

	Property	Specification (ASTM)	Unit	Material							
				PTFE	PFA	FEP	THV	ETFE	ECTFE	PVDF	PEEK
	<b>General</b>										
	Continuous service temperature	Maximum	° C	260	260	200	120	150	150	150	250
			° F	500	500	392	250	302	302	302	482
	Chemical resistance		-	Excellent	Excellent	Excellent	Good	Excellent	Good	Good	Excellent
	Density (g/cc)	D 792	-	2.15	2.15	2.15	1.97	1.73	1.70	1.78	1.32
	<b>Electrical</b>										
	Dielectric constant	D 150 at 10 <sup>3</sup> Hz	-	2.1	2.1	2.1	3.5	2.6	2.5	7.2	-
		D 150 at 10 <sup>6</sup> Hz	-	2.1	2.1	2.1	4.2	2.6	2.5	8.5	-
	Dielectric dissipation factor	D 150 at 10 <sup>3</sup> Hz	-	0.0002	0.0002	0.0001	0.12	0.0008	0.0018	0.030	-
		D 150 at 10 <sup>6</sup> Hz	-	0.0002	0.0003	0.0008	0.17	0.005	0.0012	9 x 10 <sup>-2</sup>	-
	Dielectric strength (short term) 10 mils film	D 149	Volt/mil	> 1 400	2 000	2 000	1 8	2 000	2 000	1 600	> 500
	Volume resistivity	D 257	Ohm-cm	> 10 <sup>18</sup>	> 10 <sup>18</sup>	> 10 <sup>18</sup>	> 10 <sup>15</sup>	> 10 <sup>16</sup>	> 10 <sup>15</sup>	> 10 <sup>14</sup>	> 10 <sup>16</sup>
	<b>Environmental</b>										
	Water absorption	D 570	%	< 0.01	< 0.03	< 0.01	< 0.01	< 0.03	< 0.01	< 0.04	< 0.5
	Weather resistance	-	-	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
	Oxygen index	D 2863	%	> 95	> 95	> 95	> 65	> 30	60	44	35
	Flammability	UL 94	-	V-0	V-0	V-0	V-0	V-0	V-0	V-0	V-0

	Property	Specification (ASTM)	Unit	Material							
				PTFE	PFA	FEP	THV	ETFE	ECTFE	PVDF	PEEK
	<b>Mechanical</b>										
	Tensile Strength	D 1708, D 638	psi	3 500	4 000	3 500	4 300	6 500	7 000	5 000	2 100
	Elongation	D 1708, D 638	%	300	300	300	500	200	200	150	50
	Compressive strength	D 695	psi	3 500	2 200	2 200	1 800	7 000	7 000	11 600	17 100
	Impact strength	D 256 at +23°C	Ft-Lb/in	3.5	No Break	No Break	No Break	No Break	No Break	3-6	655
	Flexural Modulus	D 790 at +23°C	psi	90 000	100 000	95 000	180 000	200 000	240 000	250 000	530 000
	Tensile Modulus	D 638	psi	80 000	40 000	50 000	30 000	120 000	240 000	200 000	520 000
	Hardness	D 2240	-	D-60	D-60	D-55	D-45	D-75	D-75	D-78	R-126
	<b>Thermal</b>										
	Melting point		° C	327	305	270	125-185	260°C	240	160	334
			° F	620	581	518	257-365	500°F	464	320	633
	Thermal conductivity	C-177	BTU/hr/ft <sup>2</sup> /°F. in	1.7	1.3	1.4	1.4	1.6	1.6	1.3	1.2
	Deflection temperature 66 psi 264 psi	D 648	° C	122 55	74 48	59 57	31-37 28-32	104 71	104 71	113	141
	Deflection temperature 66 psi 264 psi	D 648	° F	252 131	166 118	138 134	88-99 82-90	220 160	220 160	235	285