

ASC LAMINATE SELECTOR GUIDE

GRADE NAME	SUPPLIER	MATERIAL TYPE	Dk (+/- tol)	DF (.0000) @ 10 GHz When Available	X	Y	Z	THICKNESS RANGE (mils)	Tol @ .020" ± mils
RT/duroid 5880LZ	Rogers	Ceramic PTFE	2.00 (.04)	21	54	47	40	10, 20, 25, 30, 40, 50, 100, 170	1
RT/duroid 5880LZ	Rogers	Ceramic PTFE	2.00 (.04)	20.36452	6.74193548	10.341935	218	10, 20, 25, 30, 40, 50, 100, 171	2
CuFlon	Polyflon	Pure PTFE	2.05 (.05)	4.5	129	129	129	(9x9" 2.5, 5, 1, 2, 3, 5) (12x18" 10, 15, 20, 31, 62, 125)	
NY9208	Neltec	Woven Teflon	2.08 (.02)	6	25	35	220-260	10, 15, 20, 30, 60	IPC 4103 Class B
IsoClad 917	Rogers	Random Glass PTFE	2.17 (.02)	13	46	47	236	5, 10, 20, 31, 60	2
TLY-5,5A	Taconic	Woven PTFE	2.17-2.20 (.02)	9	20	20	280	5, 10, 15, 20, 25, 31, 45, 60	IPC 4103 Class C
NY9000	Neltec	Woven Teflon	2.17-2.20 (.02)	9	25	35	220-260	5, 10, 15, 20, 24, 31, 45, 62, 125	IPC 4103 Class B
DiClad 880	Rogers	Woven Glass PTFE	2.17-2.20 (.02)	9	25	34	252	5, 10, 20, 30, 60, 125	1.5
CuClad 217	Rogers	Woven Glass PTFE	2.17-2.20 (.02)	9	29	28	246	5, 10, 20, 31, 60, 125	1.5
RT/Duroid 5880	Rogers	Random Glass PTFE	2.20 (.02)	9	31	48	237	5, 10, 15, 20, 31, 62, 125	1
TLY-5Z	Taconic	Woven PTFE	2.20 (.04)	15	30	40	130	10, 20, 30, 40, 50, 60, 90, 120	IPC 4103 Class C
NY9233	Neltec	Woven Teflon	2.33 (.02)	11	25	35	220-260	5, 10, 15, 20, 24, 31, 62, 125	IPC 4103 Class B
RT /Duroid 5870	Rogers	Random Glass PTFE	2.33 (.02)	12	22	28	173	5, 10, 15, 20, 31, 62, 125	1
CuClad 233	Rogers	Woven Glass PTFE	2.33 (.02)	13	23	24	194	5, 10, 20, 31, 62, 125	1.5
IsoClad 933	Rogers	Random Glass PTFE	2.33 (.04)	16	31	35	203	5, 10, 20, 31, 60	2
DiClad 870	Rogers	Woven Glass PTFE	2.33 (.04)	13	17	29	217	5, 10, 20, 30, 60, 125	1.5
TLY-3, 3FF	Taconic	Woven PTFE	2.33 (.04)	12	20	20	280	5, 10, 15, 20, 25, 31, 45, 60	IPC 4103 Class C
NX9240	Neltec	Woven Teflon	2.40 (.04)	16	12	18	220-260	5, 10, 15, 20, 24, 30, 60, 125	IPC 4103 Class B
DiClad 527	Rogers	Woven Glass PTFE	2.40-2.60 (.04)	17	14	21	173	5, 10, 20, 31, 60, 125	2
NX9245	Neltec	Woven Teflon	2.45 (.04)	16	12	18	220-260	5, 10, 15, 20, 24, 30, 60, 125	IPC 4103 Class B
TLX-6,7,8,9,0	Taconic	Woven PTFE	2.45-2.65 (.04)	18	21	23	215	5, 10, 15, 20, 25, 31, 45, 60	IPC 4103 Class C
TLT-6,7,8,9,0	Taconic	Woven PTFE	2.45-2.65 (.05)	18	21	23	215	5, 10, 15, 20, 25, 31, 45, 60	IPC 4103 Class C
NX9250	Neltec	Woven Teflon	2.50 (.04)	17	12	18	150-200	5, 10, 15, 20, 24, 30, 60, 125	IPC 4103 Class B
AD250C	Rogers	Woven Glass, Ceramic PTFE	2.50 (.04)	13	16	16	200	20, 30, 60, 125	2
CuClad 250	Rogers	Woven Glass PTFE	2.50 (.04)	17	18	19	177	5.3, 10, 20, 31, 62, 125	2
NX9255	Neltec	Woven Teflon	2.55 (.04)	20	12	18	150	10, 15, 20, 24, 30, 45, 60, 90, 125	IPC 4103 Class B
AD255C	Rogers	Woven Glass, Ceramic PTFE	2.55 (.04)	14	16	16	200	30, 40, 60, 125	2
NorClad	Polyflon	PPO Unreinforced	2.55 (.05)	11	53	53	53	60, 90, 125, 250, 375, 500	

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RO4725JXR	Rogers	Thermoset	2.55 (.05)	26	14	19	26	30.7, 60.7	
AD260A	Rogers	Woven Glass, Ceramic PTFE	2.60 (.04)	17	16	16	80	30, 40, 60, 125	
