

Fluorseals PTFE Unfilled

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Molded

Material Notes:

Information provided by TEKU GmbH Fluorkunststoffe, a distributor of Fluorseals materials.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Fluorseals-PTFE-Unfilled.php

Physical Properties	Metric	English	Comments
Density	2.15 - 2.18 g/cc	0.0777 - 0.0788 lb/in ³	DIN 53479
Deformation	14 %	14 %	14 MPa, 100 h, 23 ^o C; ASTM D621-59

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	55 - 59	55 - 59	DIN 53505
Ball Indentation Hardness	27.0 - 32.0 MPa	3920 - 4640 psi	DIN 53456
Tensile Strength at Break	20.0 - 40.0 MPa	2900 - 5800 psi	ASTM 1457-69 T
Elongation at Break	250 - 500 %	250 - 500 %	ASTM 1457-69 T
Tensile Modulus	0.750 GPa	109 ksi	DIN 53457
Flexural Strength	14.0 MPa	2030 psi	3.5% Flexural Stress; DIN 53452
Compressive Strength	10.0 MPa	1450 psi	1% Yield Point; DIN 53454
	18.0 MPa	2610 psi	10% Yield Point; DIN 53454
Izod Impact, Notched (ISO)	16.0 kJ/m ²	7.61 ft-lb/in ²	DIN EN ISO 197 397
Izod Impact, Unnotched (ISO)	NB	NB	DIN EN ISO 197 397
Coefficient of Friction, Dynamic	0.23 - 0.27	0.23 - 0.27	v = 1 m/s
	0.25 - 0.28	0.25 - 0.28	v = 1.9 m/s
Abrasion	4.0	4.0	mm of depth after 5 hrs load duration; Partner Material ST 50
Torsional Stiffness	160 MPa	23200 psi	DIN 53447

Thermal Properties	Metric	English	Comments
CTE, linear	160 Âµm/m-Â°C	88.9 Âµin/in-Â°F	DIN 52328
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	

Thermal Properties	195 Âµm/m-Â°C Metric	108 Âµin/in-Â°F English	Comments DIN 52328
	@Temperature 20.0 - 200 Â°C	@Temperature 68.0 - 392 Â°F	
	250 Âµm/m-Â°C	139 Âµin/in-Â°F	
	@Temperature 20.0 - 300 Â°C	@Temperature 68.0 - 572 Â°F	DIN 52328
Specific Heat Capacity	0.960 J/g-Â°C	0.229 BTU/lb-Â°F	adiabatic calorimeter
	@Temperature 0.000 Â°C	@Temperature 32.0 Â°F	
	1.03 J/g-Â°C	0.246 BTU/lb-Â°F	adiabatic calorimeter
	@Temperature 50.0 Â°C	@Temperature 122 Â°F	
Thermal Conductivity	>= 0.500 W/m-K	>= 3.47 BTU-in/hr-ftÂ²-Â°F	DIN 52612
Melting Point	320 - 340 Â°C	608 - 644 Â°F	Melting Range; DTA
Maximum Service Temperature, Air	260 Â°C	500 Â°F	Long Term
	300 Â°C	572 Â°F	Short Term
Vicat Softening Point	110 Â°C	230 Â°F	in air; DIN 53460
Minimum Service Temperature, Air	-200 Â°C	-328 Â°F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+18 ohm-cm	1.00e+18 ohm-cm	DIN 53482
Surface Resistance	1.00e+17 ohm	1.00e+17 ohm	DIN 53482
Dielectric Constant	2.1	2.1	
	@Frequency 50.0 - 100 Hz	@Frequency 50.0 - 100 Hz	DIN 53483
Dielectric Strength	50.0 - 80.0 kV/mm	1270 - 2030 kV/in	VDE 0303 Part 2
	@Thickness 0.200 mm	@Thickness 0.00787 in	
Dissipation Factor	0.000030	0.000030	
	@Frequency 1000 Hz	@Frequency 1000 Hz	DIN 53483
	0.000050	0.000050	
	@Frequency 50 Hz	@Frequency 50 Hz	DIN 53483
	0.000070	0.000070	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	DIN 53483

Electrical Properties	Metric	English	Comments
	@Frequency 1000 - 100000 Hz, Temperature -50.0 - 200 Å°C	@Frequency 1000 - 100000 Hz, Temperature -58.0 - 392 Å°F	DIN 53483
Comparative Tracking Index	>= 600 V	>= 600 V	VDE 0303 Part 1/9.64

Descriptive Properties	Value	Comments
Bending cycles to failure	>10^6	
Heat of Combustion	4600 kJ/kg	
Incandescence resistance	Level 1	
Volume change between r.t. and melting range	27 to 28%	
Volume Change in the melting interval	5 to 8%	

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