas, mobile communication systems, microwave test equipment, microwave transmission devices and RF components.

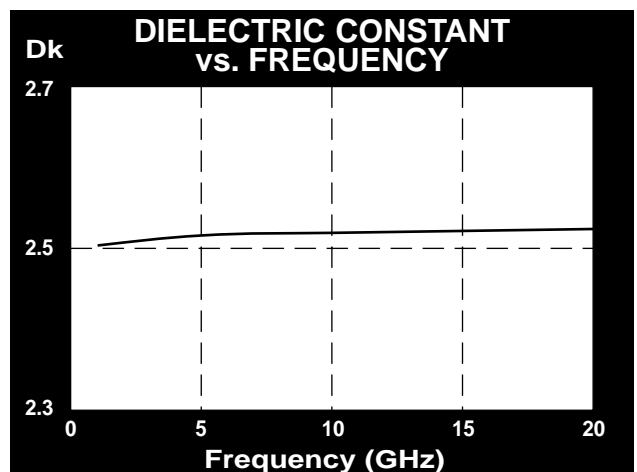
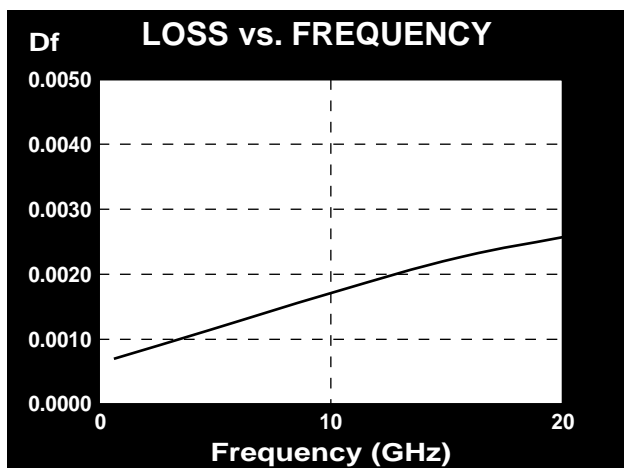
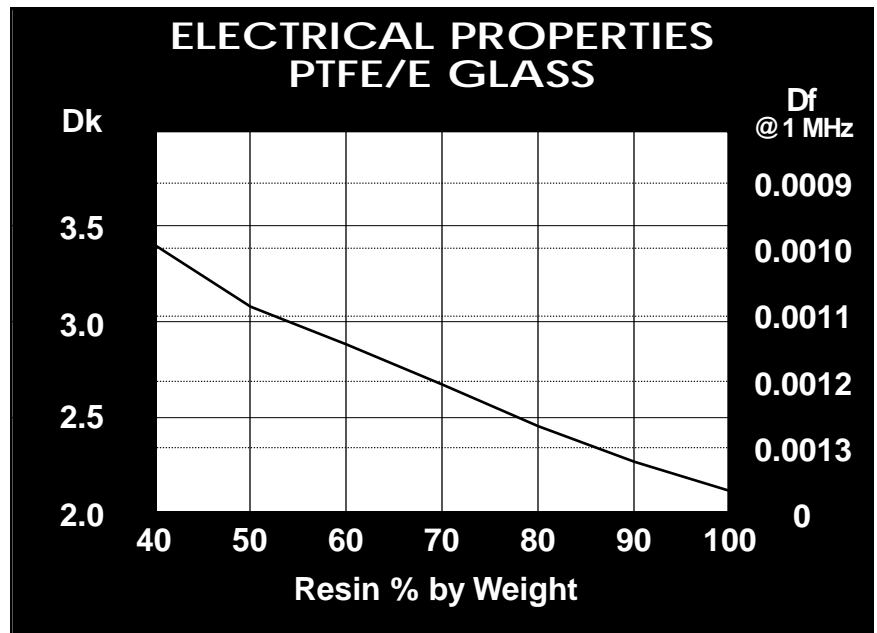
TLT laminates are tested in accordance with IPC-TM 650. A Certificate of Compliance containing actual test data accompanies each shipment.