NX9260	Neltec	Woven Teflon	2.60 (.04)	20	12	18	150-200	10, 15, 20, 24, 30, 45, 60, 90, 125	IPC 4103 Class B
NX9270	Neltec	Woven Teflon	2.70 (.04)	25	12	18	150-200	10, 15, 20, 24, 30, 45, 60, 90, 125	IPC 4103 Class B
IS680	Isola	Thermoset	2.80-3.45	25 to 35	12	12	45 to 190	20, 30, 60	IPC 4103
EZ-IO-F	Taconic	Spread-Weave, Ceramic Loaded PTFE	2.80/2.85	12	19	25	49	3.5, 5, 7, 10, 15, 20	IPC 4103 Class C
TSM-DS	Taconic	Woven, Ceramic Loaded PTFE	2.85 (.05)	10	11	18	57	5, 10, 20, 30, 60, 90	IPC 4103 Class C
RT/duroid 6202 PR	Rogers	Woven, Ceramic, PTFE	2.90-3.00 (.04)	20	15	15	30	5, 10, 15, 20	1
CLTE-XT	Rogers	Woven Glass Ceramic PTFE	2.94 (.03)	12	8	8	20	5.1, 9.4, 14.5, 20, 30, 60, 120	1
TSM-DS3M	Taconic	Woven, Ceramic Loaded PTFE	2.94 (.04)	11	10	16	23	5, 10, 20, 30, 60	IPC 4103 Class C
RT/Duroid 6002	Rogers	Ceramic Teflon	2.94 (.04)	12	16	16	24	5, 10, 20, 30, 60, 120	1
NX9294	Neltec	Woven Teflon	2.94 (.04)	22	9	12	71	5, 10, 15, 20, 24, 30, 60, 125	IPC 4103 Class B
TSM-29	Taconic	Woven, Ceramic Loaded PTFE	2.94 (.04)	12	23	28	78	5, 10, 20, 30, 60	IPC 4103 Class C
NL9294	Neltec	Woven Ceramic Loaded PTFE	2.94 (.05)	17	9	12	130-150	5, 10, 20, 30, 31	IPC 4103 Class B
AD300D	Rogers	Woven Glass Ceramic PTFE	2.94 (.05)	21	10	10	65	30, 60	2
AD300C	Rogers	Woven Glass Ceramic PTFE	2.94 (.05)	20	9	15	54	30, 40, 60, 120	2
NH9294	Neltec	Woven Ceramic Loaded PTFE	2.94 (.07)	22	9	12	100-150	5, 10, 15	IPC 4103 Class B
CLTE-MW	Rogers	Woven Glass Ceramic PTFE	2.94-3.02 (.04)	15	8	8	30	5, 4, 5, 6, 7, 8, 10	
TLE-95	Taconic	Woven PTFE	2.95 (.05)	28	9	12	70	5, 10, 15, 20, 31, 62	IPC 4103 Class C
CLTE	Rogers	Woven Glass Ceramic PTFE	2.98 (.04)	23	10	12	34	5.3, 10, 15, 20, 24, 30, 60, 125	2
Astra MT77, 200 Tg	Isola	Thermoset	3.00	17	12	13	55	2.5, 5, 7.5, 10, 12.5, 15, 20, 30	
IT-88GMW	ITEQ	Thermoset, Halogen Free	3.00	12	16	16	58	5, 10, 20, 30, 60	1
Meteorwave 4000HF	Neltec	PPO Glass Reinforced, Halogen Free	3.00	22	10	14	46/125	2-215	IPC 4103 Class C
Metepwave 8300	Neltec	PPO Glass Reinforced	3.00	25	14	16	35/185	2-125	IPC 4101 Class C
NX9300	Neltec	Woven Teflon	3.00 (.04)	30	12	18	150	10, 15, 20, 24, 30, 45, 60, 90, 125	IPC 4103 Class B
N9300-13RF	Neltec	PTFE / Thermoset Hybrid	3.00 (.04)	40	13	20	75	5, 10, 15, 20, 30, 45, 60, 90, 125	2
RO3003	Rogers	Ceramic PTFE	3.00 (.04)	10	17	16	25	5, 10, 20, 30, 60	1
RO3003G2	Rogers	Ceramic PTFE	3.00 (.04)	11	16	17	18	5, 10	
CLTE-AT	Rogers	Woven Glass Ceramic PTFE	3.00 (.04)	13	8	8	20	5, 10, 15, 20, 30, 60, 120	1.5
TSM-DS3b	Taconic	Woven, Ceramic Loaded PTFE	3.00 (.04)	11	10	16	23	5, 10, 20, 30, 60	IPC 4103 Class C
NF-30	Taconic	Non-Woven, Ceramic Loaded PTFE	3.00 (.04)	13	11	15	30	5, 10, 20, 30, 60	IPC 4103 Class C

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NL9300	Neltec	Woven Ceramic Loaded PTFE	3.00 (.05)	17	9	12	130-150	5, 10, 20, 30, 31	IPC 4103 Class B
VT-870 L300 TEC-SPEED 20 L300	VENTEC	Ceramic Loaded Hydrocarbon	3.00 (.05)	27	13	13	30	10, 20, 30, 40, 60	IPC 4103 CLASS B
