

Insulation Materials

Material	Max. Oper Temp. C	Dielectric K @ 1MHz	Specific Gravity	Voltage Breakdown (volts/mil)
Polyvinyl Chloride (PVC)				
Conventional	105	2.7	1.38	500
Semi-rigid	80	4.3	1.38	500
Irridiated	105	2.7	1.38	500
Polyethylene (PE)				
Low-density	80	2.3	0.92	
Flame Retardant	80	2.5	1.3	
Cellular	80	1.5	0.5	
High-density	80	2.3	0.95	600
Cross-linked	150	2.5	1.26	600
Polypropylene				
Solid	90	2.3	0.91	650
Cellular	90	1.5	0.5	
Fluoropolymers				
Teflon (TFE)	260	2.1	2.15	1800
Teflon (FEP)				
Solid	200	2.1	2.15	2000
Cellular	200	1.4	1.1	
Teflon (PFA)	250	2.1	2.17	2000
Teflon (PTFE)	260	2.1	2.2	2000
Teflon (EXPTFE)	250	1.3	0.5	N/A
Tefzel (ETFE)	150	2.6	1.7	1800
Kynar (PVDF)	135	6.4	1.76	250
Halar (ECTFE)	150	2.5	1.68	490
Hypalon	90	-	1.4	
Kapton	200	2.4	1.67	
Neoprene	90	-	1.45	150-160
Nylon	105	4	1.1	
Polyester	150	2.8	1.4	
Polysulfone	130	3.1	1.24	
Polyurethane	80	-	1.12	500
Surlyn A	75	2.4	0.96	
Silicone Rubber	200	3.1	1.3	500-600
Thermoplastic Elastomer	125	2.2	0.89	



***These are given trade names, but the exact composition might not be identified. References to these materials are seen in wire and cable catalogs.

***The many different materials discussed are characterized by "typical" values in the tables and text. These values, which are based on laboratory tests, permit valuable comparisons to be made between plastic materials. The materials covered in this table are also subject to variations that are introduced when the materials are formulated. Thus, the values might vary in the. However, these comparisons are not necessarily valid under all field conditions.