

3M Dyneon™ PFE 191TZ High Temperature Perfluoroelastomer

Category : Polymer , Thermoset , Fluoropolymer, TS , Thermoset Fluoroelastomer

Material Notes:

3M™ Dyneon™ PFE 81TZ, PFE 131TZ and PFE 191TZ are technically advanced high temperature perfluoroelastomers (HT PFE). They are designed to meet the challenges of higher temperature applications. They are classified as FFKM per ASTM D1418. Their fully fluorinated backbone structures provide a very broad chemical and thermal stability. Features and Benefits: Upper use temperature of 315°C Can be compounded to pass AMS 7257D Ideal for dry side (thermal processes) semiconductor applications including plasma, and high temperature CPI and aerospace applications Low metal ion content with low extractables Information provided by 3M

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Dyneon-PFE-191TZ-High-Temperature-Perfluoroelastomer.php

Physical Properties	Metric	English	Comments
Density	2.00 g/cc	0.0723 lb/in³	
Mooney Viscosity	80 @Temperature 121 °C	80 @Temperature 250 °F	ML (1+10)

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	80	80	Press Cure 15 Minutes @ 188°C (370°F), Post Cure 24 Hours @ 250°C (482°F); ASTM D2240
Tensile Strength at Break	15.6 MPa	2260 psi	Press Cure 15 Minutes @ 188°C (370°F), Post Cure 24 Hours @ 250°C (482°F)
Elongation at Break	110 %	110 %	Press Cure 15 Minutes @ 188°C (370°F), Post Cure 24 Hours @ 250°C (482°F)
100% Modulus	0.0150 GPa	2.18 ksi	Press Cure 15 Minutes @ 188°C (370°F), Post Cure 24 Hours @ 250°C (482°F)
Compression Set	15 % @Temperature 232 °C, Time 252000 sec	15 % @Temperature 450 °F, Time 70.0 hour	-214 O-rings, 25% Deformation; ASTM D395 Method B
	18 % @Temperature 232 °C, Time 605000 sec	18 % @Temperature 450 °F, Time 168 hour	-214 O-rings, 25% Deformation; ASTM D395 Method B
	33 % @Temperature 300 °C, Time 252000 sec	33 % @Temperature 572 °F, Time 70.0 hour	-214 O-rings, 25% Deformation; ASTM D395 Method B
	45 %	45 %	-214 O-rings, 25% Deformation;

Mechanical Properties	Metric @Temperature 300 °C, Time 605000 sec	English @Temperature 572 °F, Time 168 hour	ASTM D395 Method B Comments
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Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	315 °C	599 °F	
Brittleness Temperature	-35.0 °C	-31.0 °F	
Transformation Temperature	-2.00 °C	28.4 °F	TR 10

Descriptive Properties	Value	Comments
Color	White	
Form	Crumb	
MH, Maximum Torque	25.6 In-lb	100 cpm, 0.5° Arc, 15 Minutes @ 188°C (370°F), ASTM D5289
ML, Minimum Torque	1.4 In-lb	100 cpm, 0.5° Arc, 15 Minutes @ 188°C (370°F), ASTM D5289
t'50, Time to 50% Cure	3.7 minutes	100 cpm, 0.5° Arc, 15 Minutes @ 188°C (370°F), ASTM D5289
t'90, Time to 90% Cure	8.3 minutes	100 cpm, 0.5° Arc, 15 Minutes @ 188°C (370°F), ASTM D5289
ts2, Time to 2 Inch-lb Rise from Minimum	2.1 minutes	100 cpm, 0.5° Arc, 15 Minutes @ 188°C (370°F), ASTM D5289

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