

Overview of materials for Polyperfluoroalkoxyethylene (PFA), Molded/Extruded

Category : Polymer , Thermoplastic , Fluoropolymer , PFA , Polyperfluoroalkoxyethylene, Molded/Extruded

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polyperfluoroalkoxyethylene, 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-Polyperfluoroalkoxyethylene-PFA-MoldedExtruded.php

Physical Properties	Metric	English	Comments
Density	2.10 - 2.17 g/cc	0.0759 - 0.0784 lb/in ³	Average value: 2.14 g/cc Grade Count:22
Water Absorption	0.0100 - 0.0500 %	0.0100 - 0.0500 %	Average value: 0.0239 % Grade Count:18
Viscosity	1.00e+6 - 1.00e+7 cP @Temperature 380 - 380 °C	1.00e+6 - 1.00e+7 cP @Temperature 716 - 716 °F	Average value: 5.50e+6 cP Grade Count:5
Thickness	12.7 - 10000 microns	0.500 - 394 mil	Average value: 1440 microns Grade Count:15
Linear Mold Shrinkage	0.0200 - 0.0600 cm/cm	0.0200 - 0.0600 in/in	Average value: 0.0386 cm/cm Grade Count:7
Melt Flow	1.00 - 36.0 g/10 min	1.00 - 36.0 g/10 min	Average value: 12.2 g/10 min Grade Count:17

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	55.0 - 65.0	55.0 - 65.0	Average value: 60.0 Grade Count:17
Tensile Strength, Ultimate	22.0 - 39.0 MPa	3190 - 5660 psi	Average value: 31.6 MPa Grade Count:18
	7.00 - 17.0 MPa @Temperature 250 - 250 °C	1020 - 2470 psi @Temperature 482 - 482 °F	Average value: 11.0 MPa Grade Count:8
Elongation at Break	250 - 420 %	250 - 420 %	Average value: 352 % Grade Count:18
	400 - 740 % @Temperature 250 - 250 °C	400 - 740 % @Temperature 482 - 482 °F	Average value: 622 % Grade Count:9
Modulus of Elasticity	0.276 - 0.700 GPa	40.0 - 102 ksi	Average value: 0.454 GPa Grade Count:8
Flexural Modulus	0.540 - 0.700 GPa	78.3 - 102 ksi	Average value: 0.622 GPa Grade

Mechanical Properties	Metric	English	Count:17 Comments
Compressive Yield Strength	5.00 - 15.2 MPa	725 - 2200 psi	Average value: 7.11 MPa Grade Count:6
Izod Impact, Notched	100 J/cm - NB	187 ft-lb/in - NB	Grade Count:11
Izod Impact, Unnotched	NB	NB	Grade Count:5
	NB - NB	NB - NB	Grade Count:1
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	
Charpy Impact Unnotched	NB - NB	NB - NB	Grade Count:1
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	
Coefficient of Friction	0.0400 - 0.250	0.0400 - 0.250	Average value: 0.0932 Grade Count:34
Coefficient of Friction, Static	0.0500	0.0500	Average value: 0.0500 Grade Count:5
Taber Abrasion, mg/1000 Cycles	5.00 - 96.8	5.00 - 96.8	Average value: 61.0 Grade Count:15

Thermal Properties	Metric	English	Comments
CTE, linear	120 - 140 µm/m-°C	66.7 - 77.8 µin/in-°F	Average value: 126 µm/m-°C Grade Count:16
	140 - 250 µm/m-°C	77.8 - 139 µin/in-°F	Average value: 195 µm/m-°C Grade Count:1
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
Specific Heat Capacity	1.05 J/g-°C	0.250 BTU/lb-°F	Average value: 1.05 J/g-°C Grade Count:8
Thermal Conductivity	0.150 - 0.251 W/m-K	1.04 - 1.74 BTU-in/hr- ft ² -°F	Average value: 0.238 W/m-K Grade Count:11
Melting Point	300 - 315 °C	572 - 599 °F	Average value: 307 °C Grade Count:16
Maximum Service Temperature, Air	260 °C	500 °F	Average value: 260 °C Grade Count:17
Flammability, UL94	V-0	V-0	Grade Count:34
Oxygen Index	95.0 %	95.0 %	Average value: 95.0 % Grade Count:35

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: 8.94e+17 ohm-cm Grade Count:17
Surface Resistance	1.00e+17 ohm	1.00e+17 ohm	Average value: 1.00e+17 ohm Grade Count:9

Dielectric Constant Electrical Properties	1.90 - 2.12 Metric	1.90 - 2.12 English	Average value: 2.06 Grade Count:35 Comments
Dielectric Strength	19.7 - 80.0 kV/mm	500 - 2030 kV/in	Average value: 36.3 kV/mm Grade Count:9
Dissipation Factor	0.0000100 - 0.00800	0.0000100 - 0.00800	Average value: 0.000249 Grade Count:34
Arc Resistance	300 sec	300 sec	Average value: 300 sec Grade Count:8

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