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RF PCB Materials Comparison

Your PCB & PCB Assembly Partner			Focus on HDI PCB, Rigid Flex, Flex, High Frequency & High Speed PCB						
Dk@10GHz	Manufacturer	Laminate	Type	Dissipation Factor	CTE-X	CTE-Y	CTE-Z	MIL REF	IPC
1.96 +/- 0.04	Rogers	RT/Duroid 5880LZ	PTFE, Filled Composite	0.0019	Follow datasheet	Follow datasheet	41.5	-	-
2.08 +/- 0.02	Nelco	NY9208	PTFE, Woven	0.0006	25	35	260	GY	4103/05
2.05 +/- 0.05	Polyflon	CuFlon	PTFE	0.00045@18GHz	129	129	129	N/A	N/A
2.10 +/- 0.02	Taconic	TacLamplus	PTFE	0.0004	-	-	-	-	-
2.17, 2.20 +/- 0.02	Arlon	CuClad 217LX	PTFE, Woven,Cross Plied	0.0009	29	28	246	GY	4103/05
2.17, 2.20 +/- 0.02	Arlon	DiClad 880	PTFE, Woven	0.0009	25	34	252	GY	4103/05
2.17,	Arlon	DiClad 880-PIM	PTFE, Woven	0.0009	25	34	252	GY	4103/05
2.17, 2.20 +/- 0.04	Arlon	IsoClad 917	PTFE, Random Glass	0.0013	46	47	236	GP,GR	4103/03,04
2.17 +/- 0.02	Nelco	NY9217	PTFE, Woven	0.0008	25	35	260	GY	4103/05
2.17 +/- 0.02	Taconic	TLY-5A & -5AL	PTFE, Woven	0.0009	26	15	217	-	-
2.17 +/- 0.03	Taconic	TLP-5A	PTFE, Woven	0.0009	20	20	280	-	-
2.20 +/- 0.02	Nelco	NY9220	PTFE, Woven	0.0009	25	35	260	GY	4103/05
2.20 +/- 0.02	Rogers	RT/Duroid 5880	PTFE, Random Glass	0.0009	31	48	237	GP,GR	125/04
2.20 +/-0.02	Taconic	TLY-5 & -5-L	PTFE, Woven	0.0009	26	15	217	-	-
2.20 +/- 0.03	Taconic	TLP-5	PTFE, Woven	0.0009	20	20	280	-	-
2.320 +/- 0.005	Polyflon	Polyguide	Polyolefin	0.0005	108	108	108	N/A	N/A
2.33 +/- 0.02	Arlon	CuClad 233LX	PTFE, Woven,Cross Plied	0.0013	23	24	194	GY	4103/05
2.33 +/- 0.02	Arlon	DiClad 870	PTFE, Woven	0.0013	17	29	217	GY	4103/05
2.33 +/- 0.04	Arlon	IsoClad 933	PTFE, Random Glass	0.0016	31	35	203	GP,GR	4103/03,04
2.33 +/- 0.02	Nelco	NY9233	PTFE, Woven	0.0011	25	35	260	GY	4103/05
2.33 +/- 0.02	Rogers	RT/Duroid 5870	PTFE, Random Glass	0.0012	22	28	173	GP,GR	125/04
2.33 +/- 0.02	Taconic	TLY-3 & -3F	PTFE, Woven	0.0012	26	15	217	-	-
2.33 +/- 0.03	Taconic	TLP-3	PTFE, Woven	0.0009	20	20	280	-	-
2.4 - 2.6 +/- 0.04	Arlon	CuClad 250GX	PTFE, Woven,Cross Plied	0.0018	18	19	177	GX	4103/02
2.4 - 2.6 +/- 0.05	Arlon	DiClad 522	PTFE, Woven	0.0018	14	21	173	GT	4103/01
