

Material Comparison Chart

Material	Supplier	Dk @10GHz	Df @10GHz	CTE			Moisture Absorption	Tg	Copper peel strength	Thermal Cond.	Dieel. Break down	UL-94	Remark
				X	Y	Z							
				ppm/°C									
TLY5A	Taconic	2.17	0.0004	20	20	280	<0.02	-	12	-	-	V0	PTFE/Glass
NY9217	Neltec	2.17	0.0013	25	35	260	0.02	-	12-16	0.272	50	V0	woven PTFE
DiClad 880	Arlon	2.17, 2.20	0.0009	25	34	252	-	-	-	-	-	-	PTFE Unidirectional
CuClad 217LX	Arlon	2.17, 2.20	0.0009	29	28	246	-	-	-	-	-	-	PTFE Crossplied
RT/duroid 5880	Rogers	2.20	0.0009	31	48	237	0.015	-	-	0.20	-	-	PTFE
TLX5	Taconic	2.20	0.0004	20	20	280	<0.02	-	>12	0.40	-	V0	PTFE/glass
TLY5	Taconic	2.20	0.0004	20	20	280	<0.02	-	12	-	-	V0	PTFE/Glass
NY9220	Neltec	2.20	0.0013	25	35	260	0.02	-	12-16	0.272	50	V0	woven PTFE
Ro 3001	Rogers	2.28	0.003	-	-	-	-	-	-	0.22	-	-	Bondingfilm 38ym
RT/duroid 5870	Rogers	2.33	0.0012	22	28	173	0.015	>260	-	0.22	-	-	PTFE
DiClad 870	Arlon	2.33	0.0013	17	29	217	-	-	-	-	-	-	PTFE Unidirectional
CuClad 233LX	Arlon	2.33	0.0013	23	24	194	-	-	-	-	-	-	PTFE Crossplied
TLY3	Taconic	2.33	0.0013	20	20	250	<0.02	-	12	-	-	V0	PTFE/Glass
NY9233	Neltec	2.33	0.0013	35	35	260	0.02	-	12-16	0.272	50	V0	woven PTFE
CuClad 6700	Arlon	2.35	0.0025	-	-	-	0.005	-	-	-	-	-	Bondingfilm 30ym
TLX2	Taconic	2.35	0.0006	12	12	140	<0.02	-	12	-	-	V0	PTFE/Glass
TacBond HT 1.5	Taconic	2.35	0.0025	-	-	-	-	-	-	-	-	-	Bondingfilm
FV 6700	Neltec	2.35	0.0025	-	-	-	-	-	-	-	3.75	-	Bondingfilm 38ym
TLY2	Taconic	2.35	0.0004	20	20	280	<0.02	-	12	-	-	V0	PTFE/Glass
PTFE	-	2.4	0.001	-	-	-	<0.02	100	5.0	-	-	-	-
DiClad 522	Arlon	2.40-2.60	0.001	14	21	173	-	-	-	0.254	0.750	V0	PTFE Unidirectional
DiClad 527	Arlon	2.40-2.60	0.0022	14	21	182	-	-	-	0.254	0.750	V0	PTFE Unidirectional
CuClad 250 GT	Arlon	2.40-2.60	0.001	18	19	177	-	-	-	-	-	-	PTFE Crossplied
CuClad 250 GX	Arlon	2.40-2.60	0.0022	18	19	177	-	-	-	-	-	-	PTFE Crossplied
NX9243	Neltec	2.43	0.0020	18	18	150	0.05	-	12-16	0.251	50	V0	woven PTFE
NX9245	Neltec	2.45	0.0020	18	18	150	0.05	-	12-16	0.251	50	V0	woven PTFE
NX9248	Neltec	2.48	0.0020	18	18	150	0.05	-	12-16	0.251	50	V0	woven PTFE
TLX9	Taconic	2.50	0.0006	12	12	140	<0.02	-	12	-	-	V0	PTFE/Glass
NX9250	Neltec	2.50	0.0020	18	18	150	0.05	-	12-16	0.251	50	V0	woven PTFE
TLX8	Taconic	2.55	0.0006	12	12	140	<0.02	-	12	-	-	V0	PTFE/Glass
NX9255	Neltec	2.55	0.0020	18	18	150	0.05	-	12-16	0.251	50	V0	woven PTFE
NX9260	Neltec	2.60	0.0020	18	18	150	0.05	-	12-16	0.251	50	V0	woven PTFE
TLC27	Taconic	2.70	0.001	9	9	70	<0.02	-	12	-	-	V0	PTFE/Glass
NX9270	Neltec	2.70	0.0020	18	18	150	0.05	-	12-16	0.251	50	V0	woven PTFE
RT/duroid 6002	Rogers	2.94	0.0012	16	16	24	0.1	-	13	0.60	-	V0	ceramic/PTFE/woven
CLTE	Arlon	2.94	0.0025	-	-	38	-	-	-	-	-	-	thermal stable
NX9294	Neltec	2.94	0.0025	12	12	71	0.08	-	12-16	0.230	45	V0	woven PTFE
TLE95	Taconic	2.95	0.0028	9	9	70	<0.02	-	12	-	-	V0	PTFE/Glass