RO4730JXR	Rogers	Thermoset Hydrocarbon Ceramic Woven Glass	3.00 (.05)	27	11	14	21	20.7, 30.7, 40.7, 60.7	1
RO4730G3	Rogers	Thermoset Hydrocarbon Ceramic Woven Glass	3.00 (.05)	29	14	15	30	20.7, 30.7, 40.7, 60.7	1
TSM-DS3	Taconic	Woven, Ceramic Loaded PTFE	3.00 (.05)	11	10	16	23	5, 10, 20, 30, 60	IPC 4103 Class C
NH9300	Neltec	Woven Ceramic Loaded PTFE	3.00 (.07)	23	9	12	100-150	5, 10, 15	IPC 4103 Class B
RF-30	Taconic	Woven, Ceramic Loaded PTFE	3.00 (.07)	17	11	21	125	10, 20, 30, 60	IPC 4103 Class C
IT-988G	ITEQ	Thermoset, Halogen Free	3.00-3.50	30	15	15	50	2-30	
IT-988GSE	ITEQ	Thermoset, Halogen Free	3.00-3.60	20	15	15	45	2-30	
Tachyon	Isola	Thermoset	3.02	21	15	16	55	2 to 20	4101, 103
Xtreme Speed RO1200	Rogers	Flat Glass, Ceramic PTFE	3.03	17	8	8	30	3, 4, 5, 6, 7, 8, 10	
IS680AG-300	Isola	Thermoset	3.00, 3.38, 3.45, 3.48	20	19	20	45	20, 30, 60	
Meteorwave 2000	Neltec	PPO Glass Reinforced	3.20	34	10	14	55	2 - 250	
N4000-13Si/ - 13EPSi	Neltec	High Tg Thermoset	3.20	70	9	13	45	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 20, 24, 28, 30, 45, 59	2
N4000-13Si	Neltec	High Tg Thermoset	3.20	70	9	13	45	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 20, 24, 28, 30, 45, 59	2
N9320-13RF	Neltec	PTFE Thermoset Hybrid	3.20 (.04)	45	13	20	70	5, 10, 15, 20, 30, 45, 60, 90, 125	2
NX9320	Neltec	Woven Teflon	3.20 (.04)	30	12	18	130	10, 15, 20, 24, 30, 45, 60, 90, 125	IPC 4103 Class B
AD320A	Rogers	Woven Glass Ceramic PTFE	3.20 (.04)	30	14	14	128	20, 24, 31, 50, 62, 125	2
NL9320	Neltec	Woven Ceramic Loaded PTFE	3.20 (.05)	17	9	12	130-150	20, 30, 31	IPC 4103 Class B
NH9320	Neltec	Woven Ceramic Loaded PTFE	3.20 (.07)	24	9	12	100-150	5, 10, 15, 20	IPC 4103 Class B
RF-32	Taconic	Woven, Ceramic Loaded PTFE	3.20 (.07)	24	15	15	110	10, 20, 30, 60	IPC 4103 Class C
XT/Duriod 8000	Rogers	Very High Tg Thermoplastic	3.23	35	18	23	68	2	12.50%
N4000-20Si	Neltec	High Tg Thermoset	3.24	64	10	14	45	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 20, 24, 28, 30, 45, 59	2
RO4830	Rogers	Thermoset	3.25	33	23	23	110	5, 9.4	
TMM 3	Rogers	Thermoset Hydrocarbon Ceramic	3.27	20	15	15	23	15, 20, 25, 30, 50, 60, 75, 100, 125, 150, 200, 250, 275, 300, 500	1.5

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Meteorwave 8000	Neltec	PPO Glass Reinforced	3.30	16	14	16			IPC 4101 Class C
VT-870 L330 TEC-SPEED 20 L330	VENTEC	Ceramic Loaded Hydrocarbon	3.30 (.05)	25	13	13	35	20, 30, 32, 40, 60	IPC 4103 CLASS B
XT/Duriod 8100	Rogers	Very High Tg Thermoplastic	3.32 (.05)	38	19	21	76	4	12.50%
RO4835T	Rogers	Thermoset Hydrocarbon Ceramic Flat Glass	3.33	30	14	16	62	na	
M-Ply	Neltec	PPO Glass Reinforced	3.38	20	10	14	55	2.7, 4.0	
NH9338	Neltec	Woven Ceramic Teflon	3.38 (.04)	25	9	12	71	10, 15, 20, 24, 31, 62	IPC 4103 Class B
N9338-13RF	Neltec	PTFE / Thermoset Hybrid	3.38 (.04)	45	13	20	67	5, 10, 15, 20, 30, 45, 60, 90, 125	2
IT-8338G	ITEQ	Thermoset, Halogen Free	3.38 (.05)	25	18	18	50	10, 20, 30, 60	5-8%
RO4003C	Rogers	Thermoset Hydrocarbon Ceramic Woven Glass	3.38 (.05)	27	11	14	46	8, 12, 16, 20, 32, 60	1.5
