

ORCER CEr-10

**Exceptional Interlaminar Bond
Low Moisture Absorption
Enhanced Dimensional Stability
Low Z-Axis Expansion
Stable DK Over Frequency
Circuit Miniaturization
Increased Flexural Strength**

TACONIC

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APPLICATIONS

Power Amplifiers
Filters and Couplers
Passive Components

ORCER CER-10

CER-10 is an organic-ceramic DK-10 laminate in the ORCER family of Taconic products. It is based on a woven glass reinforcement. CER-10 is a result of Taconic's expertise in both ceramic fill technology and in coated PTFE fiberglass.

CER-10 exhibits exceptional interlaminar bond strength and solder resistance. CER-10's proprietary composition results in low moisture absorption and uniform electrical properties.

CER-10's woven glass reinforcement ensures excellent dimensional stability and enhances flexural strength. This DK-10 laminate exhibits low Z-axis expansion (CTE 46 ppm/°C), allowing for plated-through-hole reliability in extreme thermal environments.

CER-10 laminates can be sheared, drilled, milled and plated, using standard methods for PTFE/woven fiberglass materials. For processing information, refer to the CER-10 Fabrication Guidelines.

CER-10 laminates are ordered clad on both sides with 1/2, 1, or 2 oz. electrodeposited copper foil. Various panel sizes are available. Contact our Customer Service Department for more information.

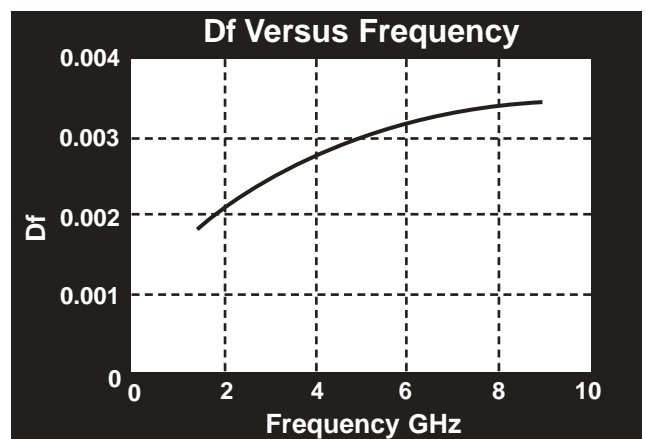
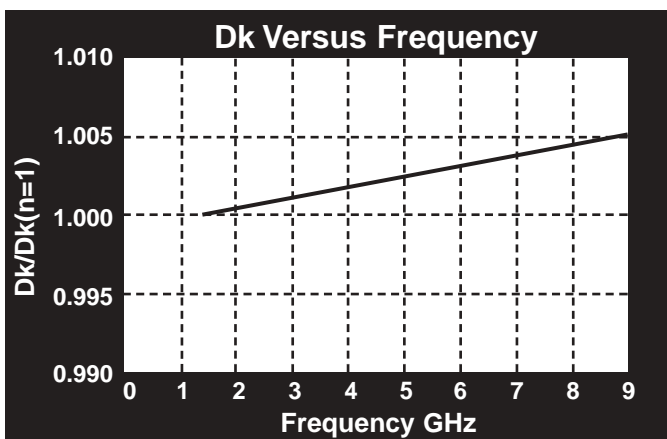
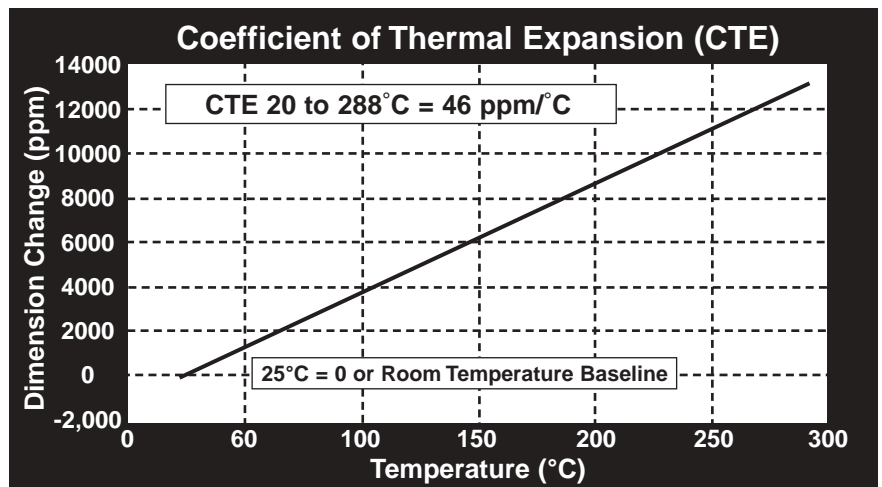
CER-10 laminates are tested in accordance with IPC-TM-650. A Certificate of Compliance containing actual test data accompanies each shipment.

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

CER-10 TYPICAL VALUES

Property	Test Method	Units	Value	Units	Value
Dielectric Constant (Nominal)	IPC-TM 650 2.5.5.6		10		10
Dissipation Factor @ X-band	IPC-TM 650 2.5.5.5		0.0035		0.0035
Moisture Absorption	IPC-TM 650 2.6.2.1	%	0.02	%	0.02
Dielectric Breakdown	IPC-TM 650 2.4.6	kV	44	kV	44
Volume Resistivity	IPC-TM 650 2.5.17.1	Mohm/cm	2.1×10^8	Mohn/cm	2.1×10^8
Surface Resistivity	IPC-TM 650 2.5.17.1	Mohm	1.1×10^9	Mohn	1.1×10^9
Arc Resistance	IPC-TM 650 2.5.1	Seconds	>180	Seconds	>180
Flexural Strength Lengthwise	ASTM D 790	psi	16,500	N/mm ²	114
Flexural Strength Crosswise	ASTM D 790	psi	15,500	N/mm ²	107
Peel Strength (1/2 oz.ED)	IPC-TM 650 2.4.8	lbs./linear inch	5	N/mm	0.88
Thermal Conductivity	ASTM F433	W/m ² /K	0.63	W/m ² /K	0.63
Tensile Strength Lengthwise	ASTM D 638	psi	7700	N/mm ²	53
Tensile Strength Crosswise	ASTM D 638	psi	6700	N/mm ²	46
Dimensional Stability Lengthwise	IPC-TM 650 2.4.39	in/in	-0.0002	mm/mm	-0.0002
Dimensional Stability Crosswise	IPC-TM 650 2.4.39	in/in	-0.0003	mm/mm	-0.0003
x-y CTE	ASTM D 3386 (TMA)	ppm/°C	13-15	ppm/°C	13-15
z CTE	ASTM D 3386 (TMA)	ppm/°C	46	ppm/°C	46
Flammability Rating	UL-94		V-0		V-0
Specific Gravity		g/cm ³	3.05	g/cm ³	3.05

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
CER-10	*10.0+/-0.5

*Nominal of 10.0 is for 0.0620"

Available Thickness	Nominal Dielectric Constant
0.0110" (0.28 mm)	9.0
0.0250" (0.63 mm)	9.5
0.0470" (1.19 mm)	9.8
0.0500" (1.27 mm)	9.8
0.0620" (1.57 mm)	10.0

Please contact our Customer Service Department for more information.

CER-10 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

An example of our part number is: CER-10-0620-CH/CH-18" x 24" (CER-10-0620-CH/CH-457mm x 610mm)

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ADVANCED DIELECTRIC DIVISION

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