

UV Blocking Epoxy Laminate

Isola Laminate Systems offers ED130UV epoxy laminate to meet the printed circuit board's requirements for UV blocking materials. These grades utilize a difunctional epoxy resin core with modified tetrafunctional epoxy face plies to provide for ultraviolet blocking, and also fluorescence when using automated optical inspection (AOI).

Performance and Processing Advantages

- **Industry Standard FR-4**
Meets a broad range of thermal and electrical requirements
- **AOI Fluorescence and UV Blocking**
Increased throughput and accuracy during fabrication and assembly
- **Consistency**
Processing characteristics consistent with industry FR-4s
Uses the highest quality woven E-glass, copper foils and resins available to the industry today

Purchasing Information

- **Industry Approvals**
IPC-4101A /21
UL Recognized – FR-4, File Number E41625
(Part of Isola's FR-4 Family)
- **Availability**
Thickness: 0.031" [.8 mm] to 0.125" [3.2 mm]
Available in sheet or panel form
Copper Foil Cladding: ½, 1 and 2 oz.

ED130UV Typical Laminate Properties, 0.059" [1.5mm]

PROPERTY	UNITS	IPC-4101A Spec /21	ED130UV Value	CONDITIONING
Thickness	inches	1.5	0.059	—
	mm	[>0.78]	[1.5]	—
Glass Construction	—	—	8-7628	—
Retained Resin	%	—	44	—
Thermal				
Tg (DSC)	°C	110 to 150	135	E-2/105
CTE x-axis	ppm/°C	—	14	Ambient to Tg
y-axis	ppm/°C	—	13	Ambient to Tg
z-axis	ppm/°C	—	170	Ambient to 288°C
Thermal Stress, 10 s @ 288°C	seconds	pass visual	NA	Condition A
Thermal Stress, 10 s @ 288°C	seconds	—	>120	E-2/105
T-260	minutes	—	10	Condition A
Electrical				
Permittivity (DK) @				
1 MHz (2 Fluid Cell)	—	5.4 max.	4.7	C-24/23/50
500 MHz (HP4291)	—	—	4.35	C-24/23/50
1GHz (HP4291)	—	—	4.34	C-24/23/50
Loss Tangent (DF) @				
1 MHz (2 Fluid Cell)	—	0.035 max.	0.020	C-24/23/50
500 MHz (HP4291)	—	—	0.017	C-24/23/50
1 GHz (HP4291)	—	—	0.016	C-24/23/50
Volume Resistivity				
	megohms-cm	—	8x10 ⁷	Condition F
	megohms-cm	1x10 ³ min.	2x10 ⁷	E-24/125
Surface Resistivity				
	megohms	—	2x10 ⁹	Condition F
	megohms	1x10 ³ min.	1x10 ⁹	E-24/125
Dielectric Breakdown				
Arc Resistance	kV	40 min.	55	D-48/50
Comparative Tracking	seconds	60 min.	100	D-48/50
Index	volts	—	175-250	ASTM D-36/38-85
	PLC-UL	—	3	UL 746A
Physical				
Peel Strength, Std. 1 oz.				
	lb/in	6.0 min.	9.0	After Thermal Stress
	[Kg/M]	[1.05] min.	[161]	After Thermal Stress
	lb/in	4.0	9.0	E-1/125
	[Kg/M]	[70]	[161]	E-1/125
Flexural Strength				
LW	psi	60,190 min.	80,000	Condition A
LW	[N/mm ²]	[415] min.	[552]	Condition A
CW	psi	50,040 min.	60,000	Condition A
CW	[N/mm ²]	[345] min.	[414]	Condition A
Warp & Twist	%	—	0.5	Condition A
Flammability	rating	V-1 min.	V-0	UL94
Moisture Absorption	%	0.35 max.	0.25	D-24/23
Tensile Strength				
LW	psi	—	50,000	Condition A
CW	psi	—	40,000	Condition A
Modulus of Elasticity				
Tensile Modulus (Young's)				
LW	psi	—	3.5x10 ⁶	Condition A
CW	psi	—	3.0x10 ⁶	Condition A
Flexural Modulus (Taylor's)				
LW	psi	—	2.7x10 ⁶	Condition A
CW	psi	—	2.4x10 ⁶	Condition A
Poisson's Ratio				
LW	—	—	0.136	Condition A

ORDERING INFORMATION

Contact your local sales representative or the Customer Service Department in Chandler, AZ.

Isola Laminate Systems Corp.
3100 West Ray Road
Chandler, AZ 85226
Phone: 800/845-2904 or 480/893-6527
Fax: 800/344-1825 or 480/893-7956

For further information visit www.isola-usa.com

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