2.4 - 2.6 +/- 0.04	Arlon	DiClad 527	PTFE, Woven	0.0018	14	21	173	GX	4103/02
2.4 - 2.6 +/- 0.04	Rogers	Ultralam 2000	PTFE, Woven	0.0019	15	15	200	GX	125/02
2.40 +/- 0.04	Nelco	NX9240	PTFE, Woven	0.0016	12	18	150	GX	4103/02
2.45 +/- 0.04	Nelco	NX9245	PTFE, Woven	0.0016	12	18	150	GX	4103/02
2.45 +/-0.04	Taconic	TLX-0	PTFE, Woven	0.0019	9	12	140	GX	125/02
2.45 +/-0.05	Taconic	TLT-0	PTFE, Woven	0.0019	9	12	140	-	-
2.4 - 2.6 +/-0.05	Arlon	CuClad 250GT	PTFE, Woven,Cross Plied	0.0018	18	19	177	GT	4103/01

2.50	Arlon	AD250	PTFE, Woven	0.0018	12	15	95	N/A	4103/02
2.50	Arlon	AD250-PIM	PTFE, Woven	0.0018	12	15	95	N/A	4103/09
2.50 +/- 0.04	Arlon	AD250C	PTFE, Ceramic, Woven	0.0014	16	16	50	N/A	N/A
2.50 +/- 0.04	Arlon	AD250A	PTFE, Ceramic, Woven	0.0015	12	15	95	N/A	N/A
2.50 +/- 0.04	Nelco	NX9250	PTFE, Woven	0.0017	12	18	150	GX	4103/02
2.50 +/- 0.04	Taconic	TLX-9	PTFE, Woven	0.0019	9	12	140	GX	125/02
2.50 +/- 0.05	Taconic	TLT-9	PTFE, Woven	0.0019	9	12	140	-	-
2.55	Arlon	AD255	PTFE, Woven	0.0018	12	15	95	N/A	4103/02
2.55 +/- 0.04	Arlon	AD255A	PTFE, Ceramic, Woven	0.0015	16	16	80	N/A	4103/02
2.55 +/- 0.04	Arlon	AD255C	PTFE, Ceramic, Woven	0.0014	16	16	50	N/A	N/A
2.55 +/- 0.05	Polyflon	NorClad	Follow datasheet	0.0011@3GHz	53	53	53	N/A	125/02
2.55 +/- 0.04	Nelco	NX9255	PTFE, Woven	0.0018	12	18	150	GX	4103/02
2.55 +/- 0.04	Taconic	TLX-8	PTFE, Woven	0.0019	9	12	140	GX	125/02
2.55 +/- 0.05	Taconic	TLT-8	PTFE, Woven	0.0019	9	12	140	-	-
2..6	Sheldahl	ComClad HF	Thermoset Resin	0.0025 -0.0040	59	59	59	CopperCladNorel	N/A
2.60 +/- 0.04	Arlon	AD260A	PTFE, Ceramic, Woven	0.0017	16	16	80	N/A	N/A
2.60 +/- 0.04	Nelco	NX9260	PTFE, Woven	0.0019	12	18	150	GX	4103/02
2.60 +/- 0.05	Taconic	TSM-26	PTFE, Ceramic, Woven	0.0014	23	28	78	-	-
2.60 +/- 0.04	Taconic	TLX-7	PTFE, Woven	0.0019	9	12	140	GX	125/02
2.60 +/- 0.05	Taconic	TLT-7	PTFE, Woven	0.0019	9	12	140	-	-
2.62	Taconic	TLA-6	PTFE, Woven	0.0017	9	12	140	-	-
2.65 +/- 0.04	Taconic	TLX-6	PTFE, Woven	0.0019	9	12	140	GX	125/02
2.65 +/- 0.05	Taconic	TLT-6	PTFE, Woven	0.0019	9	12	140	-	-
2.7	Arlon	AD270	PTFE, Woven	0.0023	12	15	95	N/A	4103/09
2.70 +/- 0.04	Nelco	NX9270	PTFE, Woven	0.002	25	35	260	GX	125/02
