

# No Flow Prepreg

## Datasheets & Press Guideline

**VT-47PP 1080NF / VT-47PP 106NF**

### General Information

Ventec offers a kind of No Flow Prepregs consisting of proprietary resin systems specifically formulated for optimal performance in bonding applications requiring minimal resin flow and consistency in lamination. This material brings the fabricator specific thermal characteristics appropriate for use in heat sink bonding, die cavity board (direct chip attachment) and multilayer rigid-flex applications. Ventec has designed this No-Flow prepreg product to meet almost any bonding need. The No-Flow prepreg is designed to bond surfaces together with minimal flow.

### Availability

**VT-47PP 1080NF Resin Content 63%, 65%, any other type base on customer requirement.**

**VT-47PP 106NF Resin Content 70%, 72%, any other type base on customer requirement.**

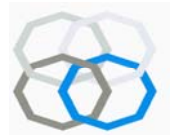
### Storage Condition & Shelf Life

		Prepreg	
Storage	Temperature	Below 22°C(73°F)	Below 5°C(41°F)
Condition	Relative Humidity	Below 55%RH	/
Retest Time*		2 Month	4 Month

\* The pre-preg exceeding retest time should be retested. If Gel Time and Resin Flow are not out of the low limit of the specification(see C.O.C.), the pre-preg still can be used, but please modify the press condition with a higher rise of rate(Heat Ratio) and a higher pressure.

### Notice

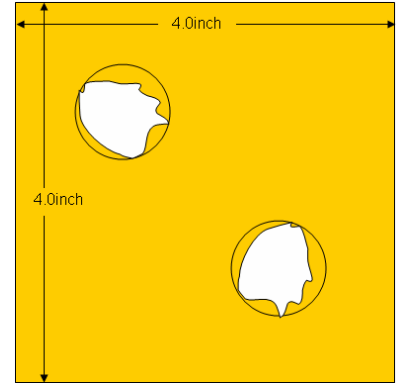
Generally, higher resin content type or 2 plies of low resin content type no flow prepreg will provide a better result.



# No Flow Prepreg

## Prepreg property

Type	Resin content	Resin Flow (Flow-in)*	Pressed Thickness*
1080 63%	63+/-3.0%	≤2.0mm (.080")	2.8mil
1080 65%	65+/-3.0%	≤2.0mm (.080")	3.2mil
106 70%	70+/-3.0%	≤1.5mm (.039")	1.8mil
106 72%	72+/-3.0%	≤1.5mm (.039")	2.0mil



\* Right Picture show Flow-in test method;

\* Pressed thickness is measured by microscope after made to micro-section.

## Property sheet of pressed no flow prepreg

(VT-47PP 1080NF 64%,2ply)

Test Item		Test Condition (IPC-TM-650 or As Noted)	Specification (IPC-4101 B)	Typical Value	Normal FR-4	Unit
Glass Transition Temp.(Tg)	DSC	2.4.25	—	170	136~140	°C
Decomposition Temp. (Td)	TGA	ASTM D3850	—	335	290~310	°C
Electric Strength		2.5.6.2	≥30	54	54	KV/mm
Peel strength (1oz)	As Received	2.4.8	≥8	7-9	10~12	Lb / in
	After Heated			7-9	9~12	Lb / in
Moisture Absorption	D-24 / 23	2.6.21	≤0.35	0.10	0.25	%
	After PCT	1atm.,121°C, 1hour	—	0.12	0.28	%
Z-axis C.T.E	Before Tg After Tg	2.4.24	—	50x10 <sup>-6</sup> 250x10 <sup>-6</sup>	50x10 <sup>-6</sup> 250x10 <sup>-6</sup>	in/in/°C
Thermal Stress	Solder Dip 288°C	2.4.13.1	No Delam.	No Delam.	No Delam.	—
Breakdown Voltage	D-48/50+D0.5/23	2.5.6	≥40	60	60	KV
Arc Resistance	D-48/50+D0.5/23	2.5.1	≥40	120	110~120	Sec
Permittivity(1MHZ)	C-24 / 23 / 50	2.5.5.3,2.5.5.9 2.5.5.5	—	4.3~4.5	4.3~4.5	—
Dissipation Factor(1MHZ)	C-24 / 23 / 50	2.5.5.3,2.5.5.9, 2.5.5.5	—	0.018~0.022	0.018~0.022	—
Flammability	As Received	UL 94	V-1	V-0	V-0	—

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



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## Process Guideline

### Press Condition

1. Heating rate(Rise of Rate) of material: Programmable Press: 3.0 - 6.0°C/min (5~10°F/min).
2. Curing Temperature & Time: >60min at more than 185 °C (365°F)[Material Temperature].
3. Full Pressure: ≥250-300psi
4. Vacuuming should be continued until **over 140°C** (284°F) [Material Temperature]
5. Cold Press condition: Keep Plate @ Room Temperature by water; Pressure:100psi; Keep Time:60minutes

