

3M Dyneon™ FE 5640Q Fluoroelastomer

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

Material Notes:

3M™ Dyneon™ Fluoroelastomer FE 5640Q can be compounded using standard water cooled internal mixers or two-roll mills with standard fillers and ingredients utilized in typical fluoroelastomer formulations. The “dry” ingredients should be blended before adding to the masticated gum. For best results, Dyneon FE 5640Q should be banded on the mill several minutes prior to adding the blended dry ingredients. Once mixed, the compounded stocks have good scorch resistance and storage stability. Composition: Di-polymer of vinylidene fluoride and hexafluoropropylene High viscosity version of FE 5620Q Process targets: compression molding Improved scorch resistance at high molding temperatures Proprietary incorporated cure technology Excellent mold release Improved cure technology resulting in more consistent part size from successive molding cycles Clean running Compounds prepared from Dyneon FE 5640Q can be formulated to meet Mil-R-83248 Information provided by Dyneon, A 3M Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Dyneon-FE-5640Q-Fluoroelastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.80 g/cc	1.80 g/cc	
Mooney Viscosity	40 @Temperature 121 °C	40 @Temperature 250 °F	ML1+10

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	77	77	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C; ASTM D2240
Tensile Strength at Break	16.3 MPa	2370 psi	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
Elongation at Break	200 %	200 %	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
100% Modulus	0.00724 GPa	1.05 ksi	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
Compression Set	11 %	11 %	Aged 70 hours @ 200°C, -214 O-rings; ASTM D395 Method B

Thermal Properties	Metric	English	Comments
Transformation Temperature	-18.0 °C	-0.400 °F	TR10; ASTM D1329

Component Elements Properties	Metric	English	Comments
Fluorine, F	65.9 %	65.9 %	

Descriptive Properties	Value	Comments
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Color Descriptive Properties	Opaque Off-White Value	Comments
MH, Maximum Torque	21.7 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
MH, Maximum Torque,	24.1 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
ML, Minimum Torque	1.3 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
	1.5 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
Solubility	Ketones and Esters	
t ⁵⁰ , Time to 50% cure	0.8 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
	2.7 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
t ⁹⁰ - Time to 90% cure	1 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
	3.7 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
ts2 - Time to 2 in-lb rise from min	0.7 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
	2.1 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C

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