I-Tera MT40 RF/MW	Isola	Thermoset	3.38, 3.45, 3.60, 3.75	35	12	13	55	5, 6.6, 10, 13.3, 20, 30, 40, 60	4103
Meteorwave 4000	Neltec	PPO Glass Reinforced	3.40	24	10	14	55	2 - 250	
TerraGreen, 200 Tg, Halogen Free	Isola	Halogen Free	3.40	35	16	18	55	2 - 18 mil, 20, 30 and 60	
Meteorwave 3000 HF	Neltec	PPO Glass Reinforced, Halogen Free	3.40	38	10	14	46/215	2-125	IPC 4101 Class C
Megtron6 R-5775K	Panasonic	PPE Glass Reinforced	3.40	40	15	15	45	2, 2.5, 2.9, 3.9, 5, 4.9, 5.8, 5.7, 7.8, 9.6, 11.5, 15, 19.4, 21 - 35	
Meteorwave 1000	Neltec	PPO Glass Reinforced	3.40	47	10	14	55	2-250	
VT-879 L340 TEC-SPEED 20 L340	VENTEC	Ceramic Filled Hydrocarbon	3.40 (.05)	27	13	13	33	32, 40, 62	IPC 4103 CLASS B
RF-34	Taconic	Woven, Ceramic Loaded PTFE	3.40 (.07)	34	15	15	110	10, 20, 30, 60	IPC 4103 Class C
RO4534	Rogers	Thermoset Hydrocarbon Ceramic Woven Glass	3.40 (.08)	27	11	14	46	32.7, 40.7, 60.7	2
RO4535	Rogers	Thermoset Hydrocarbon Ceramic Woven Glass	3.44 (.08)	37	16	17	50	30.7, 40.7, 60.7	2
I-Tera MT40	Isola	Thermoset	3.45	35	12	13	55	2 to 24	4101, 103
VT-870 H348 TEC-SPEED L348	VENTEC	Ceramic Filled Hydrocarbon	3.48 (.005)	37	13	13	31	3.3, 4.0, 6.6, 10, 16.6, 20, 30, 40, 60	IPC4103 CLASS B
RO4350B	Rogers	Thermoset Hydrocarbon Ceramic Woven Glass	3.48 (.05)	37	10	12	32	4, 6.6, 10, 13.3, 16.6, 20, 30, 60	1.5
RO4835	Rogers	Thermoset Hydrocarbon Woven Glass	3.48 (.05)	37	10	12	31	4, 6.6, 10, 13.3, 16.6, 20, 30, 60	1.5

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NH9348	Neltec	Woven Ceramic Loaded PTFE	3.48 (.10)	30	9	12	100-150	10, 15, 20, 30, 31, 45, 60, 62, 125	IPC 4103 Class B
Meteorwave 8350	Neltec	PPO Glass Reinforced	3.50	18	14	16			IPC 4101 Class C
Meteorwave 3350	Neltec	PPO Glass Reinforced	3.50	38	10	14	55	6.8,10,12,20,30,60	
N4000-20	Neltec	High Tg Thermoset	3.50	75	10	14	45	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 20, 24, 28, 30, 45, 59	2
N7000-2 HT/-3	Neltec	Thermoset Polyimide-Toughened	3.50	90	9	12	15	3, 5, 10, 14, 21, 28, 44, 59	2
N7000-3NF	Neltec	Polyimide	3.50	90	10	14	46/125	1.6 & 2.7	
N4350-13RF	Neltec	RF Thermoset	3.50 (.04)	80	10	14	70	4, 5, 6, 7, 8, 10, 12, 14, 20, 30, 60	2
N9350-13RF	Neltec	PTFE / Thermoset Hybrid	3.50 (.04)	55	13	20	67	5, 10, 15, 20, 30, 45, 60, 90, 125	2
NL9350	Neltec	Woven Ceramic Loaded PTFE	3.50 (.05)	17	9	12	130-150	20, 30, 31	IPC 4103 Class B
N8000	Neltec	Cyanate Ester	3.50 (.05)	70	11	13	50	3, 4, 5, 6, 8, 10, 12, 14, 20, 24, 30, 45, 59	2.5
RF-35TC	Taconic	Woven, Ceramic Teflon	3.50 (.05)	11	11	13	34	5, 10, 20, 30, 60	IPC 4103 Class C
RQ3035	Rogers	Ceramic PTFE	3.50 (.05)	15	17	17	24	5, 10, 20, 30, 60	1
RT/Duroid 6035HTC	Rogers	Ceramic PTFE	3.50 (.05)	13	19	19	39	10, 20, 30, 60	1
RF-35A2	Taconic	Woven, Ceramic Loaded PTFE	3.50 (.05)	16	10	13	106	10, 20, 23, 30, 60	IPC 4103 Class C
AD350A	Rogers	Woven Glass Ceramic PTFE	3.50 (.05)	30	5	9	35	20, 30, 60, 120	1.5
TC350 (Thermally Conductive)	Rogers	Woven Glass Ceramic PTFE	3.50 (.05)	20	7	7	23	10, 20, 30, 60	1.5
