

# ORCER RF-35

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**Low Cost**  
**Excellent Peel Strength**  
**Exceptionally Low Dissipation Factor**  
**Low Moisture Absorption**  
**Enhanced Surface Smoothness**

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## *APPLICATIONS*

Power Amplifiers  
Filters and Couplers  
Passive Components

# ORCER RF-35

RF-35 is an organic-ceramic laminate in the ORCER family of Taconic products. It is based on woven glass reinforcement. RF-35 is a result of Taconic's expertise in both ceramic fill technology and in coated PTFE fiberglass.

RF-35 is the best choice for low cost, high volume commercial microwave and radio frequency applications.

RF-35 has excellent peel strength for 1/2 ounce and 1 ounce copper (even in comparison to standard epoxy materials), a critical aspect whenever rework is required.

RF-35's Tg is over 600°F (315°C)

RF-35's ultra low moisture absorption rate and low dissipation factor minimize phase shift with frequency.

RF-35 is dimensionally stable due to the use of woven fabrics in its design.

RF-35 laminates are generally ordered clad on one or both sides with 1/2, 1, and 2 oz. electrodeposited copper.

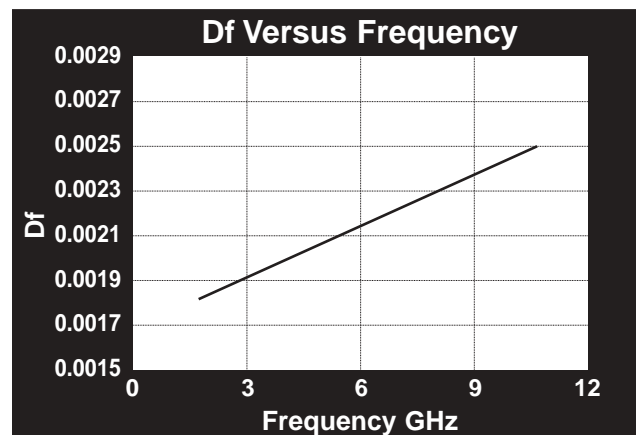
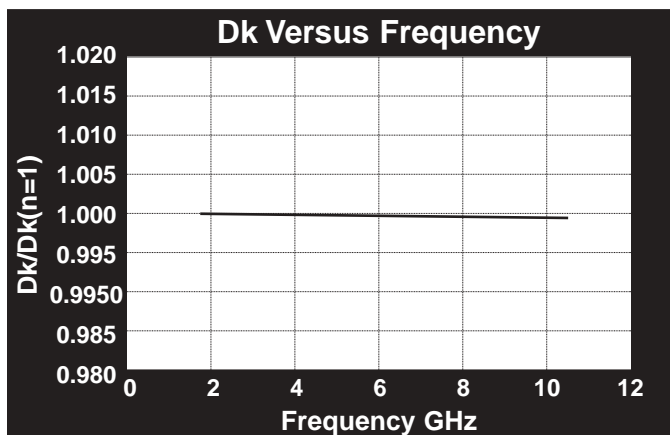
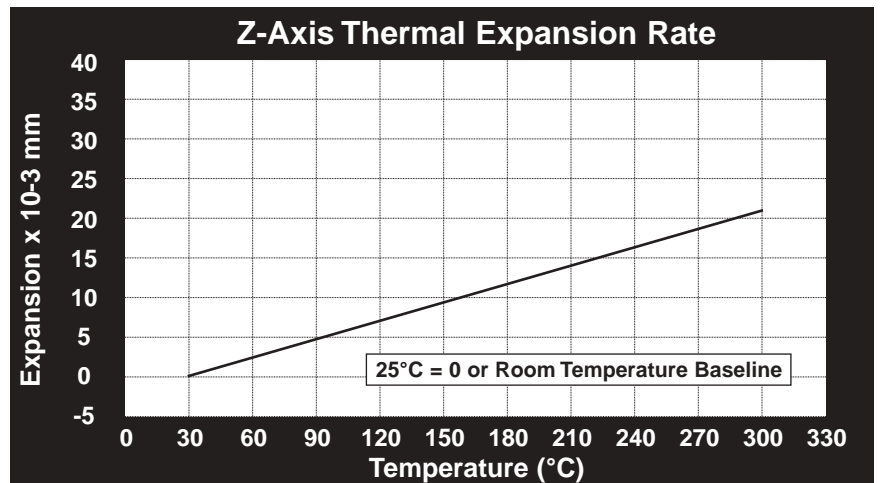
RF-35 laminates exhibit flammability of V-0, and are tested in accordance with IPC-TM 650. A certificate of compliance containing lot-specific test data accompanies each shipment.

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

## RF-35 TYPICAL VALUES

Property	Test Method	Units	Value	Units	Value
Dielectric Constant @ 1.9 GHz	IPC-TM 650 2.5.5		3.50		3.50
Dissipation Factor @ 1.9 GHz	IPC-TM 650 2.5.5		0.0018		0.0018
Moisture Absorption (.060")	IPC-TM 650 2.6.2.1	%	0.02	%	0.02
Peel Strength (1/2 oz. copper)	IPC-TM 650 2.4.8	lbs./linear inch	>8.0	N/mm	>1.5
Peel Strength (1 oz. copper)	IPC-TM 650 2.4.8	lbs./linear inch	>10.0	N/mm	>1.8
Dielectric Breakdown	IPC-TM 650 2.5.6	kV	41	kV	41
Volume Resistivity	IPC-TM 650 2.5.17.1	Mohm/cm	$1.26 \times 10^9$	Mohm/cm	$1.26 \times 10^9$
Surface Resistivity	IPC-TM 650 2.5.17.1	Mohm	$1.46 \times 10^8$	Mohm	$1.46 \times 10^8$
Arc Resistance	IPC TM 650 2.5.1	seconds	>180	seconds	>180
Flexural Strength Lengthwise	ASTM D 790	psi	>22,000	N/mm <sup>2</sup>	>152
Flexural Strength Crosswise	ASTM D 790	psi	>18,000	N/mm <sup>2</sup>	>124
Thermal Conductivity	ASTM F 433	W/m/K	0.24	W/m/K	0.24
Tensile Strength Lengthwise	ASTM D 638	psi	27,000	N/mm <sup>2</sup>	187
Tensile Strength Crosswise	ASTM D 638	psi	21,000	N/mm <sup>2</sup>	145
Dimensional Stability Lengthwise	IPC-TM 650 2.4.39	in/in	0.00004	mm/mm	0.00004
Dimensional Stability Crosswise	IPC-TM 650 2.4.39	in/in	-0.00010	mm/mm	-0.00010
x-y CTE	ASTM D 3386 (TMA)	ppm/°C	19-24	ppm/°C	19-24
z CTE	ASTM D 3386 (TMA)	ppm/°C	64	ppm/°C	64
Flammability	UL-94		V-0		V-0
Hardness	Rockwell M Scale		34		34

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   RF-35P	3.50
RF-60	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
RF-35	3.5+/- 0.1

Available Thickness	Normal Dielectric Constant
0.0100" (0.25mm)	3.5
0.0200" (0.50mm)	3.5
0.0300" (0.76mm)	3.5
0.0600" (1.52mm)	3.5

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

RF-35 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: RF-35-0600-CH/CH-18" x 24" (RF-35-0600-CH/CH-457mm x 610mm)

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