

3M Dyneon™ FE 5643Q Fluoroelastomer

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

Material Notes:

3M™ Dyneon™ Fluoroelastomer FE 5643Q 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, FE 5643Q 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. Faster curing version of FE 5640Q. Process target: compression molding. Improved scorch resistance over Dyneon 2000 series at high molding temperatures. Proprietary incorporated cure technology. Excellent mold release. Improved cure technology over Dyneon 2000 series resulting in more consistent part size from successive molding cycles. Clean running. Information provided by Dyneon, A 3M Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Dyneon-FE-5643Q-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	78	78	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C; ASTM D2240
Tensile Strength at Break	16.5 MPa	2400 psi	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
Elongation at Break	180 %	180 %	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
100% Modulus	0.00772 GPa	1.12 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	22 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 200°C, ASTM D5289
	24.9 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289
ML, Minimum Torque	1.3 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 200°C, ASTM D5289
	1.6 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289
Solubility	Ketones and Esters	
t`50, Time to 50% cure	0.5 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C, ASTM D5289
	1.5 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289
t`90 - Time to 90% cure	0.6 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C, ASTM D5289
	2.1 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289
ts2 - Time to 2 in-lb rise from min	0.4 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C, ASTM D5289
	1.2 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289

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