2.75 +/- 0.05	Taconic	TLC-27	PTFE, Woven	0.0030	9	12	70	-	-
2.80 +/- 0.05	Isola	IS680 2.80	Follow datasheet	0.0030	12	12	44.7	N/A	N/A
2.85 +/- 0.05	Taconic	TSM-DS	PTFE, Ceramic, Woven	0.001	11	18	57	-	-
2.87	Taconic	TLG-29	PTFE, Ceramic, Woven	0.0027	22	23	135	-	-
2.90	Rogers	Ultralam 3850	Liquid Crystalline Polymer	0.0025	17	17	150	-	-
2.90 - 3.00 +/- 0.04	Rogers	RT/Duroid 6202PR	PTFE, Ceramic, Woven	0.0020	15	15	30	-	-
2.94 +/- 0.04	Rogers	RT/Duroid 6002	PTFE, Ceramic	0.0012	16	16	24	-	-
2.94 +/- 0.03	Arlon	CLTE-XT	PTFE, Ceramic, Woven	0.0012	8	8	20	N/A	4103/06
2.94	Arlon	CLTE-LC	PTFE, Ceramic, Woven	0.0025	10	12	35	N/A	4103/06
2.94 +/- 0.04	Nelco	NX9294	PTFE, Woven	0.0022	25	35	260	N/A	4103/09
2.94 +/- 0.07	Nelco	NH9294	PTFE, Ceramic, Woven	0.0022	9	12	71	N/A	4103/06
2.94 +/- 0.04	Rogers	RT/Duroid 6202	PTFE, Ceramic, Woven	0.0015	15	15	30	-	-
2.94 +/- 0.05	Taconic	TSM-29	PTFE, Ceramic, Woven	0.0013	23	28	78	-	-

2.95 +/- 0.05	Taconic	TLE-95	PTFE, Woven	0.0028	9	12	70	-	-
2.96 +/- 0.04	Arlon	CLTE	PTFE, Ceramic, Woven	0.0023	10	12	34	N/A	4103/06
2.97 +/- 0.05	Arlon	AD300C	PTFE, Ceramic, Woven	0.0020	12	12	50	N/A	4103/09
2.97 +/- 0.07	Taconic	RF-301	PTFE, Ceramic, Woven	0.0018	17	20	150	-	-
3.00	Arlon	AD300	PTFE, Woven	0.0030	12	15	95	N/A	4103/09
3.00	Arlon	AD300-PIM	PTFE, Woven	0.0030	12	15	95	N/A	4103/09
3.00 +/-0.04	Arlon	AD300A	PTFE, Ceramic, Woven	0.002	12	12	125	N/A	4103/09
3.00 +/- 0.04	Arlon	CLTE-AT	PTFE, Ceramic, Woven	0.0013	8	8	20	N/A	4103/06
3.00 +/- 0.05	Isola	IS680 3.00	Follow datasheet	0.0030	12	12	44.7	N/A	N/A
3.00 +/- 0.04	Nelco	NX9300	PTFE, Woven	0.0023	25	35	260	N/A	4103/09
3.00 +/- 0.07	Nelco	NH9300	PTFE, Ceramic, Woven	0.0023	9	12	71	N/A	4103/06
3	Nelco	N9300-13 RF	Modified Epoxy Resin	0.004	13	20	67	N/A	N/A
3.00 +/- 0.04	Rogers	RO3003	PTFE, Ceramic	0.0011	17	16	25	GX	125/02
3.00 +/- 0.06	Rogers	RO3730	PTFE, Ceramic	0.0016	11	12	65	-	-
3.00 +/- 0.08	Rogers	RO4730	Hydrocarbon, Ceramic	0.0033	19	17	40	-	-
3.00 +/- 0.05	Taconic	TSM-DS3	PTFE, Ceramic, Woven	0.0011	10	16	23	-	-
3.00 +/- 0.05	Taconic	TSM-30	PTFE, Ceramic, Woven	0.0013	23	28	78	-	-
