



N4000-13 / 13EP – Dielectric Properties Table

LAMINATE

Thickness		Tolerance	Construction				RC%	2GHz Dk			2 GHz Df			10 GHz Dk			10 GHz Df			
0.0020	±	0.0005	1	106			68%	3.30	±	0.103	0.0084	±	0.00015	3.26	±	0.110	0.0093	±	0.00016	
0.0025	±	0.0005	1	1080			57%	3.51	±	0.095	0.0081	±	0.00013	3.49	±	0.100	0.0090	±	0.00015	
0.0030	±	0.0005	1	1080			61%	3.44	±	0.106	0.0082	±	0.00015	3.41	±	0.113	0.0091	±	0.00017	
0.0032	±	0.0005	2	106			62%	3.42	±	0.093	0.0082	±	0.00013	3.39	±	0.099	0.0091	±	0.00015	
0.0035	±	0.0005	1	2113			49%	3.71	±	0.135	0.0078	±	0.00019	3.70	±	0.143	0.0087	±	0.00021	
0.0035	±	0.0005	2	106			65%	3.37	±	0.074	0.0083	±	0.00011	3.33	±	0.079	0.0092	±	0.00012	
0.0040	±	0.0005	2	106			68%	3.30	±	0.063	0.0084	±	0.00009	3.26	±	0.067	0.0093	±	0.00010	
0.0040	±	0.0005	1	2113			54%	3.58	±	0.093	0.0080	±	0.00013	3.56	±	0.098	0.0089	±	0.00015	
0.0040	±	0.0005	1	2116			44%	3.84	±	0.124	0.0076	±	0.00018	3.83	±	0.131	0.0085	±	0.00020	
0.0050	±	0.0007	1	2116			53%	3.61	±	0.089	0.0079	±	0.00013	3.59	±	0.095	0.0088	±	0.00014	
0.0050	±	0.0007	2	1080			57%	3.51	±	0.063	0.0081	±	0.00009	3.49	±	0.067	0.0090	±	0.00010	
0.0060	±	0.0007	2	1080			61%	3.44	±	0.084	0.0082	±	0.00012	3.41	±	0.089	0.0091	±	0.00013	
0.0070	±	0.001	2	2113			49%	3.71	±	0.135	0.0078	±	0.00019	3.70	±	0.143	0.0087	±	0.00021	
0.0070	±	0.001	2	1080	+	1	106	60%	3.45	±	0.067	0.0082	±	0.00010	3.42	±	0.072	0.0091	±	0.00011
0.0080	±	0.001	2	2116			44%	3.84	±	0.124	0.0076	±	0.00018	3.83	±	0.131	0.0085	±	0.00020	
0.0090	±	0.001	1	2116	+	1	2116	49%	3.71	±	0.087	0.0078	±	0.00012	3.69	±	0.092	0.0087	±	0.00014
0.0100	±	0.001	2	2116			53%	3.61	±	0.063	0.0079	±	0.00009	3.59	±	0.067	0.0088	±	0.00010	
0.0100	±	0.001	2	2116	+	1	1080	47%	3.76	±	0.038	0.0077	±	0.00005	3.74	±	0.041	0.0086	±	0.00006
0.0120	±	0.0015	3	2116			44%	3.84	±	0.124	0.0076	±	0.00018	3.83	±	0.131	0.0085	±	0.00020	
0.0120	±	0.0015	2	1080	+	1	7628	45%	3.80	±	0.128	0.0077	±	0.00018	3.79	±	0.136	0.0085	±	0.00020
0.0140	±	0.0015	2	2116	+	1	2116	50%	3.67	±	0.078	0.0079	±	0.00011	3.65	±	0.083	0.0087	±	0.00012
0.0140	±	0.0015	2	7628			39%	3.99	±	0.136	0.0074	±	0.00019	3.99	±	0.145	0.0082	±	0.00022	
0.0150	±	0.0015	3	2116			53%	3.61	±	0.063	0.0079	±	0.00009	3.59	±	0.067	0.0088	±	0.00010	



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Thickness		Tolerance	Construction				RC%	2GHz Dk			2 GHz Df			10 GHz Dk			10 GHz Df			
0.0150	±	0.0015	2	7628				42%	3.89	±	0.107	0.0075	±	0.00015	3.88	±	0.113	0.0084	±	0.00017
0.0180	±	0.0015	2	7628	+	1	2113	43%	3.85	±	0.063	0.0076	±	0.00009	3.85	±	0.067	0.0085	±	0.00010
0.0200	±	0.002	3	7628				39%	3.99	±	0.070	0.0074	±	0.00010	3.99	±	0.075	0.0082	±	0.00011
0.0220	±	0.002	2	7628	+	1	7628	41%	3.92	±	0.104	0.0075	±	0.00015	3.92	±	0.111	0.0083	±	0.00017
0.0300	±	0.002	4	7628				42%	3.89	±	0.074	0.0075	±	0.00011	3.88	±	0.078	0.0084	±	0.00012

The following laminate and prepreg items are a representative of available materials. These items and their associated values may not be regularly available and additional lead times or minimum order quantities could apply. Please contact our office or your local technical representative for assistance with choosing the best material for your design and application.

For More Information:

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PREPREG

Glass	RC%	2 GHz Dk	2GHz Df	10GHz Dk	10GHz Df	Thickness (inches)	% resin to fill fiberglass thickness	Remaining resin to glass stop (%).	Thickness at glass stop (inches)
106	75	3.19	0.0085	3.15	0.0095	0.0026	59	16	0.0013
1080	65	3.37	0.0083	3.33	0.0092	0.0034	55	10	0.0021
1080	70	3.28	0.0084	3.24	0.0094	0.0041	55	15	0.0021
2113	57	3.52	0.0081	3.50	0.0090	0.0044	41.5	9.5	0.0031
2116	51	3.65	0.0079	3.64	0.0088	0.0049	40.5	10.5	0.0037
2116	54	3.59	0.0080	3.56	0.0089	0.0054	40.5	13.5	0.0037
7628	44	3.83	0.0076	3.82	0.0085	0.0081	37	7	0.0068

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