TC350 Plus (Thermally Conductive)	Rogers	Woven Glass Ceramic PTFE	3.50 (.05)	17	10	9	38	10, 20, 30, 60	1.5
RF-35HTC (high thermal conductivity)	Taconic	Ceramic PTFE	3.50 (.05)	7	11	14	77	5, 10, 20, 30, 60, 90	IPC 4103 Class C
IT-8350G	ITEQ	Thermoset	3.50 (.05)	25	15	15	45	10, 20, 30,60	5-8%
RF-35	Taconic	Woven, Ceramic Loaded PTFE	3.50 (.10)	18	19	24	64	10, 20, 23, 30, 60	IPC 4103 Class C
NH9350	Neltec	Woven Ceramic Loaded PTFE	3.50 (.10)	30	9	12	100-150	10, 15, 20, 30, 31, 45, 60, 62, 125	IPC 4103 Class B
XT/Duroid 8100	Rogers	Very High Tg Thermoplastic	3.54 (.05)	49	17	18	57	2	12.50%
N5000	Neltec		3.60	100	10	14			IPC 4101 Class C
VT-464 (D) TEC-SPEED 1.1	VENTEC	Mid Tg Thermoset	3.60	60	13	13	60	2-200	IPC
TErraGreen, 200 Tg, Halogen Free	ITEQ	Thermoset, Halogen Free	3.60	70	15	15	45	2-30	IPC
IT-150DA	ITEQ	Thermoset	3.60	70	15	15	45	2-30	IPC
IT-968	ITEQ	Thermoset	3.60	35	15	15	40	2-30	5-8%

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IT-200LK	ITEQ	Thermoset Mid Loss	3.60	90	16	16	46	2-30	IPC
Meteorwave 3000	Neltec	PPO Glass Reinforced	3.60	39	10	14	55	2-250	
VT-463 (LK) TEC-SPEED 7.1	VENTEC	High Tg Thermoset	3.60 (.05)	18	13	13	40	2-30	IPC
VT-463 TEC-SPEED 7.0	VENTEC	High Tg Thermoset	3.60 (.05)	28	13	13	40	2-30	IPC
VT-462S TEC-SPEED 6.0	VENTEC	High Tg Thermoset	3.60 (.05)	50	13	13	48	2-200	IPC
Megtron7 R-5785	Panasonic	PPE Glass Reinforced	3.61	30	15	15	42		
I-Speed, 180 Tg	Isola	Thermoset	3.63	71	16	18	55	2 - 60	
FR408HR, 200Tg	Isola	Thermoset	3.65	95	16	18	55	2 - 60	
N4000-13/ -13EP	Neltec	High Tg Thermoset	3.70	80	10	14	45	2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 20, 24, 28, 30, 45, 59	2
IT-170GRA1	ITEQ	Thermoset Mid Loss	3.70	95	15	15	45	2-30	IPC
Meteorwave 1000NF	Neltec	PPO Glass Reinforced	3.70	55	10	14	55/260	1.6 & 2.7	
FR406 170 Tg	Isola	Thermoset	3.80	160	13	13	65	3, 5, 10, 14, 21, 28, 31, 44, 59, 62, 93, 125	2
Megtron4 R-5725	Panasonic	PPE Glass Reinforced	3.80	50	13	14	35	2, 2.5, 2.9, 3.9, 5, 4.9, 5.8, 5.7, 7.8, 9.6, 11.5, 15, 19.4, 21 - 35	
N4380-13RF	Neltec	RF Thermoset	3.80 (.04)	80	10	14	70	4, 5, 6, 7, 8, 10, 12, 14, 20, 30, 60	2
VT-464 (L) TEC-SPEED 3,0	VENTEC	High Tg Thermoset	3.80 (.05)	75	13	13	45	2-200	IPC
VT-461 TEC-SPEED 2.1	VENTEC	High Tg Thermoset	3.90	80	13	13	40	2-200	IPC
VT-464 TEC-SPEED 2	VENTEC	High Tg Thermoset	3.90	95	13	13	45	2-200	IPC
TErraGreen, 200 Tg, Halogen Free	Various	Thermoset	3.90	150	10	14	14	3, 5, 10, 14, 21, 28, 31, 44, 59, 62, 93, 125	2
N4000-7 170 Tg	Neltec	Thermoset	3.90	170	12	15	4	3, 5, 10, 14, 21, 28, 31, 44, 59, 62, 93, 125	2
N7000-1	Neltec	Thermoset Polyimide	3.90	95	12	15	15	3, 5, 10, 14, 21, 28, 44, 59	2
VT462 (L) TEC-SPEED 4.0	VENTEC	Mid Tg Thermoset	3.90 (.05)	70	13	13	52	2-200	IPC
N4000-29NF	Neltec	Phenolic Epoxy	4.00	170	12	15	55/265	1.6 & 2.7	
185HR, 180 Tg	Isola	Thermoset	4.00	190	13	13	45	2.5 - 0.059	
VT-464 (M) TEC-SPEED 1,0	VENTEC	Mid Tg Thermoset	4.05	120	13	13	49	2-200	IPC
Kappa 438	Rogers	Thermoset	4.10	50	13	16	42	20, 30, 40, 60	1.5
180A	ITEQ	Thermoset	4.10	200	13	13	40	2-30	
