3M Dyneon™ LTFE 6400Z Low Temperature Fluoroelastomer

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

Material Notes:

3M™ Dyneon™ Low Temperature Fluoroelastomers LTFE 6400Z are technically advanced low temperature, peroxide-cured fluoroelastomers, designated as a FKM type 3 elastomer per ASTM D1418. They are designed to meet the challenging demands of the automotive, aerospace and chemical processing industries, requiring low temperature sealing in chemically aggressive environments. LTFE 6400Z offer a unique low temperature sealing capability of TR10 = -40°C as well as broad chemical resistance.Features and Benefits:TR10 = -40°C which means true dynamic sealing capability at low temperaturesVery good chemical resistance against most chemicals such as acids, bases, fuels, oils, coolants, and alcoholsProcesses comparably to other peroxide-cured fluoroelastomersGood compression set resistance with low/no post-cureInformation provided by the Dyneon division of 3M.

Order this product through the following link:
http://www.lookpolymers.com/polymer_3M-Dyneon-LTFE-6400Z-Low-Temperature-Fluoroelastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.86 g/cc	1.86 g/cc	
Mooney Viscosity	100 @Temperature 121 °C	100 @Temperature 250 °F	ML 1+ 10

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	68	68	Press Cure 10 Minutes @ 177°C
	70	70	Post Cure 16 Hours @ 230°C
Tensile Strength at Break	11.9 MPa	1730 psi	Press Cure 10 Minutes @ 177°C
	13.3 MPa	1930 psi	Post Cure 16 Hours @ 230°C
Elongation at Break	175 %	175 %	Post Cure 16 Hours @ 230°C
	180 %	180 %	Press Cure 10 Minutes @ 177°C
100% Modulus	0.00610 GPa	0.885 ksi	Press Cure 10 Minutes @ 177°C
	0.00610 GPa	0.885 ksi	Post Cure 16 Hours @ 230°C
Compression Set	15 % @Treatment Temp. 150 °C, Time 252000 sec	15 % @Treatment Temp. 302 °F, Time 70.0 hour	Method B, -214 O-rings, Aged 70 Hours; ASTM D395
	26 % @Treatment Temp. 200 °C, Time 252000 sec	26 % @Treatment Temp. 392 °F, Time 70.0 hour	Method B, -214 O-rings, Aged 70 Hours; ASTM D395

Mechanical Properties	Metric	English	Comments
	32 % @Treatment Temp. 200 °C, Time 605000 sec	32 % @Treatment Temp. 392 °F, Time 168 hour	Method B, -214 O-rings, Aged 168 Hours; ASTM D395

Thermal Properties	Metric	English	Comments
Minimum Service Temperature, Air	-40.0 °C	-40.0 °F	TR10
Brittleness Temperature	-60.0 °C	-76.0 °F	
Glass Transition Temp, Tg	-40.0 °C	-40.0 °F	
Transformation Temperature	-40.0 °C	-40.0 °F	TR10; ASTM D1329

Optical Properties	Metric	English	Comments
Transmission, Visible	25 %	25 %	translucent, but thickness not quantified

Component Elements Properties	Metric	English	Comments
Fluorine, F	67.1 %	67.1 %	

Descriptive Properties	Value	Comments
Color	Translucent, Clear-Amber	
Form	Slab	
MH, Maximum Toque	14.0 Inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
ML, Minimum Torque	4.0 Inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
t2, Time to 2 Inch-lb Rise from Minimum	0.5 Minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
t'50, Time to 50% Cure	0.7 Minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
t'90, Time to 90% Cure	2.3 Minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C

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