

# Specification / Laminate R-5775(N)

Property		Units	Test Method	Condition	Typical Value	
THERMAL	Glass Transition Temp ( Tg )	C	DSC	As received	185	
			DMA	As received	210	
	Thermal Decomposition Temp ( Td )		C	TGA	As received	410
	Time to Delam ( T288 )	Without Cu	Min	IPC TM-650 2.4.24.1	As received	> 120
		With Cu	Min	IPC TM-650 2.4.24.1	As received	> 120
	CTE : $\alpha 1$	X - axis	ppm / C	IPC TM-650 2.4.24	< Tg	14 - 16
		Y - axis	ppm / C	IPC TM-650 2.4.24	< Tg	14 - 16
		Z - axis	ppm / C	IPC TM-650 2.4.24	< Tg	45
CTE : $\alpha 2$	Z - axis	ppm / C	IPC TM-650 2.4.24	> Tg	260	
ELECTRICAL	Volume Resistivity		M $\Omega$ - cm	IPC TM-650 2.5.17.1	C-96/35/90	1 x 10 <sup>9</sup>
	Surface Resistivity		M $\Omega$	IPC TM-650 2.5.17.1	C-96/35/90	1 x 10 <sup>8</sup>
	Dielectric Constant ( Dk )	@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	3.40
		@ 12GHz	-	*Note 1	C-24/23/50	3.35
	Dissipation Factor ( Df )	@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	0.002
		@ 12GHz	-	*Note 1	C-24/23/50	0.004
PHYSICAL	Water Absorption		%	IPC TM-650 2.6.2.1	D-24/23	0.14
	Peel Strength	1oz ( H-VLP )	kN / m	IPC TM-650 2.4.8	As Received	0.8
	Flammability		-	UL	C-48/23/50	94V-0

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1GHz ; IPC TM650-2.5.5.9

6-50GHz ; Balanced-Type Circular Disk Resonance Method

Core Type	Actual Thickness		Cloth Style	ply	Typical Resin Content (%)	Typical Df									
	mil	mm				1GHz	6GHz	12GHz	18GHz	23GHz	29GHz	34GHz	40GHz	45GHz	50GHz
2	2.0	0.050	1035	1	67	0.002	0.003	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
2.6	2.6	0.065	1078	1	59	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
3	3.0	0.075	1078	1	65	0.002	0.003	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
4	3.9	0.100	2013	1	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
4	3.9	0.100	1035	2	67	0.002	0.003	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
5	5.0	0.127	1078	2	59	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
5	4.9	0.125	2116	1	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
6	5.7	0.146	1078	2	65	0.002	0.003	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
7	7.0	0.178	1078	2	70	0.002	0.003	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005
8	7.9	0.200	2013	2	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
10	9.8	0.250	2116	2	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
12	11.8	0.300	2013	3	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
16	15.7	0.400	2013	4	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
20	19.7	0.500	2116	4	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
25	24.6	0.625	2116	5	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005
30	29.5	0.750	2116	6	56	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005