Ro3003	Rogers	3.0	0.0013	17	17	24	<0.1	-	17	0.50	-	V0	ceramic filled PTFE
NX9300	Neltec	3.00	0.0025	12	12	71	0.08	-	12-16	0.230	45	V0	woven PTFE
RF-30	Taconic	3.00	0.00100	11	21	125	0.02	-	>12	0.20	-	V0	PTFE/glass/ceramic
TLC30	Taconic	3.00	0.001	9	9	70	<0.02	-	12	-	-	V0	PTFE/Glass
Ro3203	Rogers	3.02	0.0016	13	13	58	<0.1	-	10	0.47	-	-	PTFE/glass/ceramic
GML 1000	GIL	3.02-3.20	0.002-0.005	40	34	80	0.02	135	5.0	0.200	-	V0	plastic (polyester)
Cyanate Ester	-	3.0-3.5	0.010	16	12	80	0.30	250	7.0	-	1	-	-
AR 320	Arlon	3.20	0.0029	10	12	71	-	-	-	-	-	-	Commercial Grade
NX9320	Neltec	3.20	0.0025	12	12	71	0.08	-	12-16	0.230	45	V0	woven PTFE
TLC32	Taconic	3.20	0.001	9	9	70	<0.02	-	12	-	-	V0	PTFE/Glass
AR 25N	Arlon	3.25	0.0024	17	17	70	0.08	95-100	5	0.446	-	-	ceramic filled plastic
TMM 3	Rogers	3.27	0.0016	16	16	20	0.04	-	3	0.70	-	-	ceramic/polymer
LNB	Arlon	3.3	0.003	17	17	70	0.08	90-95	4	0.45	-	-	ceramic filled plastic
Ro4003	Rogers	3.38	0.002	11	14	46	0.06	>280	6.0	0.64	-	V0	ceramic filled plastic
NH9338	Neltec	3.38	0.0025	9	12	71	0.08	-	-	0.230	45	V0	PTFE/glass/ceramic
Ro4350	Rogers	3.48	0.004	14	16	50	0.06	>280	5.0	0.62	-	V0	ceramic filled plastic
NH9348	Neltec	3.48	0.003	9	12	71	0.08	-	-	0.230	45	V0	PTFE/glass/ceramic
RF 35	Taconic	3.5@1.9GHz	0.0018@1.9GHz	19	24	64	<0.02	>315	8-10	-	41	V0	PTFE/glass/ceramic
AR 350	Arlon	3.5	0.0026	33	34	107	-	-	-	-	-	-	ceramic filled PTFE
GETEK	GE	3.9@1MHz	0.012@1MHz	-	-	-	0.12	180	9	-	1	V0	-
BT-Epoxy	Polyclad	4.1@1MHz	0.013@1MHz	16	12	80	0.2	180	8	-	1.5	V0	-
Gigaver	Isola	4.1@10MHz	0.005@10MHz	-	-	-	-	-	-	-	-	-	-
Polyimide	Nelco	4.3@1MHz	0.015@1MHz	15	15	55	0.35	260	7.5	-	-	-	-
AR 450	Arlon	4.5	0.0026	30	32	102	-	-	-	-	-	-	ceramic filled PTFE
TMM 4	Rogers	4.50	0.0017	14	14	20	0.010	-	3	0.70	-	-	ceramic/polymer
FR4	Isola	4.7	0.02	-	-	-	0.2	125	10	0.3	0.750	V0	@1MHz
AR 600	Arlon	6.0	0.0035	10	13	62	-	-	-	-	-	-	ceramic filled PTFE
TMM 6	Rogers	6.00	0.0018	16	16	20	0.06	-	3	0.72	-	-	ceramic/polymer
Ro3006	Rogers	6.15	0.0025	17	17	24	<0.1	-	12	0.61	-	V0	ceramic filled PTFE
RT/duroid 6006	Rogers	6.15	0.0019	47	34	117	0.05	-	13	0.49	-	-	ceramic/PTFE/woven
TMM 10	Rogers	9.20	0.0017	16	16	20	0.09	-	3	0.76	-	-	ceramic/polymer
TMM 10i	Rogers	9.80	0.0015	16	16	20	0.16	-	3	0.76	-	-	ceramic/polymer
AR 1000	Arlon	10.0	0.0035	-	-	37	-	-	-	-	-	-	ceramic filled PTFE
Cer-10	Taconic	10	0.00140	13	13	46	0.02	-	>6	0.29	-	V0	PTFE/glass/ceramic
Ro3010	Rogers	10.2	0.0035	17	17	24	<0.1	-	13	0.66	-	V0	ceramic filled PTFE
RT/duroid 6010LM	Rogers	10.2	0.0023	24	24	24	0.6	-	-	0.41	-	-	ceramic/PTFE/woven
Ro3210	Rogers	10.2	0.003	13	13	34	-	-	10	0.81	-	-	ceramic/PTFE/woven

Note: All values are nominal, no tolerances quoted. For not listed (-) values please contact Optiprint or the supplier.

PTFE = Polytetrafluorethylene

1lbs/in=0.175N/mm