3.00 +/- 0.05	Taconic	TLC-30	PTFE, Woven	0.0030	9	12	70	-	-
3.00	Taconic	TLG-30	PTFE, Ceramic, Woven	0.0038	22	23	135	-	-
3.00 +/- 0.10	Taconic	RF-30	PTFE, Ceramic, Woven	0.0019	11	21	125	-	-
3.02 +/- 0.04	Rogers	RO3203	PTFE, Ceramic, Woven	0.0016	13	13	58	-	-
3.05	Polyflon	Copper Clad ULTEM	Polyetherimide	0.003	56	56	56	N/A	N/A
3.20	Arlon	AD320	PTFE, Woven	0.0038	12	15	95	N/A	4103/09
3.20	Arlon	AD320-PIM	PTFE, Woven	0.0030	12	15	95	N/A	4103/09
3.20 +/- 0.04	Arlon	AD320A	PTFE, Ceramic, Woven	0.0032	14	14	128	N/A	4103/09
3.20 +/-0.05	Isola	IS680 3.20	Follow datasheet	0.0030	12	12	44.7	N/A	N/A
3.20	Nelco	N8000Q	Cyanate Ester w/Quartz Fabric	0.006	N/A	N/A	70 (2)	N/A	4101B/61
3.20 +/- 0.04	Nelco	NX9320	PTFE, Woven	0.0024	25	35	260	N/A	4103/09
3.20 +/- 0.07	Nelco	NH9320	PTFE, Ceramic, Woven	0.0024	9	12	71	N/A	4103/16
3.20	Nelco	N9320-13 RF	Modified Epoxy Resin	0.0045	13	20	67	N/A	N/A
3.20 +/- 0.05	Taconic	TLC-32	PTFE, Woven	0.0030	9	12	70	-	-
3.23 +/- 0.05	Rogers	XT/Duroid 80000.002" Thick	Follow datasheet	0.0035max.	18	23	68	-	-
3.27 +/- 0.032	Rogers	TMM-3	Ceramic, Thermoset Resin	0.0020	15	15	23	-	-
3.30 +/- 0.08	Rogers	RO4533	Hydrocarbon, Ceramic	0.0025	13	11	37	-	-
3.32 +/- 0.05	Rogers	XT/Duroid 8100 0.004" Thick	Follow datasheet	0.0038	19	21	76	-	-
3.33 +/- 0.05	Isola	IS680 3.33	Follow datasheet	0.003	12	12	44.7	N/A	N/A
3.38 +/- 0.06	Arlon	25N	Ceramic, Woven, Thermoset Resin	0.0025	15	15	52	N/A	4103/10
3.38 +/- 0.05	Isola	IS680 3.38	Follow datasheet	0.0032	12	12	44.7	N/A	N/A

3.38 +/- 0.10	Nelco	NH9338	PTFE, Ceramic, Woven	0.0025	9	12	71	N/A	4103/16
3.38 +/- 0.05	Rogers	RO4003C	Hydrocarbon, Ceramic	0.0029	11	14	46	-	-
3.39 max.	Rogers	SYRON 71000.004" thick.	Thermoset Resin	0.005max.	19	21	76	-	-
3.38 +/- 0.05	Taconic	TLC-338	PTFE, Woven	0.0034	9	12	70	-	-
3.38	Nelco	N9338-13 RF	Modified Epoxy Resin	0.0046	13	20	67	N/A	N/A
3.40 +/- 0.08	Rogers	RO4534	Hydrocarbon, Ceramic	0.0027	11	14	46	-	-
3.4 max.	Rogers	SYRON 70000.002" thk.	Thermoset Resin	0.0045max.	18	23	68	-	-
3.40 +/- 0.07	Taconic	TLF-34	PTFE, Ceramic, Woven	0.0020	21	23	85	-	-
3.45 +/- 0.05	Isola	IS680 3.45	Follow datasheet	0.0035	12	12	44.7	N/A	N/A
