

Summary of Properties, Extruded Fluoropolymers

	Property	Unit	Test of ASTM	PTFE	PFA	FEP
Physical	Melting	°C	D 4951	327	310	260
	Specific Gravity	g/ cm ³	D 792	2.13-2.20	2.17-2.17	2.15-2.17
	Water Absorption (24Hr.)	%	D 570	0.01	0.01	0.01
Mechanical	Tensile Strength	MPa	D 638	20-35	25-35	20-30
	Elongation	%	D 638	200-400	300-350	250-330
	Compressive Strength	MPa	D 695	10-15	15-20	14-19
	Impact Strength	J/m	D 256	150-160	No Break	No Break
	Bending Modulus	GPa	D 790	0.53-0.58	0.54-0.64	0.55-0.67
	Tensile Modulus	GPa	D 638	0.40-0.60	0.31-0.35	0.32-0.36
	Hardness (shure)	—	D 2240	D 50-55	D 62-66	D 60-65
	Coetticient of Dynamic Friction	(0.69MPa 3m/min)	D 1894	0.1	0.2	0.3
Thermal	Max. Service Temperature	°C	No Pressure	260	260	200
	Thermal Conductivity	W/m · K	C 177	0.23	0.19	0.20
	Specific Heat	10 ³ J/Kg · k	—	1.0	1.0	1.2
	Linear Coefficient of Expansion	10 ⁻⁵ /K(-30°C~ +30°C)	D 696	10	12	9
	Ballpressure Temperature	°C	—	180	230	170
	Deflection Temperature	°C [1.81MPa] °C [0.45MPa]	D 648	55 120	47 74	50 72
Electrical	Linear Coefficient of Expansion	Ω -cm[50%RH,23°C]	D 257	> 10 ¹⁸	> 10 ¹⁸	> 10 ¹⁸
	Dielectric Strength	MV/m [3.2mm fhickness]	D 149	19	20	22
	Dielectric Constant	[60Hz]		2.1	2.1	2.1
		[10 ³ Hz]	D 150	2.1	2.1	2.1
		[10 ⁶ Hz]		2.1	2.1	2.1
	Dielectric Dissipation Factor	[60Hz]		0.0002	0.0002	0.0002
		[10 ³ Hz]	D 151	0.0002	0.0002	0.0002
		[10 ⁶ Hz]		0.0002	0.0003	0.0005
Arc Resistance	sec	D 495	> 300	> 300	> 300	
Others	Flammability Rating	[3.2mm fhickness]	UL-94	V-0	V-0	V-0
	Limited Oxygen Index	—	D 2863	> 95	> 95	> 95
	Weather Resistance	—	—	Unaffected	Unaffected	Unaffected
	Gas Permeafility N2	cm3cm/cm2·sec·atm	D 1434	1.1X10-8	1.4X10-8	1.2X10-8
	Gas Permeafility O2	(25)		3.2X10-8	4.8X10-8	3.7X10-8

The table below lists the generally-accepted summary of electrical,mechanical and thermal Properties of fluorolymer resins.