

BlueFlame

BF300F-120-H/H

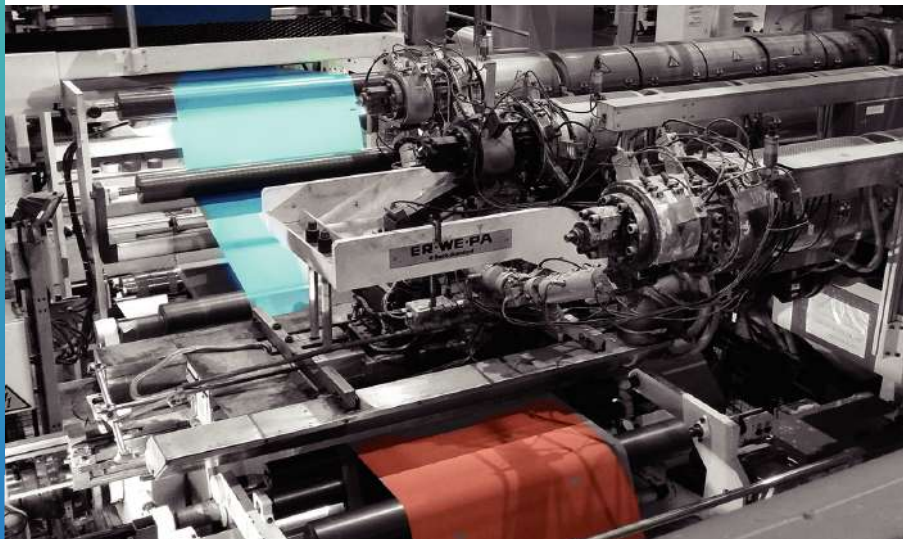
BF300F-60-H/H

BF300F-30-H/H

BF300F-20-H/H

BF300F-16-H/H

PCB Laminate for RF&MW Applications



BlueFlame family is based on PureBlue proprietary polyolefin compounds, their physical modification, and our one of the kind continuous lamination technology.

The process, the substrate structure, and the composition are protected by existing patents and patent pendings.



Lowest-loss PCB Laminates

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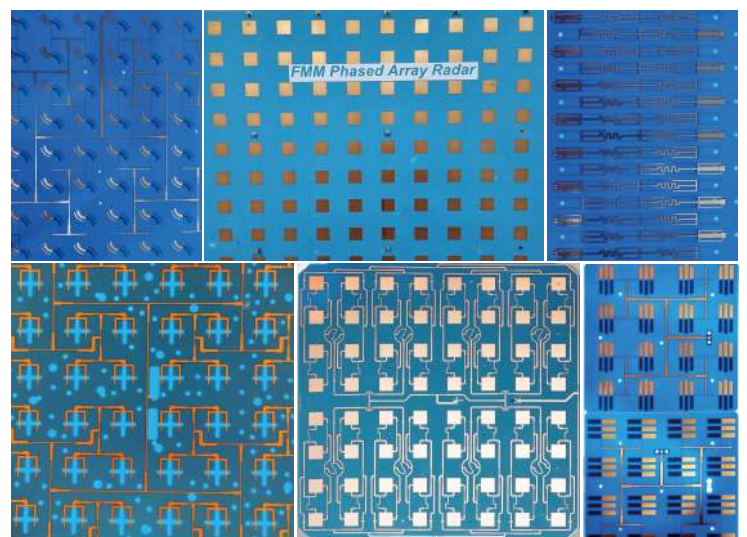
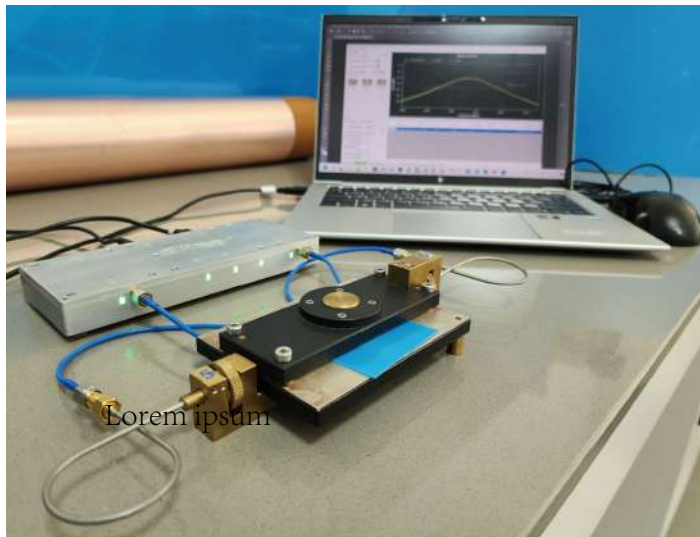
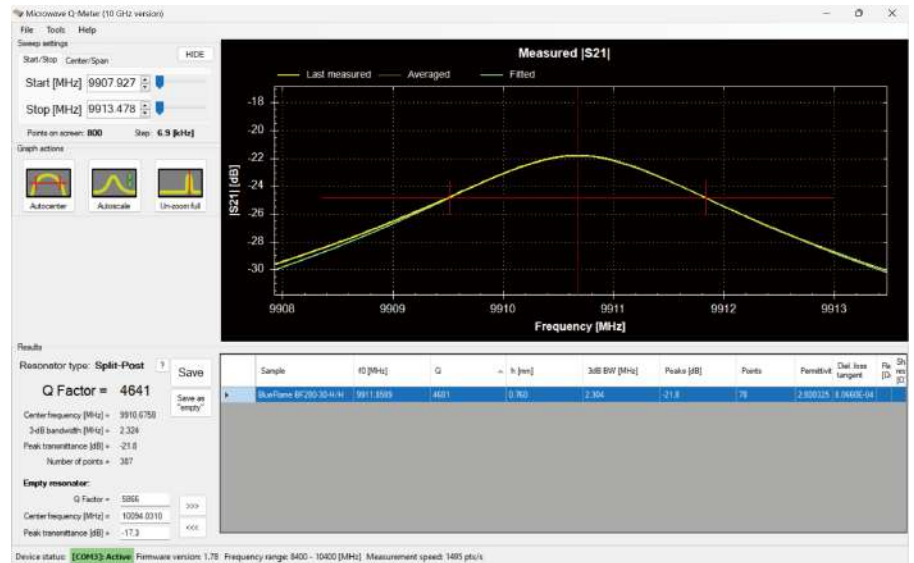
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PCB Laminate for RF&MW Applications



