

3M Dyneon™ RA 5300 High Performance Rubber Additive

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

Material Notes:

3M™ Dynamar™ RA 5300 High Performance Rubber Additive is designed for use at low loadings to improve the processing in extrusion and molding operations. It utilizes unique chemistry which makes it particularly effective as a processing aid in fluoroelastomer compounds. Loadings between 0.5 and 1 PHR (parts per hundred rubber) can achieve excellent performance with minimal effect on rheological and physical properties of the overall compound. As a rubber processing additive, Dynamar RA 5300 can help improve the surface finish of FKM extrusions, deliver a higher yield and improve downstream processing. RA 5300 may also aid molding processes with improved flow, release, and tool fouling, especially at higher molding temperatures (approximately 400°F) Features and Benefits: High performance rubber additive for fluoroelastomer compounds Provides improved smoothness for FKM extrusions and improved mold release and less mold fouling for molders of FKM compounds compared to typical processing aids Delivers exceptional processing performance with limited property loss Excellent thermal stability Ideal for many FKM tube, profile, and pre-form extrusions, as well as injection and transfer molding processes Information provided by the Dyneon division of 3M.

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Dyneon-RA-5300-High-Performance-Rubber-Additive.php

Physical Properties	Metric	English	Comments
Mooney Viscosity	36.5	36.5	MS 1+60, Minimum Viscosity
	@Temperature 121 °C	@Temperature 250 °F	
	>= 60	>= 60	MS 1+60, t^s
	@Temperature 121 °C	@Temperature 250 °F	
	>= 60	>= 60	MS 1+60, t³/sup>10
	@Temperature 121 °C	@Temperature 250 °F	
	>= 60	>= 60	MS 1+60, t³/sup>18
	@Temperature 121 °C	@Temperature 250 °F	
	77.2	77.2	MS 1+60, Initial Viscosity
	@Temperature 121 °C	@Temperature 250 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	71	71	Press Cure 10 Minutes @ 350°C
	73	73	Heat Age Resistance, 70 Hour @ 270°C
	74	74	Post Cure 16 Hours @ 232°C
Tensile Strength at Break	9.45 MPa	1370 psi	Press Cure 10 Minutes @ 350°C
			Heat Age Resistance, 70 Hour @

Mechanical Properties	12.14 MPa Metric	1761 psi English	270°C Comments
	14.41 MPa	2090 psi	Post Cure 16 Hours @ 232°C
Elongation at Break	193 %	193 %	Heat Age Resistance, 70 Hour @ 270°C
	206 %	206 %	Post Cure 16 Hours @ 232°C
	266 %	266 %	Press Cure 10 Minutes @ 350°C
100% Modulus	0.00439 GPa	0.637 ksi	Press Cure 10 Minutes @ 350°C
	0.00543 GPa	0.788 ksi	Heat Age Resistance, 70 Hour @ 270°C
	0.00621 GPa	0.901 ksi	Post Cure 16 Hours @ 232°C
Compression Set	13.6 % @Treatment Temp. 200 °C, Time 252000 sec	13.6 % @Treatment Temp. 392 °F, Time 70.0 hour	-214 O-rings, Aged 70 Hours, 25% Deformation

Descriptive Properties	Value	Comments
MH, Maximum Toque	22.91 inch-lb	177°C for 12 Minutes
ML, Minimum Torque	1.35 inch-lb	177°C for 12 Minutes
t2, Time to 2 Inch-lb Rise from Minimum	2.48 Minute	177°C for 12 Minutes
t'50, Time to 50% Cure	3.04 Minutes	177°C for 12 Minutes
t'90, Time to 90% Cure	4.24 Minutes	177°C for 12 Minutes

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