

3M Dyneon™ PFE 4131TZ High Temperature Perfluoroelastomer

Category : Polymer , Thermoset , Fluoropolymer, TS , Thermoset Fluoroelastomer , Rubber or Thermoset Elastomer (TSE)

Material Notes:

3M™ Dyneon™ PFE 4131TZ is an incorporated cure high temperature perfluoroelastomer (HT PFE). It is designed to meet the challenges of higher temperature applications. It is classified as FFKM per ASTM D1418. Its fully fluorinated back bone structure provides a very broad chemical and thermal stability. Features and Benefits: Incorporated cure version of PFE 131TZ Ideal for dry side (thermal processes) semiconductor applications including plasma, and high temperature CPI and aerospace applications High temperature FFKM Low metal ion content with low extractables Upper use temperature of 315°C Excellent compression set resistance Can be compounded to pass AMS 7257 Information provided by the Dyneon division of 3M.

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Dyneon-PFE-4131TZ-High-Temperature-Perfluoroelastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.00 g/cc	2.00 g/cc	
Mooney Viscosity	100 @Temperature 121 °C	100 @Temperature 250 °F	ML 1+10

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	81	81	Press cure 15 Minutes @ 188°C, Post Cure 16 Hours @ 250°C
Tensile Strength at Break	17.1 MPa	2480 psi	Press cure 15 Minutes @ 188°C, Post Cure 16 Hours @ 250°C
Elongation at Break	155 %	155 %	Press cure 15 Minutes @ 188°C, Post Cure 16 Hours @ 250°C
100% Modulus	0.0121 GPa	1.75 ksi	Press cure 15 Minutes @ 188°C, Post Cure 16 Hours @ 250°C
Compression Set	17 % @Treatment Temp. 232 °C, Time 252000 sec	17 % @Treatment Temp. 450 °F, Time 70.0 hour	Method B, -214 O-rings, Aged 70 Hours, 25% Deformation; ASTM D395
	33 % @Treatment Temp. 232 °C, Time 605000 sec	33 % @Treatment Temp. 450 °F, Time 168 hour	Method B, -214 O-rings, Aged 168 Hours, 25% Deformation; ASTM D395
	39 % @Treatment Temp. 300 °C, Time 252000 sec	39 % @Treatment Temp. 572 °F, Time 70.0 hour	Method B, -214 O-rings, Aged 70 Hours, 18% Deformation; ASTM D395
	46 %	46 %	Method B, -214 O-rings, Aged 168

Mechanical Properties	Metric	English	Comments
	@Treatment Temp. 300 °C Time 605000 sec	@Treatment Temp. 572 °F Time 168 hour	Hours, 18% Deformation; ASTM D395

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	TR10

Descriptive Properties	Value	Comments
Color	Off-White	
Form	Slab	
MH, Maximum Toque	17.6 inch-lb	100 cpm, 0.5° Arc, 12 Minutes @ 188°C
ML, Minimum Torque	0.95 inch-lb	100 cpm, 0.5° Arc, 12 Minutes @ 188°C
t2, Time to 2 Inch-lb Rise from Minimum	1.7 Minute	100 cpm, 0.5° Arc, 12 Minutes @ 188°C
t'50, Time to 50% Cure	2.9 Minutes	100 cpm, 0.5° Arc, 12 Minutes @ 188°C
t'90, Time to 90% Cure	6.0 Minutes	100 cpm, 0.5° Arc, 12 Minutes @ 188°C

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