

TRF-43

Low Loss, Thermally Stable Laminates

TRF range of laminated materials represents a new generation of low loss, thermally stable laminates. TRF is woven glass reinforced for enhanced dimensional stability coupled with Taconic's expertise in ceramic technology.

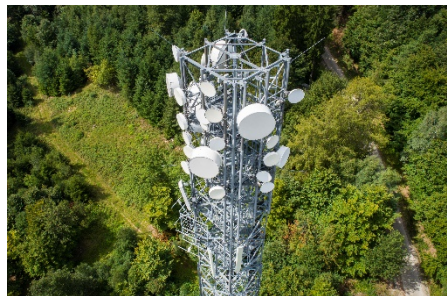
TRF exhibits low and consistent Z-axis expansion across a wide temperature range, including and up to soldering conditions. The dielectric constant range may allow designers to make a seamless transition from FR-4 in applications where a lower loss material may be required.

Benefits

- Low loss alternative to FR-4
- High thermal conductivity
- Stable DK over temperature
- Stable DK and loss over frequency

Applications

- Satellite radio antennas
- RFID antennas
- GPS antennas



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TRF-43 Typical Values

Property	Test Method	Unit	Value	Unit	Value
Dk @ 10 GHz	IPC-650 2.5.5.5.1 (m)		4.3		4.3
Df @ 10 GHz	IPC-650 2.5.5.5.1 (m)		0.0035		0.0035
Moisture Absorption	IPC-650 2.6.2.1	%	0.06	%	0.06
Volume Resistivity	IPC-650 2.5.17.1	Mohms/cm	8.0 x 10 ⁷	Mohms/cm	8.0 x 10 ⁷
Surface Resistivity	IPC-650 2.5.17.1	Mohms	3.0 x 10 ⁷	Mohms	3.0 x 10 ⁷
Flex strength (MD)	IPC-650 2.4.4	lbs./inch	17,000	N/mm ²	177
Flex strength (CD)	IPC-650 2.4.4	lbs./inch	15,000	N/mm ²	103
Peel Strength (CH)	IPC-650 2.4.8	lbs./inch	8	N/mm	1.4
Thermal Conductivity	IPC-650 2.4.50	W/m-k	0.43	W/m-k	0.43
CTE (X axis)	ASTM D 3386 (TMA)	ppm/°C	9	ppm/°C	9
CTE (Y axis)	ASTM D 3386 (TMA)	ppm/°C	9	ppm/°C	9
CTE (Z axis)	ASTM D 3386 (TMA)	ppm/°C	40	ppm/°C	40
Flammability	UL-94		V-0		V-0

Remarks : 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	Dk
TRF-43	4.30 +/- 0.15
Typical Thicknesses	
Inches	mm
0.0080	0.20
0.0160	0.41
0.0240	0.61
0.0320	0.81
0.0400	1.02
0.0640	1.63*
0.1200	3.05*

*Parts of thickness specification not less than 64 mil products would be IPC-4103/class B.
Our standard sheet size is 36" x 48" (914 mm x 1220 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: **TRF-43-0640-CL1/CL1 - 18" x 24" (457 mm x 610 mm)**