



Materials commonly used for Multilayer PCBs

Item	Units	Duraver E-Cu 104 ML		IS-400	370HR	7628ML04	1080AT01
		Thickness < 0,50 mm	Thickness ≥ 0,50 mm				
Manufacturer	-	Isola	Isola	Isola	Isola	Isola	Isola
Material	-	FR-4	FR-4	FR-4	FR-4	Pre-Preg	Pre-Preg
Peel Strength							
Low profile copper foil and very low profile	N/mm	1,4	-	-	1,14	-	-
Standard profile copper foil after thermal strass		1,95	2	-	1,25	-	-
Standard profile copper foil		1,85 (a 150°C)	1,9 (a 150°C)	-	1,25 (a 125 °C)	-	-
All other foil composite		-	-	-	-	-	-
Volume Resistivity							
C-96/35/90	MΩ x cm	6,0 x 10 ⁶	-	1,0 x 10 ⁴	-	-	-
After moisture resistance		-	8,0 x 10 ⁸	-	3,0 x 10 ⁸	-	-
At elevated temperature E-24/125		7,2 x 10 ⁶	-	1,0 x 10 ³	7,0 x 10 ⁸	-	-
Surface Resistivity							
C-96/35/90	MΩ	1,3 x 10 ⁶	-	1,0 x 10 ⁴	-	-	-
After moisture resistance		-	4,0 x 10 ⁶	-	3,0 x 10 ⁶	-	-
At elevated temperature E-24/125		3,7 x 10 ⁷	7,0 x 10 ⁴	1,0 x 10 ⁶	2,0 x 10 ⁸	-	-
Moisture Absorption	%	-	0,16	-	0,15	-	-
CTE, Z-Axis							
Before Tg	ppm/°C	-	-	AABUS	45	-	-
After Tg		-	-	-	230	-	-
CTE, X and Y axis							
Before Tg	ppm/°C	-	-	AABUS	13/14	-	-
After Tg		-	-	-	14/17	-	-
Thermal Conductivity	W/mK	-	-	-	0,4	-	-
Dielectric Breakdown	kV	-	45	40	>50	-	-



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Item	Units	Duraver E-Cu 104 ML		IS-400	370HR	7628ML04	1080AT01
		Thickness < 0,50 mm	Thickness ≥ 0,50 mm				
Permittivity							
@ 1MHz		4,6 - 4,9	4,6 - 4,9	4	-	-	-
@ 100MHz	-	-	-	-	5,4	-	-
@ 500MHz		-	-	3,9	-	-	-
Loss Tangent							
@ 1MHz		0,02	0,019	0,02	-	-	-
@ 100MHz	-	-	-	-	0,035	-	-
@ 500MHz		-	-	0,022	-	-	-
Flexural Strength							
Length direction	N/mm2	-	600	-	630	-	-
Cross direction		-	480	-	540	-	-
Thermal Stress for 10 sg at 288°C							
Unetched	sg	-	≥ 10	Pass (Visual)	Pass (Visual)	-	-
Etched		-	≥ 10	Pass (Visual)	Pass (Visual)	-	-
Electric Strength	kV/mm	39	-	-	-	-	-
Arc Resistance	sg	-	-	60	-	-	-
Flammability	-	V-0	V-0	V-0	V-0	-	-
Glass Transition Temperature	°C	135	135	150	180	-	-
Comparative Tracking Index (CTI)	Volts	Class 3 (179 - 249)	Class 3 (179 - 249)	Class 3 (179 - 249)	-	-	-
Thickness after press	mm	-	-	-	-	0,191	0,077
Resin content	%	-	-	-	-	64 ± 3	43 ± 3
Gel time @ 171°C ± 0,5°C	sg	-	-	-	-	145 - (165) - 185	110 - (125) - 140
Viscosity	Pa x sg	-	-	-	-	80 ± 15	43 ± 15

REMARKS

Information according to manufacturer's Technical Data Sheets