



## POLYMER SUBSTRATE - MATERIAL PROPERTIES

Material	Manufacturer	Composition	Permittivity/DC $\epsilon_r$ @ 10GHz	Loss Tangent/DF $\tan\delta$ @ 10GHz	TC W/mK	CTE ppm/K		
						X	Y	Z
AR1000	Arlon	PTFE/Woven Fiberglass Ceramic Filled	10.0	0.003	0.645	14	16	37
AP8525	Dupont/Pyralux	Polyimid	3.4	0.003	n/a	25	25	25
CER-10	Taconic	PTFE-woven fiberglass	10.0	0.0035	0.63	14	14	46
IS620	Isola	Glass Reinforced / Modified Epoxy	5.5-3.7	0.008	n/a	16	14	47
RF-35	Taconic	PTFE Glass Fiber	3.5	0.0018	0.24	19	24	64
RF-60	Taconic	PTFE-woven fiberglass	6,15	0.0028	0.43	12	12	75
RO3003	Rogers	PTFE/Ceramic	3.0	0.0013	0.5	17	17	24
RO3203	Rogers	PTFE/Ceramic Reinforced Woven Glass	3.2	0.0016	0.5	13	13	58
RO3210	Rogers	PTFE/Ceramic Reinforced Woven Glass	10.2	0.0027	0.81	13	13	34
RO4003C	Rogers	Hydrocarbon Ceramic	3.38	0.0027	0.64	11	14	46
RO4350B	Rogers	Hydrocarbon Ceramic	3.48	0.0037	0.62	14	16	50
RT/duroid 5880	Rogers	PTFE Glass Fiber	2.2	0.0009	0.2	31	48	237
RT/duroid 6010LM	Rogers	PTFE Ceramic	10.2	0.0023	0.78	24	24	24
TLC-32	Taconic	PTFE Glass Fiber	3.2	0.0029	0.24	10	10	70
TMM 4	Rogers	Hydrocarbon Ceramic	4.5	0.002	0.7	14	14	20
TMM 6	Rogers	Hydrocarbon Ceramic	6.0	0.0023	0.72	16	16	20
TMM 10	Rogers	Hydrocarbon Ceramic	9.2	0.0023	0.76	16	16	20
ULTRALAM 2000	Rogers	PTFE Woven Glass	2.4-2.6	0.0019	0.24	15	15	200

### Manufacturer Links:

Arlon: <http://www.arlon-med.com>  
 Isola: <http://www.isolaag.com>  
 Rogers Corp.: <http://www.rogerscorporation.com>  
 Taconic: <http://www.taconic-add.com>