

General properties fluoroplastics

	Property	Specification (ASTM)	Unit	Material								
				PTFE	PFA	FEP	PCTFE	THV	ETFE	ECTFE	PVDF	PEEK
General	Continuous working temp.	Maximum	°C	260	260	205	180	70-120	150	150	150	250
	Chemical resistance		-	Excellent	Excellent	Excellent	Excellent	Good	Excellent	Good	Good	Good
	Specific gravity	D 792	g/cm ³	2.14-2.20	2.15	2.15	2.1-2.16	1.97	1.73	1.70	1.78	1.30
Electrical	Dielectric constant	D 150 at 10 ³ Hz	-	2.1	2.04	2	2.3	3.5	2.6	2.5	7.2	3.1
		D 150 at 10 ⁶ Hz	-	2.1	2.04	2	2.5	4.2	2.6	2.5	8.5	-
	Dielectric dissipation factor	D 150 at 10 ³ Hz	-	0.0002	0.0002	0.0001	0.0002	0.12	0.0008	0.0018	0.030	0.004
		D 150 at 10 ⁶ Hz	-	0.0002	0.0003	0.0008	0.002	0.17	0.005	0.0012	9 x 10 ⁻²	-
	Dielectric strength	D 149	kV/mm	48	55	50	55-81	48-62	40	40	50	20
	Volume resistivity	D 257	Ohm·cm	>10 ¹⁸	>10 ¹⁸	>10 ¹⁸	>10 ¹⁸	>10 ¹⁵	>10 ¹⁶	>10 ¹⁵	>10 ¹⁴	>10 ¹⁶
Mechanical	Tensile strength	D 1708, D 638	Mpa	25	30	30	35	31	45	32	50	95
	Elongation	D 1708, D 638	%	>260	300	300	>90	500	200	200	>30	25
	Compressive strength	D 695	Mpa	24	15	15	50	12	48	48	80	120
	Impact strength	D 256 bij +23°C	J/m	No break	No break	No break	No break	No break	No break	No break	No break	No break
	Flexural Modulus	D 790 bij +23°C	Mpa	620	690	660	1400	1240	1380	1660	1660	3650
	Tensile Modulus	D 638	Mpa	550	270	350	800	200	830	1650	1380	3600
	Hardness	D 2240	-	55-72	60-65	55-60	70-90	45	63-75	70-80	73-85	98
Thermal	Melting (gel)point		°C	327	305	270	185-210	125-185	260	240	160	334
	Thermal conductivity	+23°C	W/K.m	0.25	0.25	0.25	0.19	0.202	0.24	0.13	0.11	0.25
	HDT	DIN 75	°C									
	methode A			122	74	59	120	31-37	104	104	140	182
	methode B			55	48	57	76	28-32	71	71	95	141

Actual properties may change due to processing method, compound type, extruded dimensions and other variables. It is the user's responsibility to evaluate and fully test the suitability of the product for their specific application.