

3M Dyneon™ FE 5642 Fluoroelastomer

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

Material Notes:

3M™ Dyneon™ Fluoroelastomer FE 5642 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 5642 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

Process targets: transfer and compression molding, bonding and calendering

Improved scorch resistance at high molding temperatures

Proprietary incorporated cure technology

Excellent mold release

Targeted for bonding shaft seal applications

Clean running

Information provided by Dyneon, A 3M Company

Order this product through the following link:
http://www.lookpolymers.com/polymer_3M-Dyneon-FE-5642-Fluoroelastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.80 g/cc	1.80 g/cc	
Mooney Viscosity	42 @Temperature 121 °C	42 @Temperature 250 °F	ML1+10

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	72	72	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C; ASTM D2240
Tensile Strength at Break	17.4 MPa	2530 psi	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
Elongation at Break	230 %	230 %	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
100% Modulus	0.00490 GPa	0.710 ksi	Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C
Compression Set	17 %	17 %	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
Color	Opaque Off-White	

Descriptive Properties	Value	Comments
	18.2 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
	18.2 inch-lb	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
ML, Minimum Torque	1.2 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	0.7 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
t`50, Time to 50% cure	2.1 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
t`90 - Time to 90% cure @ 177°C -	3.3 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C
t`90 - Time to 90% cure @ 200°C - minutes	1 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
ts2 - Time to 2 in-lb rise from min	0.6 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 200°C
	1.6 minutes	100 cpm, 0.5° Arc, 6 Minutes @ 177°C

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