

SUMMARY OF PROPERTIES

PROPERTY	ASTM	UNITS	PTFE	FEP	PFA	ETFE	PDVF	PEEK	
Mechanical	Tensile Strength	D 1708	PSI	2,500-4,000	3,500	4,000	7,500	D 638 5,000	D 638 13,300
	Specific Gravity	D 792		2.13-2.24	2.15	2.15	1.70	1.8	1.32
	Coefficient of Friction	Dynamic (<10ft/min)		0.1	0.2	0.2	0.4	0.14 0.17	0.18
	Compressive Strength	D 695	PSI	3,500	2,200		7,100	11,600	17,100
	Impact Strength 73°F	D 256	Ft-Lb/in	3.5	No Break	No Break	No Break	3-6	655
	Flexural Modulus 73°F	D 790	PSI	27,000	95,000	95,000	200,000		530,800
	Tensile Modulus	D 638	PSI	80,000	60,000	40,000	120,000	348,000	522,100
	Hardness-Durometer	D 2240		D-50-65	D-55	D-60	D-75	D-76-80	
	Elongation	D 1708	%	200-400	300	300	100-300	D 630 150	D 638 50
	Flexural Strength	D 790	PSI	No Break	No Break	No Break	37.9 5,500	10,750	24,700
	Water Absorption	D 570	%	<0.01	<0.01	<0.03	<0.03	<0.04	<0.05
	Deformation Under Load (73°F, 1000 PSI, 24 HR)	D 621		3.5	1.8	2.0	0.6		
	Linear Coefficient of Expansion (70-212°F) (212-300°F) (300-408°F)	D 696	in/in/°F	3.8 5 x 10 ⁵ 4.2 5 x 10 ⁵ 5.0 5 x 10 ⁵	4.5-5.8 x 10 ⁵	6.7 x 10 ⁵ 9.4 x 10 ⁵ 11.1 x 10 ⁵	5.0 x 10 ⁵ 7.0 x 10 ⁵	7.1 x 10 ⁵	2.6 x 10 ⁵
	Flex Life (MIT)			>1,000,000	15,000	15,000	12,000		
	Creep Resistance	D 674	LB/Sq In			40,000			
Electrical	Dielectric Strength (Short Term) 10Mil Film	D 149	V/Mil	>1,400	>2,000	>2,000	>2,000	>1080	>500
	Volume Resistivity	D 257	ohm-cm	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	>10 ¹³	>4.9 10 ¹⁴
	Surface Resistivity	D 257	ohm/Sq	>10 ¹⁴	>10 ¹⁴	>10 ¹⁷	>10 ¹⁴		
Thermal	Continuous Service Temperature		°F	500	400	500	302	235	482
	Melting Point	DTA	°F	635-650	500-530	575-590	490-535	352	633
	Thermal Conductivity	C-177	BTU/hr/ft ² /°F.in	1.7	1.4	1.32	1.65	1.31	1.2
	Heat of Fusion		BTU/lb	29-37	11	13	20		
	Specific Heat 25°C 100°C 200°C 275°C	C-177	Cal/g/°C	0.23 0.25 0.27 0.29	0.26	0.256 0.283 0.334 0.391	0.46-0.47	.30-.34	
	Low Temperature Embrittlement		°F				-150°		
	Deflection Temperature 66 PSI 264 PSI		°F	252 131	138 134	166 118	220 160	235	285
	Heat of Combustion		BTU/lb	2,200		2,200	8,100		
Other	Flammability Rating	UL 94		VO	VO	VO	VO	VO	VO
	Retractive Index	D 542		1.35	1.338	1.35	1.40		
	Limiting Oxygen Index			>95	>95	>95	30-31		

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