RF-41	Taconic	Woven, Ceramic Loaded PTFE	4.10 (.10)	38	9	12	93	60, 125	IPC 4103 Class C
AD410L	Rogers	Woven Glass Ceramic PTFE	4.10 (.12)	30	5	9	35	32, 62, 125	2
370HR 180 Tg	Isola	Thermoset	4.17	210	13	13	45	3, 5, 10, 14, 21, 28, 31, 44, 59, 62, 93, 125	2
VT-47	VENTEC	High Tg Thermoset	4.27	160	11	11	45	2-200	IPC

GRADE NAME	SUPPLIER	MATERIAL TYPE	Dk (+/- tol)	DF (.0000) @ 10 GHz When Available	X	Y	Z	THICKNESS RANGE (mils)	Tol @ .020" ± mils
VT-481	VENTEC	Mid Tg Thermoset	4.30	150	12	12	45	2-200	IPC
N4000-29	Neltec	Thermoset- Epoxy HighTg, Lead-Free	4.30	180	12	15	15	2-250	2
N4000-6/-6FC	Neltec	Thermoset- Epoxy HighTg	4.30	230	12	15	15	2-250	2
VT-5A2 TEC-THERMAL 5 (THERMALLY CONDUCTIVE)	VENTEC	Ceramic Filled Thermoset	4.30	80	14	14	29	3, 4, 5, 6, 8, 19, 12	
AD430L	Rogers	Woven Glass Ceramic PTFE	4.30 (.06)	30	5	9	35	30, 50, 125	2
RF-43	Taconic	Woven, Ceramic Loaded PTFE	4.30 (.10)	33	9	11	96	10, 20, 30, 62, 125	IPC 4103 Class C
R-1755V 170 Tg	Panasonic	Thermoset	4.40	16	12	14	44	2, 2.7, 3, 3.2, 3.5, 3.7, 4, 4.5, 5, 5.3, 6, 7, 7.5, 8, 10, 12, 145, 155, 18, 21, 18, 35, 39, 47, 59	
TMM 4	Rogers	Thermoset Hydrocarbon Ceramic	4.50 (.045)	20	16	16	21	15, 20, 25, 30, 50, 60, 75, 100, 125, 150, 200, 250, 275, 300, 500	1.5
RF-45	Taconic	Woven, Ceramic Loaded PTFE	4.50 (.10)	37	9	13	96	20, 31, 62, 125	IPC 4103 Class C
AD450L	Rogers	Woven Glass Ceramic PTFE	4.50 (.25)	35	10	10	40	20, 30, 60, 120	1.5
VT-4A2H TEC-THERMAL 4 (THERMALLY CONDUCTIVE)	VENTEC	Ceramic Filled Thermoset	5.10	14	14	14	28	3, 4, 6, 8	
92ML (Thermally Conductive)	Rogers	Thermoset	5.30	110	18	18	27	3, 4, 6, 8	
92ML Stacool (Thermally Conductive IMS)	Rogers	Thermoset	5.30	110	18	18	27	3, 4, 6, 8	
TMM 6	Rogers	Thermoset Hydrocarbon Ceramic	6.00 (.08)	23	18	18	26	15, 20, 25, 30, 50, 60, 75, 100, 125, 150, 200, 250, 275, 300, 500	1.5
AD600L	Rogers	Woven Glass Ceramic PTFE	6.00 (.40)	3	11	10	45	10, 15, 20, 24, 31, 50, 62, 125	15
RO3006	Rogers	Ceramic PTFE	6.15 (.15)	20	17	17	24	5, 10, 25, 50	1
RF-60TC	Taconic	Woven Glass Ceramic PTFE	6.15 (.15)	20	10	10	40	5, 10, 15, 20, 30, 60	IPC 4103 Class C
RO4360G2	Rogers	Thermoset Hydrocarbon Ceramic Woven Glass	6.15 (.15)	38	13	14	28	8, 12, 16, 20, 32, 60	1.5
TC600 (Thermally Conductive)	Rogers	Woven Glass Ceramic PTFE	6.15 (.15)	20	9	9	35	10, 20, 30, 60	1.5
RO3206	Rogers	Woven Glass Ceramic PTFE	6.15 (.15)	27	13	13	34	25, 50	
RT /Duroid 6006	Rogers	Ceramic PTFE	6.15 (.15)	27	47	34	117	10, 25, 50, 75, 100	1

GRADE NAME	SUPPLIER	MATERIAL TYPE	Dk (+/- tol)	DF (.0000) @ 10 GHz When Available	X	Y	Z	THICKNESS RANGE (mils)	Tol @ .020" ± mils
RF-60A	Taconic	Woven Glass Ceramic PTFE	6.15 (.20)	28	9	8	69	10, 25, 31, 50, 60, 125	IPC 4103 Class C
RO2808	Rogers	Ceramic PTFE	7.60 (.35)	15	30	30	23	Jan-00	-
TMM 10	Rogers	Thermoset Hydrocarbon Ceramic	9.20 (.23)	22	21	21	20	15, 20, 25, 30, 50, 60, 75, 100, 125, 150, 200, 250, 275, 300, 500	1.5
TMM 10i	Rogers	Thermoset Hydrocarbon Ceramic	9.80 (.25)	20	19	19	20	15, 20, 25, 30, 50, 60, 75, 100, 125, 150, 200, 250, 275, 300, 500	1.5
