

VT-47

UL Approval: E214381 Version: B4 /97 /98 /99 /101 /126

Laminate/Prepreg

General Information

- > High Tg FR4.0
- > Phenolic Cure System & Lead Free Compatible
- > Excellent Thermal Reliability
- > CAF Resistance
- > UV Blocking
- > Low Z-CTE

Application

Computer, Communication Equipment, Instrumentation, Precise Apparatus & Instrument, Server, Router, Automotive, Medical, LED Forward Lighting, etc.

VT-47 prepregs are highly suited for use as dielectrics in pedestal and pillar IMS/MPCB technology.

Availability

- > Core Thickness: 0.002" (0.05mm) to 0.200" (5mm), available in sheet or panel form.
- > Copper Foil: 1/4oz to 12oz
- > Prepregs are available in roll or panel form
- > E-Glass styles: 7628, 1506, 1500, 2113, 2313, 3313, 2116, 1080, 1086, 1078, 106 & 1067, etc.

Note: For cores $\leq 0.005"$, it is recommended to use the reverse treated copper due to the low profile. The peel strength for RT foil is $\approx 1\text{-}2\text{lbs/in}$ (0.35Kg/m) less than Standard foil.

Properties		Prepreg		Laminate
Storage Condition	Temperature	Below 23°C [73°F]	Below 5°C [41°F]	Room
	Relative humidity	Below 55% RH	/	/
Shelf Life		3 months	6 months	24 months (airproof)

The prepreg exceeding shelf life should be retested.

CORPORATE HEADQUARTERS

Ventec Electronics Co. Ltd.
308 TaiShan Rd,
New District Suzhou,
Jiangsu, P.R. China 215129
T: +86 512-68091810
Email: sales@ventec.com.cn

EMEA REGIONAL HEADQUARTERS

Ventec Europe
Unit 1 Trojan Business Centre,
Tachbrook Park Estate,
Leamington-Spa, CV34 6RH, UK
T: +44 1926-889822
Email: sales@ventec-europe.com

AMERICAS REGIONAL HEADQUARTERS

Ventec USA
720 Lee St., Elk Grove Village,
Illinois, IL 60007,
United States of America
T: +1 630-4221627
Email: saleseast@ventec-usa.com

www.ventec laminates.com

VT-47

UL Approval: E214381 Version: B4 /97 /98 /99 /101 /126

Laminate/Prepreg

Properties Sheet IPC-4101E /97 /98 /99 /101 /126

Properties		Test Method	Units	Specification	Typical Value
Thermal Properties					
Tg	DSC	IPC-TM-650 2.4.25	°C	170 minimum	180
	TMA	IPC-TM-650 2.4.24	°C	-	180
Td		ASTM D3850	°C	340 minimum	355
T260		IPC-TM-650 2.4.24.1	Minute	30 minimum	>60
T288		IPC-TM-650 2.4.24.1	Minute	15 minimum	>30
Thermal Stress @ 288°C		IPC-TM-650 2.4.13.1	Second	Pass 10s	>600
Z-axis CTE	Before Tg	IPC-TM-650 2.4.24	ppm/°C	60 maximum	45
	After Tg	IPC-TM-650 2.4.24	ppm/°C	300 maximum	190
	Total Expansion (50~260°C)	IPC-TM-650 2.4.24	%	3.0 maximum	2.3
X-Y CTE		IPC-TM-650 2.4.24	ppm/°C	-	11~13
MOT		UL 94	°C	-	130
Electrical Properties					
DK @ 1GHz RC 50%		IPC-TM-650 2.5.5.9	-	5.2 maximum	4.27
DF @ 1GHz RC 50%		IPC-TM-650 2.5.5.9	-	0.035 maximum	0.016
Volume Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+4 minimum	5.0E+8
	E-24/125	IPC-TM-650 2.5.17.1	MΩ-cm	1.0E+3 minimum	5.0E+6
Surface Resistivity	After Moisture Resistance	IPC-TM-650 2.5.17.1	MΩ	1.0E+4 minimum	5.0E+7
	E-24/125	IPC-TM-650 2.5.17.1	MΩ	1.0E+3 minimum	5.0E+6
Electrical Strength		IPC-TM-650 2.5.6.2	Volt/mil (KV/mm)	762 (30) minimum	1200~1400 (54)
Dielectric Breakdown		IPC-TM-650 2.5.6	KV	40 minimum	60
Comparative Tracking Index (CTI)		ASTM D3638	Rating (Volt)	-	Grade 3 (175~250)
Arc Resistance		ASTM D495	Second	60 minimum	147
Mechanical Properties					
Peel Strength (1oz)	As received	IPC-TM-650 2.4.8	lb/in (N/mm)	-	7.5~10 (1.3~1.75)
	After thermal stress	IPC-TM-650 2.4.8	lb/in (N/mm)	6 (1.05) minimum	7.5~10 (1.3~1.75)
Flexural Strength	Warp	IPC-TM-650 2.4.4	Kpsi (MPa)	60 (415) minimum	72 (500)
	Fill	IPC-TM-650 2.4.4	Kpsi (MPa)	50 (345) minimum	61 (420)
Physical Properties					
Moisture Absorption		IPC-TM-650 2.6.2.1	%	0.50 maximum	0.12
Thermal Conductivity		ISO22007-2	W/M·K	-	0.5
Flammability		UL-94	Rating	V-0 minimum	V-0

Note: All test data provided are typical values and are not intended to be specification values.

CORPORATE HEADQUARTERS
Ventec Electronics Co. Ltd.

 308 TaiShan Rd,
 New District Suzhou,
 Jiangsu, P.R. China 215129

T: +86 512-68091810

Email: sales@ventec.com.cn

EMEA REGIONAL HEADQUARTERS
Ventec Europe

 Unit 1 Trojan Business Centre,
 Tachbrook Park Estate,
 Leamington-Spa, CV34 6RH, UK

T: +44 1926-889822

Email: sales@ventec-europe.com

AMERICAS REGIONAL HEADQUARTERS
Ventec USA

 720 Lee St., Elk Grove Village,
 Illinois, IL 60007,
 United States of America

T: +1 630-4221627

Email: saleseast@ventec-usa.com

www.ventecclaminates.com