

LG Chemical NBR 3280 High Acrylonitrile Polymer

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

Material Notes:

Description: NBR 3280 is a copolymer of butadiene and acrylonitrile manufactured by cold emulsion polymerization technology of Goodyear Tire and Rubber Company, USA. NBR 3280 is a non staining, high mooney viscosity, and high acrylonitrile polymer designed to aid in processing operations such as calendaring and extruding for oil and fuel service products. NBR 3280 offers high resistance to fuels, solvents, oils and gas permeation, and also it can be used for economic compound by high loading of plasticizer on compound recipe. Applications: NBR 3280 is recommended to use in industrial and automotive parts such as fuel hoses and packings. CAS No: 9003-18-3 Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-NBR-3280-High-Acrylonitrile-Polymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.990 g/cc	0.990 g/cc	
Volatiles	0.30 %	0.30 %	
Mooney Viscosity	80.5 @Temperature 100 Â°C	80.5 @Temperature 212 Â°F	ML 1+4
Ash	<= 0.50 %	<= 0.50 %	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	73 @Temperature 145 Â°C, Time 1190 sec	73 @Temperature 293 Â°F, Time 0.330 hour	Cured
	76 @Temperature 100 Â°C, Time 259000 sec	76 @Temperature 212 Â°F, Time 72.0 hour	Circulating Oven Aging
	52 @Treatment Temp. 25.0 Â°C, Time 259000 sec	52 @Treatment Temp. 77.0 Â°F, Time 72.0 hour	Aged fuel C
	74 @Treatment Temp. 100 Â°C, Time 259000 sec	74 @Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #3 Oil
	76 @Treatment Temp. 100 Â°C, Time 259000 sec	76 @Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #1 Oil

Mechanical Properties	Metric (Pa)	English (psi)	Comments
Tensile Strength at Break	@Temperature 145 Â°C, Time 1190 sec	@Temperature 293 Â°F, Time 0.330 hour	Cured
	22.5 MPa	3260 psi	Circulating Oven Aging
@Temperature 100 Â°C, Time 259000 sec	@Temperature 212 Â°F, Time 72.0 hour		
	33.7 MPa	4890 psi	cured; ASTM D412
	@Temperature 145 Â°C, Time 2990 sec	@Temperature 293 Â°F, Time 0.830 hour	
	18.0 MPa	2610 psi	Aged fuel C
	@Treatment Temp. 25.0 Â°C, Time 259000 sec	@Treatment Temp. 77.0 Â°F, Time 72.0 hour	
	22.3 MPa	3230 psi	Aged ASTM D #1 Oil
	@Treatment Temp. 100 Â°C, Time 259000 sec	@Treatment Temp. 212 Â°F, Time 72.0 hour	
	22.4 MPa	3250 psi	Aged ASTM D #3 Oil
	@Treatment Temp. 100 Â°C, Time 259000 sec	@Treatment Temp. 212 Â°F, Time 72.0 hour	
Elongation at Break	392.6 %	392.6 %	Circulating Oven Aging
	@Temperature 100 Â°C, Time 259000 sec	@Temperature 212 Â°F, Time 72.0 hour	
	420 %	420 %	Cured
	@Temperature 145 Â°C, Time 1190 sec	@Temperature 293 Â°F, Time 0.330 hour	
	532 %	532 %	cured; ASTM D412
	@Temperature 145 Â°C, Time 2990 sec	@Temperature 293 Â°F, Time 0.830 hour	
	373.2 %	373.2 %	Aged fuel C
	@Treatment Temp. 25.0 Â°C, Time 259000 sec	@Treatment Temp. 77.0 Â°F, Time 72.0 hour	
	389.3 %	389.3 %	Aged ASTM D #1 Oil
	@Treatment Temp. 100 Â°C, Time 259000 sec	@Treatment Temp. 212 Â°F, Time 72.0 hour	
	391.9 %	391.9 %	Aged ASTM D #3 Oil
	@Treatment Temp. 100	@Treatment Temp. 212	

Mechanical Properties	°C Metric Time 259000 sec	°F English Time 72.0 hour	Comments
300% Modulus	0.0175 GPa @Temperature 145 °C, Time 2990 sec	2.53 ksi @Temperature 293 °F, Time 0.830 hour	cured; ASTM D412
Rebound	41.1 % @Temperature 30.0 °C	41.1 % @Temperature 86.0 °F	
Abrasion	0.2767	0.2767	AKRON
Compression Set	17.4 % @Temperature 100 °C, Time 259000 sec	17.4 % @Temperature 212 °F, Time 72.0 hour	160°C x 30 min. Cured)

Descriptive Properties	Value	Comments
Bound AN Content	0.415	
Color	Tan	
Components	HAF (IRB#7)	40 phr, ASTM D3187
	NBR 3280	100 phr, ASTM D3187
	Stearic Acid	1 phr, ASTM D3187
	Sulfur	1.5 phr, ASTM D3187
	TBBS	0.7 phr, ASTM D3187
	ZnO	3 phr, ASTM D3187
Compound Recipe	Antioxidant(3-C)	1 phr
	Antioxidant(RD)	2 phr
	Carbon Black(SRF)	80 phr
	CZ	2 phr
	NBR 3280	100 phr
	Plasticizer(DOP)	10 phr
	Stearic Acid	1 phr
	Sulfur	0.5 phr
	TT	1 phr
	Zinc Oxide	5 phr

Descriptive Properties	Value	Comments
Rheometer	0.6 min	t ₅₀ , 160°C x 12 min, 1° Arc, MDR
	1.2 min	t'50, 160°C x 12 min, 1° Arc, MDR
	2.3 min	t'90, 160°C x 12 min, 1° Arc, MDR
	27.7 lb-in	MH, 160°C x 12 min, 1° Arc, MDR
	3.1 lb-in	ML, 160°C x 12 min, 1° Arc, MDR
Volume Swell	-0.049	Aged ASTM D #3 Oil (100°C x 72hrs)
	-0.083	Aged ASTM D #1 Oil (100°C x 72hrs)
	0.312	Aged fuel C (RT°C x 72hrs)

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