CER-10	Taconic	Woven, Ceramic Loaded PTFE	10.00 (.50)	35	13	15	46	15, 25, 47, 50, 62	IPC 4103 Class C
RO3210	Rogers	Woven Glass Ceramic PTFE	10.20 (.05)	27	13	13	34	25, 50	1
RT/Duroid 6010LM	Rogers	Ceramic PTFE	10.20 (.25)	23	24	24	47	10, 25, 50, 75, 100	1
RO3010	Rogers	Ceramic PTFE	10.20 (.30)	22	13	11	16	5, 10, 25, 50	1
RF-10	Taconic	Woven Ceramic Teflon	10.20 (.30)	25	16	20	25	10, 20, 25, 60, 125	IPC 4103 Class C
AD1000	Rogers	Woven Glass Ceramic PTFE	10.20 (.35)	23	8	10	20	10.5, 20, 30, 59, 120	1.5
TMM-13i	Rogers	Thermoset Hydrocarbon Ceramic	12.85 (.35)	19	19	19	20	15, 20, 25, 30, 50, 60, 75, 100, 125, 150, 200, 250, 275, 300, 500	1.5

MULTILAYER BOND MATERIALS

PREPREG NAME	SUPPLIER	RESIN SYSTEM	Dk @ 10 GHz	Diss Factor (.0000)	Tg Deg C	Td Deg C	Cure Stage	THICKNESS RANGE (mils)	Flow
NY9205BP	Park	Thermoplastic	2.05	0.0007			260-270°C	50µm	NONE
FEP	Dupont	PTFE	2.15	70	500	-	Plastic	1.5, 2.0	FLOW
CuClad 6250	Rogers	Polyethylene / Polyolefin blend	2.32	13	102	-	Plastic	1.5	FLOW
CuClad 6700 (RO3001)	Rogers	Chloro Tri-Flouro Ethylene	2.35	25	186	-	Plastic	1.5, 3.0	FLOW
HT1.5	Taconic	PCTFE	2.35	25	-	-	-	1.5	N/A
fastRise EZ	Taconic	Thermoset and Flexible	2.38-2.44	17-24	168-186	395-414	B	2.2-3.3	HIGH
NX9240BP	Park	Thermoplastic	2.40	25			205_210°C	50µm	NONE
fastRise 27 (FR-27)	Taconic	Thermoset	2.70	14	188	376	B	2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5	FLOW
fastRise EZ Pure	Taconic	Thermoset and Flexible	2.80	32	168	375	B	1.5, 2, 3	HIGH
Astra MT77	Isola	Thermoset	2.90-3.10	19	200	360	B	2.5, 3.2, 3.6, 4.2	FLOW
2929 Bondply	Rogers	Ceramic Filled HydroCarbon	2.94	30	170	400	B	1.5, 2.0, 3.0	FLOW
RO3003 Bondply	Rogers	Ceramic Filled PTFE	3.00	10		500	Thermoplastic	5	LOW FLOW
IT-88GMW	ITEQ	Thermoset, Halogen Free	3.00	12	180	405	B	(TBD, likely 2.0 to 6.0)	FLOW
Tachyon 100G	Isola	Thermoset	3.00	21	200	360	B	.002 to .0064	FLOW
VT-870 BL300	VENTEC	Ceramic Filled HydroCarbon	3.00	27	280	318	B	5	FLOW
TPG-30	Taconic	BT / Epoxy / PTFE	3.00	38	165	300	B	5	FLOW
M-Ply	Park		3.00-3.40	21	200				
IT-988G	ITEQ	Thermoset, Halogen Free	3.00-3.50	30	190	405	B	1.7 to 6.0	FLOW
IT-988GSE	ITEQ	Thermoset, Halogen Free	3.00-3.60	14	190	405	B	1.7 to 6.0	FLOW
TerraGreen Halogen Free	Isola	Halogen Free	3.10-3.50	25 to 35	200	390	B	2.2, 2.5, 3.0, 3.4, 3.5, 3.8, 4.0, 4.2, 4.3, 4.5, 5.0, 5.6, 6.1	FLOW
Megtron6 R-5670	Panasonic	PPO / PPE Glass Reinforced	3.19-3.61	40	185	410	B	2.4, 2.7, 2.9, 3.0, 3.4, 3.5, 3.9, 4.1, 4.2, 4.6, 4.9, 5.2	FLOW
RO4450T	Rogers	Ceramic Filled HydroCarbon / Glass Reinforced	3.23	39	280	390		3,4,5	LOW FLOW
VT463 (LK) TS 7.1	VENTEC	Epoxy	3.30	18	200	410	B	1.5-4	FLOW
N4000-13SI	Neltec	Epoxy	3.30	70	210	365	B	1.5, 2.5, 4.0	FLOW
IT-8338G	ITEQ	Thermoset, Halogen Free	3.38 (.05)	25	>190	405	B	10, 20, 30,60	FLOW
VT-464 (D) TS 1.1	VENTEC	Epoxy	3.40	80	160	400	B	1.7-8	FLOW
I-Tera MT40	Isola	Thermoset	3.45	31	200	360	B	2.0, 2.2, 2.5, 3.0, 3.4, 3.5, 3.8, 4.0, 4.2, 4.3, 4.5, 5.0, 5.6, 6.1	FLOW
TPG-35	Taconic	BT Epoxy, Woven, Ceramic Loaded PTFE	3.50	40	21	23	28	4.5	N/A
