

Overview of materials for Fluorinated Ethylene Propylene (FEP), Molded/Extruded

Category : Polymer , Thermoplastic , Fluoropolymer , FEP , Fluorinated Ethylene Propylene (FEP), Molded/Extruded

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Fluorinated Ethylene Propylene (FEP), Molded/Extruded". Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Fluorinated-Ethylene-Propylene-FEP-MoldedExtruded.php

Physical Properties	Metric	English	Comments
Density	1.30 - 2.17 g/cc	0.0470 - 0.0784 lb/in ³	Average value: 1.94 g/cc Grade Count:15
Water Absorption	0.00400 - 0.0300 %	0.00400 - 0.0300 %	Average value: 0.0113 % Grade Count:11
Oxygen Transmission	320 cc-mm/m ² -24hr-atm	812 cc-mil/100 in ² -24hr-atm	Average value: 320 cc-mm/m ² -24hr-atm Grade Count:25
Nitrogen Transmission	104 cc-mm/m ² -24hr-atm	263 cc-mil/100 in ² -24hr-atm	Average value: 104 cc-mm/m ² -24hr-atm Grade Count:25
Viscosity	0.0100 - 8.00 cP	0.0100 - 8.00 cP	Average value: 4.10 cP Grade Count:4
	4.00e+6 - 4.00e+7 cP @Temperature 380 - 380 °C	4.00e+6 - 4.00e+7 cP @Temperature 716 - 716 °F	Average value: 2.20e+7 cP Grade Count:8
Thickness	12.7 - 5000 microns	0.500 - 197 mil	Average value: 1040 microns Grade Count:13
Linear Mold Shrinkage	0.0300 - 0.0600 cm/cm	0.0300 - 0.0600 in/in	Average value: 0.0450 cm/cm Grade Count:8
Melt Flow	0.800 - 37.0 g/10 min	0.800 - 37.0 g/10 min	Average value: 10.6 g/10 min Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	55.0 - 65.0	55.0 - 65.0	Average value: 55.7 Grade Count:11
Tensile Strength, Ultimate	18.0 - 34.0 MPa	2610 - 4930 psi	Average value: 21.5 MPa Grade Count:11
Elongation at Break	245 - 400 %	245 - 400 %	Average value: 295 % Grade Count:11
Modulus of Elasticity	0.343 - 0.700 GPa	49.7 - 102 ksi	Average value: 0.378 GPa Grade Count:11

Flexural Modulus Mechanical Properties	0.539 - 0.655 GPa Metric	78.2 - 95.0 ksi English	Average value: 0.596 GPa Grade Count:10
Compressive Yield Strength	5.00 - 15.2 MPa	725 - 2200 psi	Average value: 6.57 MPa Grade Count:9
Izod Impact, Unnotched	NB	NB	Grade Count:8
Coefficient of Friction	0.0400 - 0.350	0.0400 - 0.350	Average value: 0.0695 Grade Count:19
Coefficient of Friction, Static	0.0500	0.0500	Average value: 0.0500 Grade Count:8
Taber Abrasion, mg/1000 Cycles	6.00 - 24.0	6.00 - 24.0	Average value: 21.8 Grade Count:8

Thermal Properties	Metric	English	Comments
CTE, linear	83.0 - 135 $\mu\text{m/m-}^{\circ}\text{C}$	46.1 - 75.0 $\mu\text{in/in-}^{\circ}\text{F}$	Average value: 98.9 $\mu\text{m/m-}^{\circ}\text{C}$ Grade Count:10
Thermal Conductivity	0.190 - 0.250 W/m-K	1.32 - 1.74 BTU-in/hr- $\text{ft}^2\text{-}^{\circ}\text{F}$	Average value: 0.238 W/m-K Grade Count:11
Melting Point	245 - 275 $^{\circ}\text{C}$	473 - 527 $^{\circ}\text{F}$	Average value: 264 $^{\circ}\text{C}$ Grade Count:10
Maximum Service Temperature, Air	200 - 205 $^{\circ}\text{C}$	392 - 401 $^{\circ}\text{F}$	Average value: 201 $^{\circ}\text{C}$ Grade Count:11
Flammability, UL94	V-0	V-0	Grade Count:26
Oxygen Index	95.0 %	95.0 %	Average value: 95.0 % Grade Count:27

Optical Properties	Metric	English	Comments
Transmission, Visible	92.0 - 95.0 %	92.0 - 95.0 %	Average value: 93.5 % Grade Count:9
IR Transmittance	95.0 - 98.0 %	95.0 - 98.0 %	Average value: 96.5 % Grade Count:9
UV Transmittance	91.0 - 92.0 %	91.0 - 92.0 %	Average value: 91.5 % Grade Count:9

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+17 - 1.00e+18 ohm-cm	1.00e+17 - 1.00e+18 ohm-cm	Average value: 9.55e+17 ohm-cm Grade Count:10
Dielectric Constant	2.00 - 2.20	2.00 - 2.20	Average value: 2.10 Grade Count:27
Dielectric Strength	19.7 - 80.0 kV/mm	500 - 2030 kV/in	Average value: 33.5 kV/mm Grade Count:11
Dissipation Factor	0.0000600 - 0.000800	0.0000600 - 0.000800	Average value: 0.000251 Grade Count:26

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