

# FEP Detailed Properties (Fluorinated Ethylene Propylene)

The table below lists a generally accepted summary of properties that we believe to be reliable. Please note that many of these resins are produced in several varieties and property characteristics may vary. Therefore, determination of resin is dependent on the application and this table is only meant to serve as a general guideline.

Properties	ASTM or Unit	FEP
<b>MECHANICAL PROPERTIES</b>		
Specific Gravity	D792	2.15
Elongation %	D638	250~330
Tensile Strength (psi)	D638	2,800~5,000
Flexural Strength (psi)	D790	no break
Compressive Strength	D695	2,200
Tensile Elastic Modulus (Young's Modulus) (psi)	D638	50,000
(psi) Flexural Modulus 103MPa (103kgf/cm <sup>2</sup> )	D790	78,000~ 92,000
	D790	0.5-0.6 (5.5-6.5)
Flex Life (MIT cycles)	D2176	5,000~ 80,000
Hardness Durometer Shore D	D636	D55
Coefficient of Friction	on steel	0.05
Abrasion Resistance 1000 revs.	Taber	14~20
Impact Strength IZOD 73°F/23°C, notched ft/lbs/in	D256	no break
<b>THERMAL PROPERTIES</b>		
Melting Point	°C (°F)	260 (500)
Upper Service Temperature(20,000h)	°C (°F)	200 (392)
Flame Rating**	UL 94	V-0
Thermal Conductivity	BTU/hr/ft <sup>2</sup> /deg F in	1.4
	cal/sec/cm <sup>2</sup> ,°C/cm	6 x 10 <sup>-4</sup>
Linear Coefficient of Thermal Expansion 10-5 °C	D696	8.3~10.5
Heat of Fusion	BTU/LB	11

Heat of Combustion	BTU/LB	2200
Low Temperature Embrittlement	°C (°F)	-268 (-450)
<b>ELECTRICAL PROPERTIES</b>		
Dielectric Constant	D150/10 <sup>3</sup> Hz	2.1
	D150/10 <sup>6</sup> Hz	2.1
Dielectric Strength 10 mil film	D149	>2000
Volume Resistivity ohm-cm	D257	>10 <sup>18</sup>
Surface Resistivity ohm/sq.	D257	>10 <sup>17</sup>
<b>GENERAL PROPERTIES</b>		
Chemical/Solvent Resistance	D543	Excellent
Water Absorption, 24h	%	<0.01
Deformation Under Load	*D621/100°C	5.0
	**D621/25°C	3.0
Refractive Index		1.338
Limiting Oxygen Index	>95	>95
Properties	ASTM or Unit	FEP

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