

Overview of materials for Polytetrafluoroethylene (PTFE), Bronze Filled

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Bronze Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polytetrafluoroethylene (PTFE), Bronze Filled". 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-Polytetrafluoroethylene-PTFE-Bronze-Filled.php

Physical Properties	Metric	English	Comments
Density	2.28 - 4.00 g/cc	0.0824 - 0.145 lb/in ³	Average value: 3.52 g/cc Grade Count:26
Filler Content	30.0 - 60.0 %	30.0 - 60.0 %	Average value: 43.3 % Grade Count:3
Apparent Bulk Density	0.930 - 1.30 g/cc	0.0336 - 0.0470 lb/in ³	Average value: 1.06 g/cc Grade Count:3
Particle Size	40.0 - 740 µm	40.0 - 740 µm	Average value: 316 µm Grade Count:5
Linear Mold Shrinkage	0.0180 - 0.0190 cm/cm	0.0180 - 0.0190 in/in	Average value: 0.0183 cm/cm Grade Count:3

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	56.0 - 72.0	56.0 - 72.0	Average value: 63.7 Grade Count:23
Ball Indentation Hardness	36.0 - 60.0 MPa	5220 - 8700 psi	Average value: 48.6 MPa Grade Count:10
Tensile Strength, Ultimate	3.00 - 28.0 MPa	435 - 4060 psi	Average value: 17.6 MPa Grade Count:23
Tensile Strength, Yield	14.0 - 20.0 MPa	2030 - 2900 psi	Average value: 16.6 MPa Grade Count:5
Elongation at Break	3.00 - 310 %	3.00 - 310 %	Average value: 182 % Grade Count:28
Compressive Yield Strength	6.50 - 20.0 MPa	943 - 2900 psi	Average value: 11.4 MPa Grade Count:9
Izod Impact, Notched	1.08 - 1.40 J/cm	2.02 - 2.62 ft-lb/in	Average value: 1.29 J/cm Grade Count:4
Coefficient of Friction	0.0600 - 0.230	0.0600 - 0.230	Average value: 0.143 Grade Count:16
Coefficient of Friction, Static	0.0600 - 0.300	0.0600 - 0.300	Average value: 0.145 Grade Count:12
K (wear) Factor	9.00 - 32.0 x 10 ⁻⁸ mm ³ /N-M	4.47 - 15.9 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	Average value: 16.4 x 10 ⁻⁸ mm ³ /N-M Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	65.0 - 180 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	36.1 - 100 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Average value: 103 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:13
	70.0 - 130 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 30.0 - 300 $^{\circ}\text{C}$	38.9 - 72.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 86.0 - 572 $^{\circ}\text{F}$	Average value: 100 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ Grade Count:2
Thermal Conductivity	0.350 - 0.965 W/m-K	2.43 - 6.69 BTU-in/hr-ft ² - $^{\circ}\text{F}$	Average value: 0.717 W/m-K Grade Count:8
Melting Point	327 - 330 $^{\circ}\text{C}$	621 - 626 $^{\circ}\text{F}$	Average value: 327 $^{\circ}\text{C}$ Grade Count:11
Maximum Service Temperature, Air	260 - 300 $^{\circ}\text{C}$	500 - 572 $^{\circ}\text{F}$	Average value: 264 $^{\circ}\text{C}$ Grade Count:17
Minimum Service Temperature, Air	-260 - -50.0 $^{\circ}\text{C}$	-436 - -58.0 $^{\circ}\text{F}$	Average value: -161 $^{\circ}\text{C}$ Grade Count:15
Flammability, UL94	V-0	V-0	Grade Count:10

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10000 - 8.10e+16 ohm-cm	10000 - 8.10e+16 ohm-cm	Average value: 6.23e+15 ohm-cm Grade Count:13
Surface Resistance	10000 - 5.50e+16 ohm	10000 - 5.50e+16 ohm	Average value: 7.86e+15 ohm Grade Count:8

Processing Properties	Metric	English	Comments
Processing Temperature	360 $^{\circ}\text{C}$	680 $^{\circ}\text{F}$	Average value: 360 $^{\circ}\text{C}$ Grade Count:3

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