

## BT/Epoxy Laminate and Prepreg

Isola's G200 is a fully proven laminate and prepreg system designed to meet today's high reliability printed circuit board requirements. Blending bismaleimide/triazine and epoxy resin provides G200 with enhanced thermal, mechanical and electrical performance over most epoxy materials. G200 possesses performance characteristics that make it an excellent selection for large panel size, high layer count printed wiring boards.

## Performance and Processing Advantages

- **High Tg - 185 °C (DSC)**  
Superior performance through multiple thermal excursions  
Superior chemical and thermal resistance
- **Low CTE from Ambient to 288 °C**
- **Excellent Electrical Insulation in High Humidity and High Temperatures (CAF Resistance)**
- **Very Consistent Dimensional Stability**  
Excellent layer-to-layer registration

## Purchasing Information

- **Industry Approvals**  
IPC-4101A /30  
UL Recognized – FR-4, File Number E41625
- **Standard Availability**  
**Thickness:** 0.002" [.05 mm] to 0.125" [3.2 mm]  
Available in sheet or panel form  
**Copper Foil Cladding:** Grade 3 (HTE), ½ to 3 oz.  
**Foil Options:** Double treat  
**Prepregs:** Available in roll or panel form  
**Glass Styles:** 106, 1080, 2313, 2116, 1652 and 7628

## G200 Typical Laminate Properties, 0.008" [0.20mm]

PROPERTY	UNITS	IPC-4101A Spec /30	G200 Value	CONDITIONING
Thickness	inches	0.0197	.008	—
	mm	[<0.50]	[0.20]	—
Glass Construction	—	—	2313/2116	—
Retained Resin	%	—	48	—
<b>Thermal</b>				
Tg (DSC)	°C	170-220	185	E-2/105
CTE x-axis	ppm/°C	—	15	Ambient to Tg
y-axis	ppm/°C	—	15	Ambient to Tg
z-axis	ppm/°C	—	140	Ambient to 288°C
Thermal Stress, 10 s @, 288°C	seconds	pass visual	NA	Condition A
Thermal Stress, 10 s @, 288°C	seconds	—	>1200	E-2/105
T-260	minutes	—	20	Condition A
T-288	minutes	—	8	Condition A
<b>Electrical</b>				
Permittivity (DK) @				
1 MHz (2 Fluid Cell)	—	4.8 max.	4.1	C-24/23/50
500 MHz (HP4291)	—	—	3.9	C-24/23/50
1GHz (HP4291)	—	—	3.9	C-24/23/50
Loss Tangent (DF) @				
1 MHz (2 Fluid Cell)	—	0.020 max.	0.013	C-24/23/50
500 MHz (HP4291)	—	—	0.009	C-24/23/50
1 GHz (HP4291)	—	—	0.009	C-24/23/50
Volume Resistivity	megohms-cm	1x10 <sup>6</sup> min.	1x10 <sup>7</sup>	C-96/35/90
	megohms-cm	1x10 <sup>6</sup> min.	1x10 <sup>7</sup>	E-24/125
Surface Resistivity	megohms	1x10 <sup>6</sup> min.	1x10 <sup>9</sup>	C-96/35/90
	megohms	1x10 <sup>5</sup> min.	1x10 <sup>7</sup>	E-24/125
Electric Strength	volt/mil	737 min.	1175	D-48/50
	[volts/mm]	[2.9x10 <sup>4</sup> ]	[4.6x10 <sup>4</sup> ]	
Arc Resistance	seconds	115 min.	124	D-48/50
Comparative Tracking	volts	—	>175	ASTM D-36/38-85
Index	PLC-UL	—	3	UL 746A
<b>Physical</b>				
Peel Strength, RTF ½ oz.	lb/in	3.14 min.	5.0	After Thermal Stress
	[Kg/M]	[55] min.	[90]	After Thermal Stress
Peel Strength, Std. 1oz.	lb/in	5.14 min.	7.0	After Thermal Stress
	[Kg/M]	[90] min.	[125]	After Thermal Stress
	lb/in	2.0 min.	5.0	E-1/150
	[35] min.	[90]	E-1/150	
Flexural Strength				
LW	psi	—	87,000	Condition A
LW	[N/mm <sup>2</sup> ]	—	[600]	Condition A
CW	psi	—	61,000	Condition A
CW	[N/mm <sup>2</sup> ]	—	[421]	Condition A
Flammability	rating	HB	V-0	UL94
Moisture Absorption	%	<0.80 max.	0.14*	D-24/23

\* Material Thickness Tested 0.028"

ORDERING INFORMATION

Contact your local sales representative or the Customer Service Department in La Crosse, WI.

Isola USA Corp.  
230 North Front Street  
La Crosse, WI 54601  
Phone: 800/845-2904 or  
608/784-6070  
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608/791-2428

For further information visit  
[www.isola-usa.com](http://www.isola-usa.com)

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