



HF-170/PP-HF170 Line up Electrical Properties

1) CORE (HF-170)

Thickness (mil) $\pm 10\%$	Thickness (mm) $\pm 10\%$	Layup	Dk ± 0.2				Df $\pm 10\%$			
			1GHz	2GHz	5GHz	10GHz	1GHz	2GHz	5GHz	10GHz
2.0	0.051	106 \times 1	4.1	4.0	3.9	3.9	0.015	0.016	0.017	0.018
2.5	0.064	1067 \times 1	4.1	4.1	4.0	3.9	0.015	0.016	0.017	0.018
3.0	0.076	1080 \times 1	4.2	4.1	4.1	4.0	0.014	0.015	0.016	0.017
3.5	0.089	3313 \times 1	4.5	4.4	4.4	4.3	0.013	0.014	0.015	0.016
4.0	0.102	2116 \times 1	4.6	4.5	4.5	4.4	0.012	0.014	0.014	0.016
4.5	0.114	2116 \times 1	4.5	4.5	4.4	4.3	0.013	0.014	0.015	0.016
5.0	0.127	2165 \times 1	4.6	4.5	4.4	4.4	0.013	0.014	0.015	0.016
5.5	0.140	1506*1	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
6.0	0.152	1506*1	4.6	4.6	4.5	4.4	0.012	0.013	0.014	0.015
7.5	0.191	7628*1	4.6	4.6	4.5	4.5	0.012	0.013	0.014	0.015
8.0	0.203	7628*1	4.6	4.5	4.4	4.4	0.012	0.014	0.014	0.016
10.0	0.254	2165*2	4.5	4.5	4.4	4.4	0.013	0.014	0.015	0.016
12.0	0.305	1506 \times 2	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
15.0	0.381	7628*2	4.6	4.6	4.5	4.5	0.012	0.013	0.014	0.015
18.0	0.457	7628 \times 2+1080 \times 1	4.6	4.5	4.5	4.4	0.012	0.014	0.014	0.016
21.0	0.533	7628*3	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
25.0	0.635	7628*3	4.5	4.5	4.4	4.4	0.013	0.014	0.015	0.016
30.0	0.762	7628*4	4.6	4.6	4.5	4.5	0.012	0.013	0.014	0.015
35.0	0.889	7628*5	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
40.0	1.016	7628*5	4.6	4.5	4.4	4.4	0.012	0.014	0.014	0.016
47.0	1.194	7628*6	4.7	4.6	4.5	4.5	0.012	0.013	0.014	0.015
59.0	1.499	7628*8	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015



HF-170/PP-HF170 Line up

Electrical Properties

2) PREPREG (PP-HF170)

Glass style	Thickness (mil) ±10%	Thickness (mm) ±10%	RC%	Dk±0.2				Df±10%			
				1GHz	2GHz	5GHz	10GHz	1GHz	2GHz	5GHz	10GHz
106	2.00	0.051	71	4.1	4.1	4.0	3.9	0.015	0.015	0.016	0.017
	2.20	0.056	73	4.1	4.0	3.9	3.9	0.015	0.016	0.017	0.017
	2.40	0.061	75	4.0	4.0	3.9	3.8	0.016	0.016	0.017	0.017
1067	2.40	0.061	70	4.1	4.0	4.0	3.9	0.015	0.016	0.017	0.017
	2.60	0.066	72	4.0	4.0	3.9	3.9	0.016	0.016	0.017	0.017
	2.90	0.074	74	4.0	4.0	3.9	3.8	0.016	0.016	0.017	0.017
1080/1078	2.70	0.069	60	4.3	4.2	4.2	4.1	0.014	0.014	0.015	0.016
	2.90	0.074	62	4.2	4.2	4.1	4.0	0.014	0.015	0.016	0.016
	3.10	0.079	64	4.2	4.1	4.0	4.0	0.014	0.015	0.016	0.017
1086	3.40	0.086	64	4.3	4.2	4.1	4.1	0.014	0.015	0.016	0.016
	3.60	0.091	66	4.2	4.2	4.1	4.0	0.014	0.015	0.016	0.017
	3.90	0.099	68	4.2	4.2	4.1	4.0	0.014	0.015	0.016	0.017
3313	3.60	0.091	52	4.5	4.4	4.4	4.3	0.013	0.014	0.015	0.015
	3.90	0.099	55	4.4	4.4	4.3	4.3	0.013	0.014	0.015	0.015
	4.30	0.109	58	4.4	4.3	4.2	4.2	0.013	0.014	0.015	0.016
2116	4.50	0.114	50	4.5	4.4	4.4	4.3	0.013	0.014	0.015	0.015
	4.70	0.119	52	4.5	4.4	4.3	4.3	0.013	0.014	0.015	0.015
	5.00	0.127	54	4.4	4.4	4.3	4.2	0.013	0.014	0.015	0.015
2165	5.50	0.140	52	4.5	4.5	4.4	4.4	0.012	0.013	0.013	0.014
	5.90	0.150	55	4.5	4.4	4.4	4.3	0.012	0.013	0.014	0.014
	6.40	0.163	58	4.4	4.4	4.3	4.3	0.013	0.014	0.014	0.015
1506	6.70	0.170	48	4.7	4.6	4.5	4.5	0.012	0.013	0.014	0.014
	7.00	0.178	50	4.6	4.6	4.5	4.4	0.012	0.013	0.014	0.014
	7.40	0.188	52	4.6	4.5	4.4	4.4	0.012	0.013	0.014	0.015
7628	7.60	0.193	43	4.7	4.6	4.5	4.5	0.012	0.013	0.014	0.014
	7.90	0.201	45	4.6	4.5	4.5	4.4	0.012	0.013	0.014	0.015
	8.30	0.211	47	4.5	4.5	4.4	4.4	0.013	0.013	0.014	0.015