3.48 +/- 0.10	Nelco	NH9348	PTFE, Ceramic, Woven	0.0030	9	12	71	N/A	4103/16
3.48 +/- 0.05	Rogers	RO4350B	Hydrocarbon, Ceramic	0.0037	14	16	35	-	-
3.48 +/- 0.05	Rogers	RO4350B -TX	Hydrocarbon, Ceramic	0.0034	14	16	35	-	-
3.48	Nelco	N9350-13 RF	Modified Epoxy Resin	0.0055	13	20	67	N/A	N/A
3.50	Arlon	AD350	PTFE, Woven	0.003	12	15	95	N/A	4103/09
3.50	Arlon	AD350-PIM	PTFE, Woven	0.0030	12	15	95	N/A	4103/09
3.50 +/- 0.05	Arlon	AD350A	PTFE, Ceramic, Woven	0.0030	5	9	35	N/A	4103/09,/16
3.50 +/- 0.05	Arlon	TC350	PTFE, Ceramic, Woven	0.0020	7	7	23	N/A	4103/09,/16
3.50	Isola	GETEK	Woven, Thermoset Resin	0.0100	13	14	55	N/A	4103C/25
3.50	Nelco	Mercurywave9350	Modified Epoxy Resin	0.004	10	14	48(2)	N/A	4103/11
3.50 +/- 0.10	Nelco	NH9350	PTFE, Ceramic, Woven	0.0030	9	12	71	N/A	4103/16
3.50	Nelco	N4350-13 RF	Modified Epoxy Resin	0.0065	10	14	3.5%	N/A	4101B/29
3.50	Nelco	N8000	Cyanate Ester	0.011	11	13	2.5%	N/A	4101B/70,71
3.50 +/- 0.05	Rogers	RT/Duroid 6035HTC	PTFE, Ceramic	0.0013	19	19	39	-	-
3.50 +/- 0.05	Rogers	RO3035	PTFE, Ceramic	0.0017	17	17	24		
3.50 +/- 0.08	Rogers	RO4535	Hydrocarbon, Ceramic	0.0037	14	16	35		
3.50 +/- 0.05	Taconic	TLC-35	PTFE, Woven	0.0037	9	12	70		
3.50 +/- 0.07	Taconic	TLF-35	PTFE, Ceramic, Woven	0.002	21	23	85		
3.50 +/- 0.05	Taconic	RF-35TC	PTFE, Ceramic, Woven	0.0011	11	13	34		
3.50 +/- 0.05	Taconic	RF-35A2	PTFE, Ceramic, Woven	0.0015	10	13	106		
3.50 +/- 0.10	Taconic	RF-35	PTFE, Ceramic, Woven	0.0025	19	24	64		
3.50 +/- 0.10	Taconic	RF-35P	PTFE, Ceramic, Woven	0.0034	15	15	110		
3.54 +/- 0.05	Rogers	XT/Duroid 81000.002" Thick	Follow datasheet	0.0049	16.5	18	57	-	-
3.58 +/- 0.06	Arlon	25FR	Ceramic, Woven, Thermoset Resin	0.0035	16.5	18	59	-	4103/11
3.61	Panasonic	Megtron6 R5775(K)	Woven, Thermoset Resin	0.004	14-16	14.6	45	N/A	4101/102
3.61 max.	Rogers	SYRON 71000.002" thk.	Thermoset Resin	0.006max.	16.5	18	57	-	-
3.70	Arlon	MULTICLAD HF	Thermoset Resin	0.0045	14-16	14-16	-	-	-
3.8 - 4.2 @1MHz	GE	Getek	Woven, Thermoset Resin	0.01	12	15	55	-	-
3.80	Nelco	N4380-13 RF	Modified Epoxy Resin	0.007	10	14	3.5%	N/A	4101B/29

3.85 – 4.02	Rogers	Theta	Follow datasheet	0.0126 –0.0120	N/A	N/A	~50	-	-