The BlueFlame BF300F is a non-halogene V0 rated laminate that is designed to meet most demanding application scenarios.

The absolute glass-fiber-free system delivers the most isotropically performing substrate.

The modified polyolefin compound allows multiple short time expositions to heat of up to 300 °C, and has a capacity to continuously operate at above 120 °C.

The proprietary to PureBlue continuous lamination process of high throughput secures tight thickness tolerance and very narrow fluctuation of dielectric constant.

The BF300F polymer compound features highly cross-linked polyolefin system designed for critical microwave components, antennas, power amplifiers and subassemblies.

Superior mechanical and electrical performance make the BF300F laminate system the material of choice for your lowest loss high frequency applications.

The isotropic substrate structure secures substantial advantage in PIM readings vs. anisotropic glass reinforced analogies. The highest impact was recorded with dense PTH designs, better than -163 dBc under dynamic test and better than -170 dBc under static one.

PIM designated lowest profile foils apply in our performance-on-demand product versions.

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Typical Specification Values

Property	IPC-TM 650 or ASTM	Units	Value	Condition / Remarks
Dielectric Constant	IPC 2.5.5.5	---	3.00±0.03	@10 GHz 23 °C
Dissipation Factor		---	0.0020	
Peel Strength	IPC 2.4.8	N/mm	1.5-2.0	Typical
Moisture Absorption	IPC 2.6.2.1	wt. %	<0.04	Typical
Volume Resistivity	IPC 2.5.17.1	MΩ - cm	>3X10 ⁷	
Surface Resistivity	IPC 2.5.17.1	MΩ - cm	>3X10 ⁷	
Dielectric Strength	IPC 2.5.6	kV/mm	19.7	
Flexural Strength, min	IPC 2.4.4	GPa	4	
Thermal Conductivity	ASTM C518	W/m-K	0.35	
x-y CTE, (-45 to 140 °C)	DMA/TMA	ppm/°C	<80	
z CTE, (-45 to 120 °C)	DMA/TMA	ppm/°C	<120	
Recommended operational temperature range		°C	-45 to +125	For operation outside this temperature range please ask your technical contact.
Flammability	UL-94		V0	
RoHS and Lead Free compatibility		---	Compatible	

Electro Deposited Copper Foil

The foil thickness options - 12, 15, 18, 24 and 35.

Other foil types may apply - reverse treated, rolled. Copper foil may be replaced with aluminum rolled. Aluminum thickness - 20 to 50 μ

HVLP foils may be applied of the selected ones to meet the lowest PIM requirements and/or the lowest RF and MW insertion loss.

Typical Foil Specifications

Nominal thickness, μ m	Area weight, g/m ²	Tensile strength, N/mm ²	Elongation, %	Resistivity at 20 °C, Ohm g/m ²	
18 $\pm$ 1	150 $\pm$ 10	> 245	> 3	< 0.162	

Feature	Unit	Gauge	IPC	
		18 μ	IPC-4562	IPC-MF-650
Shiny side roughness, Ra	μ	0.2-0.3	3.5.6	2.2.17
Matt side roughness, Rz (HVLP)	μ	1.0-1.4	3.4.5	2.2.17
Tensile strength, room temperature	MPa	> 276	3.5.1	2.4.18
Elongation, room temperature	%	> 10	3.5.3	2.4.18
Solderability	Meets requirements of IPC-4562		3.6.3	2.4.12

Panel Thickness (excluding copper foil)

BF300F-120-H/H – 3048 μ / 0.120" with a tolerance of $\pm$ 75 μ

BF300F-60-H/H – 1524 μ / 0.060" with a tolerance of $\pm$ 40 μ

BF300F-30-H/H – 762 μ / 0.030" with a tolerance of $\pm$ 20 μ

BF300F-20-H/H – 508 μ / 0.020" with a tolerance of $\pm$ 15 μ

BF300F-16-H/H – 406 μ / 0.016" with a tolerance of $\pm$ 12 μ

Panel Dimensions

- Standard 608X1220 mm

- Panel length may be increased upon arrangement to maximize the yield for massive orders.

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