

General Properties of Adtech Fluoroplastics



	Properties	DIN or ASTM Standard	Unit	PTFE*	FEP*	MFA*	PFA*	EFTE*	PVDF*
Physical	Specific Gravity	53479	g/cc	2,14-2,19	2,12-2,17	2,12-2,17	2,12-2,17	1,71-1,78	1,78
	Maximum Working Temperature		°C	260	205	240	260	150	140
	Flame Rating		UL-94	94 V-0	94 V-0	94 V-0	94 V-0	94 V-0	94 V-0
	Water Absorption	53495	%	<0,01	<0,01	<0,03	<0,03	<0,1	0,02
Mechanical	Ultimate tensile strength at 23 °C	53455		29-39	19-25	28-36	27-32	36-48	35-45
	Ultimate tensile strength at 150°C		Mpa	14-20	4-6	15-21	15-21	8-12	
	Ultimate tensile strength at 250 °C			n.kn.	n.a.	6-8	14-15	n.a.	
	Yield point at 23 °C	53455	N/mm ²	10	12	12	14	24	56
	Elongation at break, at 23 °C	53455	%	200-500	250-350	300-360	300	200-500	22
	Modulus. of elasticity in tension at 23°C	53457	N/mm ²	400-800	350-700	500-550	650	500-1200	2000
	Maximum bending stress at 23°C	53452	Mpa	18-20		13	15	25-30	50
	Flexural Modulus	53457	N/mm ²	600-800	660-680	600-650	650-700	1000-1500	1950
	Ball Hardness 132/60	53456	N/mm ²	25-30	23-29	n.kn.	25-30	34-40	120
	Rockwell hardness R	ASTM-D-785							
	Shore hardness D	53505		55-72	55-60	59	60-65	63-75	78
Coefficient of friction (dry with steel)			0,05-0,2	0,3-0,35	0,1-0,2	0,2-0,3	0,3-0,5		
Thermal	Melting temperature	ASTM 2116	°C	327	253-282	280-290	300-310	265-275	178
	Heat deflection temperature @ 18,5 Kp/sq.cm	53461	°C	50-60	51	n.kn.		71-74	
	Heat deflection temperature @ 4,6 Kp/sq.cm	ISO R 75	°C	130-140	70			104	
	Coefficient of expansion		1/K.10 ⁻⁵	10-16	8-14	12-20	10-16	8-12	13
	Thermal conductivity at 23 °C	52612	W/K.m	0,23	0,20	0,22	0,22	0,23	0,24
	Specific heat at 23 °C		Kj/Kg.K	1,01	1,17	1,09	1,09	1,95	1
	Oxygen index		%	>95	>95	>95	>95	>30	>40
Electrical	Relative permittivity at 10(3) Hz	53483		2,0-2,1	2,1	2,04-2,08	2,06-2,1	2,6	
	Relative permittivity at 10(6) Hz			2,0-2,1	2,1	2,04-2,08	2,06-2,1	2,6	
	Surface resistivity	ICE 93+167	Ohms	10 ¹⁷	10 ¹⁶	10 ¹⁷	10 ¹⁷	10 ¹⁴	>10 ¹³
	Arc resistance	ASTM 495	sec	>360	>300	>210	>210	>75	>50
	Dielectric strength	53481	KV/mm	40-80	50-80	50-80	50-80	60-90	30-60

IMPORTANT NOTE The above data is intended as a guide and is taken from resin manufacturers data.

Adtech cannot take responsibility for the accuracy of the data.

Customers must evaluate the material under the relevant conditions if the properties are critical to their applications.

*PTFE (polytetrafluoroethylene), PFA (perfluoroalkoxy), FEP (fluoroethylenepropylene), EFTE (ethylen/tetrafluoroethylene), MFA (modified fluoroalkoxy), PVDF (polyvinylidene fluoride), n.a.: not applicable, n.kn.: not known.