4.1	Arlon	AD410	PTFE, Ceramic, Woven	0.003	9	9	40	-	4103/16
4.10 +/- 0.10	Nelco	NH9410	PTFE, Ceramic, Woven	0.0030	9	12	71	N/A	4103/16
4.10 +/- 0.15	Taconic	RF-41	PTFE, Ceramic, Woven	0.0038	9	12	93	-	-
4.10 +/- 0.15	Taconic	TRF-41	PTFE, Ceramic, Woven	0.0035	9	9	40	-	-
4.30	Arlon	AD430	PTFE, Ceramic, Woven	0.0030	9	9	40	-	4103/16
4.30 +/- 0.15	Taconic	RF-43	PTFE, Ceramic, Woven	0.0033	9	11	96	-	-
4.30 +/- 0.15	Taconic	TRF-43	PTFE, Ceramic, Woven	0.0035	9	9	40	-	-
4.50	Arlon	AD450	PTFE, Ceramic, Woven	0.0035	8	11	42	-	4103/16
4.50	Arlon	AD450A	PTFE, Ceramic, Woven	0.0035	10	10	40	-	N/A
4.50 +/- 0.10	Nelco	NH9450	PTFE, Ceramic, Woven	0.0030	9	12	71	N/A	4103/16
4.50 +/- 0.045	Rogers	TMM-4	Ceramic, Thermoset Resin	0.0020	16	16	21	-	-
4.50 +/- 0.15	Taconic	RF-45	PTFE, Ceramic, Woven	0.0037	9	13	96	-	-
4.50 +/- 0.15	Taconic	TRF-45	PTFE, Ceramic, Woven	0.0035	9	9	40	-	-
5.10	Arlon	AD5	PTFE, Ceramic, Woven	0.0030	15	15	45	N/A	4103/16
6.00 +/- 0.08	Rogers	TMM-6	Ceramic, Thermoset Resin	0.0023	18	18	26	-	-
5.50-6.30	Arlon	AD600	PTFE, Ceramic, Woven	0.0030	11	10	45	N/A	4103/07
6.15 +/- 0.15	Arlon	TC600	PTFE, Ceramic, Woven	0.0020	9	9	35	-	4103/07
6.15 +/- 0.15	Rogers	RT/Duroid 6006	PTFE, Ceramic	0.0027	47	34	117	-	125/07
6.15 +/- 0.15	Rogers	RO3006	PTFE, Ceramic	0.002	17	17	24	N/A	125/07
6.15 +/- 0.15	Rogers	RO3206	PTFE, Ceramic, Woven	0.0027	13	13	34	-	-
6.15 +/- 0.15	Rogers	RO4360	Hydrocarbon, Ceramic	0.0038	16.6	14.6	30	-	-
6.15 +/- 0.25	Taconic	RF-60A	PTFE, Ceramic, Woven	0.0038	9	8	69	-	-
9.20 +/- 0.23	Rogers	TMM-10	Ceramic, Thermoset Resin	0.0022	21	21	20	-	-
9.80 +/- 0.245	Rogers	TMM-10i	Ceramic, Thermoset Resin	0.0020	19	19	20	-	-
9.80	Arlon	AR1000	PTFE, Ceramic, Woven	0.003	14	16	37	N/A	4103/08
10.00 +/- 0.25	Taconic	CER-10	PTFE, Ceramic, Woven	0.0035	13	15	46	-	-
10.20	Arlon	AD1000	PTFE, Ceramic, Woven	0.0023	8	10	20	-	4103/08
10.20	Arlon	AD10	PTFE, Ceramic, Woven	0.0078	5.6	5.8	8.2	N/A	N/A
10.2 +/- 0.30	Rogers	RO3010	PTFE, Ceramic	0.0022	13	11	16	-	125/08
10.2 +/- 0.50	Rogers	RO3210	PTFE, Ceramic, Woven	0.0027	13	13	34	-	-
10.2 +/- 0.25	Rogers	RT/Duroid 6010.2LM	PTFE, Ceramic	0.0023	24	24	47	-	125/08