VT-462S TS 6	VENTEC	Epoxy	3.50	50	210	400	B	4-Jan	FLOW
N4350-13	Neltec	Epoxy	3.50	65	210	365	B	5	FLOW
IT-8350G	ITEQ	Thermoset	3.50 (.05)	25	>190	405	B	(TBD, likely 2.0 to 6.0)	FLOW
VT-870 BH348	VENTEC	Ceramic Filled HydroCarbon	3.52	35	280	410	B	4	FLOW
RO4450F	Rogers	Ceramic Filled HydroCarbon / Glass Reinforced	3.54	40	280	390	A	4	LOW FLOW
Megtron4 R5620	Panasonic	PPO/PPE Glass Reinforced	3.57	80	176	360	B	2.0, 2.3, 2.8, 3.0, 3.4, 3.5, 4.0, 4.1, 4.6, 4.8, 5.0, 5.5, 6.3, 7.0, 7.5	FLOW
VT-463 TS 7	VENTEC	Epoxy	3.60	28	200	410	B	1.5-4	FLOW
IT-968	ITEQ	Thermoset	3.60	35	185	400	B	1.7 to 6.0	FLOW
IT-958G	ITEQ	Thermoset, Halogen Free	3.60	70	175	400	B	2.0 to 6.0	FLOW
IT-150DA	ITEQ	Thermoset	3.60	70	180	370	B	2.0 to 8.0	FLOW
IT-200LK	ITEQ	Thermoset Mid Loss	3.60	90	200	370	B	2.1 to 5.1	FLOW
Megtron7 R5680	Panasonic	PPP Glass Reinforced	3.61	30	200	400	B	1.9, 2.4, 2.7, 2.9, 3.0, 3.5, 3.9, 4.1, 4.2, 4.6, 5.2	FLOW



MULTILAYER BOND MATERIALS

PREPREG NAME	SUPPLIER	RESIN SYSTEM	Dk @ 10 GHz	Diss Factor (.0000)	Tg Deg C	Td Deg C	Cure Stage	THICKNESS RANGE (mils)	Flow
I-Speed	Isola	Thermoset	3.63	60	180	360	B	2.0, 2.3, 2.4, 2.6, 2.7, 3.0, 3.2, 3.4, 3.5, 3.9, 4.0, 4.1, 4.2, 4.9, 5.0, 5.3, 5.5, 5.9	FLOW
FR408HR	Isola	Thermoset	3.65	92	200	360	B	2.0, 2.3, 2.7, 3.2, 3.5, 4.0, 4.1, 4.2, 4.8, 4.9, 5.4	FLOW
IT-170GRA1	ITEQ	Thermoset Mid Loss	3.70	75	180	380	B	2.0 to 8.0	FLOW
VT-464L TS 3	VENTEC	Epoxy	3.70	75	175	390	B	1-8	FLOW
N4000-13	Neltec	Epoxy	3.70	80	210	365	B	1.5, 2.5, 3.3, 4.0, 7.0	FLOW
N4350-18	Neltec	Epoxy	3.80	70	210	365	B	5	FLOW
VT-462 (L) NF TS 4 NF	VENTEC	Epoxy	3.80	70	175	360	B	1.7-2.5	NO FLOW
VT-462 (L) TS 4	VENTEC	Epoxy	3.80	70	190	360	B	1.7-8	FLOW
VT-464 TS 2.0	VENTEC	Epoxy	3.80	95	180	390	B	1.7-8	FLOW
VT-461 TS 2.1	VENTEC	Epoxy	3.80	95	175	370	B	1.7-8	FLOW
FR406	Isola	Epoxy	3.80	160	170	300	B	1.5, 2.5, 3.3, 4.0, 7.0	FLOW
VT-464 (M) TS 1	VENTEC	Epoxy	3.90	13	160	390	B	1.7-8	FLOW
VT-47 NF	VENTEC	Phenolic Epoxy	3.90	170	170	360	B	1.7-2.5	LOW/NO FLOW
R1650V	Panasonic	Thermoset	3.90	23	173	350	B	2.0, 2.2, 2.4, 2.5, 2.6, 3.0, 3.1, 3.2, 3.5, 3.6, 3.7, 3.9, 4.1, 4.3, 4.8, 5.2, 5.5, 6.9, 7.6, 8.1	FLOW
185HR	Isola	Phenolic Epoxy	4.00	190	170	340	B	2.5, 3.2, 3.9, 4.2, 4.4, 5.1, 6.0, 7.7, 8.2	FLOW
180A	ITEQ	Thermoset	4.10	200	175	345	B	2.0 to 8.6	FLOW
370HR	Isola	Phenolic Epoxy	4.17	210	170	340	B	2.3, 2.5, 2.7, 3.0, 3.1, 3.5, 3.6, 3.8, 4.0, 4.8, 5.7, 7.3, 8.2	FLOW
VT-47	VENTEC	Phenolic Epoxy	4.27	0	FLOW	355	B	1.7-8	FLOW
VT-5A2 THERMAL PREPREGS	VENTEC	Ceramic Filled Epoxy	4.30	80	190	375	B	3,4,5	HEAVY FLOW
VT-481	VENTEC	Phenolic Epoxy	4.30	150	150	345	B	1.7-8	FLOW
FR406N	Isola	Epoxy	4.30	250	165	300	B	1.7, 2.7, 4.5	LOW FLOW
VT-4A2H THERMAL PREPREGS	VENTEC	Ceramic Filled Epoxy	5.10	140	130	380	B	3,4,5	LOW FLOW
RO3006 Bondply	Rogers	Ceramic Filled PTFE	6.15	20		500	Thermoplastic	5	LOW FLOW
RO4460G2 Bondply	Rogers	Thermoset	6.15	40	170	405	B	4	LOW FLOW
fastRise 7	Taconic	Thermoset	7.45	30	188	376	B	5.5	FLOW
RO3010 Bondply	Rogers	Ceramic Filled PTFE	10.20	22		500	Thermoplastic	5	LOW FLOW