See "How to Order" on back page for a complete product listing.

TLT-9 TYPICAL VALUES

Property	Test Method	Units	Value	Units	Value
Dielectric Constant @ 1 MHz	IPC-TM 650 2.5.5.3		2.50		2.50
Dissipation Factor @ 1 MHz	IPC-TM 650 2.5.5.3		0.0006		0.0006
Moisture Absorption	IPC-TM 650 2.6.2.1	%	<0.02	%	<0.02
Dielectric Breakdown	IPC-TM 650 2.5.6	kV	>60	kV	>60
Volume Resistivity	IPC-TM 650 2.5.17.1	Mohm/cm	10 ⁷	Mohm/cm	10 ⁷
Surface Resistivity	IPC-TM 650 2.5.17.1	Mohm	10 ⁷	Mohm	10 ⁷
Arc Resistance	IPC-TM 650 2.5.1	seconds	>180	seconds	>180
Flexural Strength Lengthwise	IPC-TM 650 2.4.4	lbs./in.	>23,000	N/mm ²	>159
Flexural Strength Crosswise	IPC-TM 650 2.4.4	lbs./in.	>19,000	N/mm ²	>131
Peel Strength (1oz copper)	IPC-TM 650 2.4.8	lbs./linear in.	12.0	N/mm	2.1
Thermal Conductivity	Cenco-Finch	W/m/K	0.19	W/m/K	0.19
x-y CTE	ASTM D 3385 (TMA)	ppm/°C	9-12	ppm/°C	9-12
z CTE	ASTM D 3385 (TMA)	ppm/°C	130-145	ppm/°C	130-145
UL-94 Flammability Rating	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
TLT-6 TLX-6	2.65
TLE-95	2.95
TLC-27	2.75
TLC-30	3.00
TLC-32	3.20
RF-30	3.00
RF-35	3.50
RF-60	6.15
CER-10	10



How to Order

Designation	Dielectric Constant	Dielectric Thickness	Dielectric Thickness
TLT - 0	2.45 +/- .05	.0050" - .0190"	0.13mm – 0.48mm
		.0200" - .0300"	0.50mm – 0.76mm
		≥ .0310"	≥ 0.78mm
TLT - 9	2.50 +/- .05	.0050" - .0190"	0.13mm – 0.48mm
		.0200" - .0300"	0.50mm – 0.76mm
		≥ .0310"	≥ 0.78mm
TLT - 8	2.55 +/- .05	.0050" - .0190"	0.13mm – 0.48mm
		.0200" - .0300"	0.50mm – 0.76mm
		≥ .0310"	≥ 0.78mm
TLT - 7	2.60 +/- .05	.0050" - .0190"	0.13mm – 0.48mm
		.0200" - .0300"	0.50mm – 0.76mm
		≥ .0310"	≥ 0.78mm
TLT - 6	2.65 +/- .05	.0050" - .0190"	0.13mm – 0.48mm
		.0200" - .0300"	0.50mm – 0.76mm
		≥ .0310"	≥ 0.78mm

Standard sheet size is 36" x 48" (914mm x 1220mm). Please contact our Customer Service Department for the availability of other sizes and claddings.

TLT can be ordered with the following electrodeposited copper:

Designation	Weight	Copper Thickness	Copper Thickness
CH	1/2 oz./sq. ft.	~ .0007"	~18 µm
C1	1 oz./sq. ft.	~ .0014"	~ 35 µm
C2	2 oz./sq. ft.	~ .0028"	~ 70 µm

Panels may be ordered cut to size

Typical Panel Sizes	
12" x 18"	304mm x 457mm
16" x 18"	406mm x 457mm
18" x 24"	457mm x 610mm
16" x 36"	406mm x 914mm
24" x 36"	610mm x 914mm
18" x 48"	457mm x 1220mm

An example of our part number is: TLT-9-0310-CH/CH-18" x 24" (TLT-9-0310-CH/CH-457mm x 610mm)

TACONIC
ADVANCED DIELECTRIC DIVISION