

TRF

-41,-43,-45

Low-loss ceramic-filled PTFE
High thermal conductivity
Stable DK over temperature
Stable DK over frequency
Very low z-axis CTE

TACONIC

An ISO 9001:2000 Registered Company

Asia Tel:+82-31-704-1858 Fax:+82-31-704-1857

Europe Tel:+353-44-9395600 Fax: +353-44-9344369

Petersburgh, NY TEL: 800-833-1805 Fax: 518-658-3988

www.taconic-add.com

APPLICATIONS

**Satellite radio
RFID**

TRF-41 -43 -45

The TRF range of laminated materials represent a new generation of low-loss, thermally-stable laminated material from taconic Advanced Dielectric Division.

TRF is woven-glass reinforced for enhanced dimensional-stability and coupled with Taconic's expertise in ceramic technology, TRF exhibits low and consistent Z-axis expansion across a wide range of temperatyre including and up to soldering conditions.

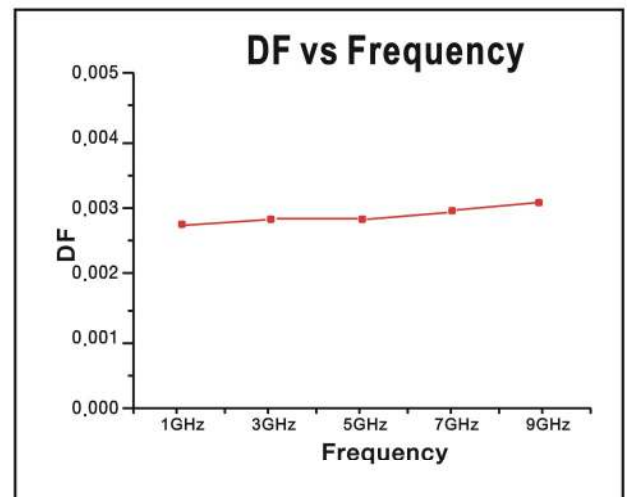
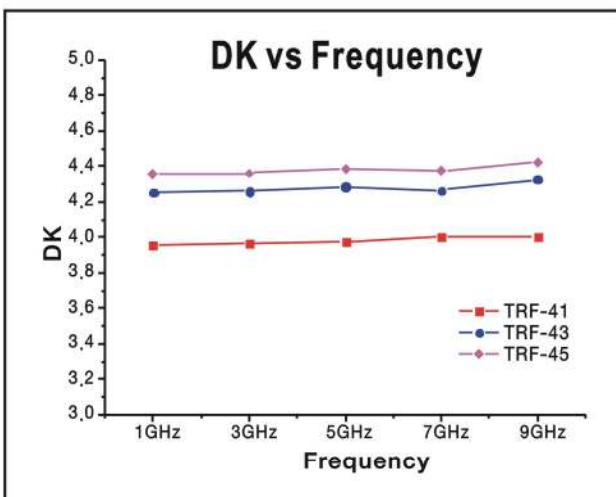
The range of dielectric-constant may allow designers to make a seamless switch from FR4 in applications where a lower-loss material may be required. TRF can be sheared, drilled, milled and plated using standard methods for PTFE woven fibre-glass materials.

TRF is generally copper-clad with 1/2, 1 or 2oz electrodeposited Copper foil and a wide range of panel sizes are available.

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

TRF-41, 43 & 45 Typical Values

Property	Test Method	Unit	Value		
			TRF-41	TRF-43	TRF-45
Dielectric Constant	IPC-TM-650 2.5.5.5.1(m)	10GHz	4.1±0.15	4.3±0.15	4.5±0.15
Dissipation Factor	IPC-TM-650 2.5.5.5.1(m)	10GHz	0,0035	0,0035	0,0035
Moisture Absorption	IPC-TM-650 2.6.2.1	%	0,06	0,06	0,06
Surface Resistivity	IPC-TM-650 2.5.17.1	Mohm	3.0×10 ⁷	3.0×10 ⁷	3.0×10 ⁷
Volume Resistivity	IPC-TM-650 2.5.17.1	Mohm/cm	8.0×10 ⁷	8.0×10 ⁷	8.0×10 ⁷
Flexural Strength (Lengthwise)	IPC-TM-650 2.4.4	lbs / in N/mm ²	17,000 177	17,000 177	17,000 177
Flexural Strength (Lengthwise)	IPC-TM-650 2.4.4	lbs / in N/mm ²	15,000 103	15,000 103	15,000 103
Peel Strength	IPC-TM-650 2.4.8	lbs / in N/mm	>8 > 1.4	>8 > 1.4	>8 > 1.4
Thermal Conductivity	ASTM F 433	W/m-k	0.43	0.43	0.43
C.T.E (X axis)	ASTM D 3386 (TMA)	ppm/°c (50~150°c)	9	9	9
C.T.E (Y axis)	ASTM D 3386 (TMA)	ppm/°c (50~150°c)	9	9	9
C.T.E (Z axis)	ASTM D 3386 (TMA)	ppm/°c (50~150°c)	40	40	40



How To Order

Designation	Dielectric Constant
TRF 41	4.1
TRF 43	4.3
TRF 45	4.5

Dielectric Thickness	
0.0080"	0.20 mm
0.0160"	0.41 mm
0.0240"	0.61 mm
0.0320"	0.81 mm
0.0400"	1.02 mm
0.0640"	1.63 mm
0.1200"	3.05 mm

Available Copper Cladding						
Designation	Weight	Copper Thickness		RMS Treated Side		Description
CLH	1/2 oz / ft ²	~0.0007"	~18 μm	13 μin	0.3 μm	Reverse treated / Electrodeposited
CL1	1 oz / ft ²	~0.0014"	~35 μm	13 μin	0.3 μm	Reverse treated / Electrodeposited
CVH (CH)	1/2 oz / ft ²	~0.0007"	~18 μm	27 μin	0.7 μm	Very low profile / Electrodeposited
CV1 (C1)	1 oz / ft ²	~0.0014"	~35 μm	25 μin	0.6 μm	Very low profile / Electrodeposited
C2	2 oz / ft ²	~0.0028"	~70 μm	77 μin	2.0 μm	Electrodeposited

An example of our part number is: TRF-45-0640-CL1/CL1 - 18" x 24" (457 mm x 610 mm)



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