

# Summary Of Properties

## Extruded Fluoropolymers

The table below lists the generally-accepted summary of electrical, mechanical and thermal properties of polymer resins from Ozone Solutions line of tubing, beading, shapes and unique wire insulators.

	PROPERTY	ASTM	UNITS	PTFE	FEP	PFA	ETFE	PVDF	PEEK	LDPE	HDPE
M E C H A N I C A L	Tensile Strength	D1708	PSI	2,500-4,000	3,500	4,000	7,500	D638 5,000	D638 13,300	D638 2,100	D638 4,500
	Specific Gravity	D792		2.13-2.24	2.15	2.15	1.70	1.8	1.32	.92-.94	.95-.97
	Coefficient of Friction	Dynamic (<10 ft/min)		0.1	0.2	0.2	0.4	0.14	0.17	0.18	
	Compressive Strength	D695	PSI	3,500	2,200		7,100	11,600	17,100	2,700-3,600	
	Impact Strength 73°F	D256	Ft-Lb/in	3.5	No Break	No Break	No Break	3-6	655	1.0	10
	Flexural Modulus 73°F	D790	PSI	27,000	95,000	95,000	200,000		530,800		100,000
	Tensile Modulus	D638	PSI	80,000	60,000	40,000	120,000	348,000	522,100	38-75	155-155
	Hardness-Durometer	D2240		D-50-65	D-55	D-60	D-75	D-76-80		D50	D64
	Elongation	D1708	%	200-400	300	300	100-300	D638 150	D638 50	D638 425	D638 7,800
	Flexural Strength	D790	PSI	No Break	No Break	No Break	37.9 5,500	10,750	24,700		
A D V A N T A G E	Water Absorption	D570	%	<0.01	<0.01	0.03	<0.03	<0.04	<0.05	<0.01	<0.01
	Deformation Under Load (73°F, 1000 PSI, 24 HR)	D621		3.5	1.8	2.0	0.6				
	Linear Coefficient of Expansion (70-212°F) (212-300°F) (300-408°F)	D696	in/in/°F	7.5x10 <sup>-5</sup> 8.5x10 <sup>-5</sup> 10.5x10 <sup>-5</sup>	4.5-5.8x10 <sup>-5</sup>	6.7x10 <sup>-5</sup> 9.4x10 <sup>-5</sup> 11.1x10 <sup>-5</sup>	5.0x10 <sup>-4</sup> 7.0x10 <sup>-4</sup>	7.1x10 <sup>-5</sup>	2.6x10 <sup>-5</sup>	In/In/°c 2x10 <sup>-4</sup>	In/In/°c 1.1x10 <sup>-5</sup>
	Flex Life (MIT)			>1,000,000	15,000	15,000	12,000				
	Creep Resistance	D674	LB/Sq In			40,000					
E L E C T R I C A L	Dielectric Strength (ShortTerm) 10Mil Film	D149	V/Mil	>1,400	>2,000	>2,000	>2,000	>1080	>500	450-1000	450-500
	Volume Resistivity	D257	ohm-cm	>10 <sup>18</sup>	>10 <sup>18</sup>	10 <sup>18</sup>	>10 <sup>16</sup>	>10 <sup>13</sup>	>4.9 10 <sup>16</sup>		
	Surface Resistivity	D257	ohm/Sq	>10 <sup>18</sup>	>10 <sup>16</sup>	10 <sup>17</sup>	>10 <sup>14</sup>				
T H E R M A L	Continuous Service Temperature		°F	500	400	500	302	235	482	190	248
	Melting Point	DTA	°F	635-650	500-530	575-590	490-535	352	633	350	370
	Thermal Conductivity	C-177	BTU/hr/ft <sup>2</sup> /°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	C-177	Cal/g/°C								
	25°C			0.23	0.26	0.256	0.46-0.47	.30-.34			
	100°C			0.25		0.283					
	200°C			0.27		0.334					
	275°C			0.29		0.391					
	Low Temperature Embrittlement		°F				-150°				
L O W T E M P E R A T U R E	Deflection Temperature 66 PSI		°F	252	138	166	220				
	264 PSI			131	134	118	160	235	285	220	340
Heat of Combustion		BTU/lb	2,200		2,200	8,100					
O T H E R	Flammability Rating	UL 94		VO	VO	VO	VO	VO	VO	VO	VO
	Retractive Index	D542		1.35	1.338	1.35	1.40				
	Limiting Oxygen Index			>95	>95	>95	30-31				