

## LG Chemical NBR 6850 High Acrylonitrile Polymer

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

### Material Notes:

Description: NBR 6850 is a copolymer of butadiene and acrylonitrile manufactured by advanced emulsion polymerization technology of Goodyear and LG Chem. NBR 6850 is a non staining, medium mooney, and medium high acrylonitrile polymer designed for easy processing, high productivity and excellent elastic properties. NBR 6850 offers very low mold fouling, fast cure, and high resilience. NBR 6850 is a high mooney version of NBR 6840. Applications: NBR 6850 is recommended to use in wide range of general purpose applications including injection molded o-rings, calendared belting, extruded hose and sponge. 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-6850-High-Acrylonitrile-Polymer.php](http://www.lookpolymers.com/polymer_LG-Chemical-NBR-6850-High-Acrylonitrile-Polymer.php)

Physical Properties	Metric	English	Comments
Specific Gravity	0.980 g/cc	0.980 g/cc	
Volatiles	0.30 %	0.30 %	
Mooney Viscosity	50 @Temperature 100 °C	50 @Temperature 212 °F	ML 1+4
Ash	<= 1.0 %	<= 1.0 %	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	71 @Temperature 145 °C, Time 1190 sec	71 @Temperature 293 °F, Time 0.330 hour	Cured
	77 @Temperature 100 °C, Time 259000 sec	77 @Temperature 212 °F, Time 72.0 hour	Circulating Oven Aging
	47 @Treatment Temp. 25.0 °C, Time 259000 sec	47 @Treatment Temp. 77.0 °F, Time 72.0 hour	Aged fuel C
	72 @Treatment Temp. 100 °C, Time 259000 sec	72 @Treatment Temp. 212 °F, Time 72.0 hour	Aged ASTM D #3 Oil
	77 @Treatment Temp. 100 °C, Time 259000 sec	77 @Treatment Temp. 212 °F, Time 72.0 hour	Aged ASTM D #1 Oil
	18.6 MPa	2700 psi	

Mechanical Properties	Metric	English	Comments
	@Temperature 145 °C, Time 1190 sec	@Temperature 293 °F, Time 0.330 hour	
	19.8 MPa	2870 psi	
	@Temperature 100 °C, Time 259000 sec	@Temperature 212 °F, Time 72.0 hour	Circulating Oven Aging
	28.9 MPa	4190 psi	
	@Temperature 145 °C, Time 2990 sec	@Temperature 293 °F, Time 0.830 hour	cured; ASTM D412
	14.0 MPa	2030 psi	
	@Treatment Temp. 25.0 °C, Time 259000 sec	@Treatment Temp. 77.0 °F, Time 72.0 hour	Aged fuel C
	19.3 MPa	2800 psi	
	@Treatment Temp. 100 °C, Time 259000 sec	@Treatment Temp. 212 °F, Time 72.0 hour	Aged ASTM D #3 Oil
	19.6 MPa	2840 psi	
	@Treatment Temp. 100 °C, Time 259000 sec	@Treatment Temp. 212 °F, Time 72.0 hour	Aged ASTM D #1 Oil
Elongation at Break	383.7 %	383.7 %	
	@Temperature 100 °C, Time 259000 sec	@Temperature 212 °F, Time 72.0 hour	Circulating Oven Aging
	406 %	406 %	
	@Temperature 145 °C, Time 1190 sec	@Temperature 293 °F, Time 0.330 hour	Cured
	492 %	492 %	
	@Temperature 145 °C, Time 2990 sec	@Temperature 293 °F, Time 0.830 hour	cured; ASTM D412
	355.3 %	355.3 %	
	@Treatment Temp. 25.0 °C, Time 259000 sec	@Treatment Temp. 77.0 °F, Time 72.0 hour	Aged fuel C
	381.1 %	381.1 %	
	@Treatment Temp. 100 °C, Time 259000 sec	@Treatment Temp. 212 °F, Time 72.0 hour	Aged ASTM D #1 Oil
	386 %	386 %	
	@Treatment Temp. 100 °C, Time 259000 sec	@Treatment Temp. 212 °F, Time 72.0 hour	Aged ASTM D #3 Oil

Mechanical Properties	Metric	English	Comments
	0.0156 GPa	2.26 ksi	
300% Modulus	@Temperature 145 °C, Time 2990 sec	@Temperature 293 °F, Time 0.830 hour	cured; ASTM D412
Rebound	49.1 %  @Temperature 30.0 °C	49.1 %  @Temperature 86.0 °F	
Abrasion	0.3265	0.3265	AKRON
Compression Set	20.4 %  @Temperature 100 °C, Time 259000 sec	20.4 %  @Temperature 212 °F, Time 72.0 hour	160°C x 30 min. Cured)

Descriptive Properties	Value	Comments
Bound AN Content	0.34	
Color	Light Tan	
Components	HAF (IRB#7)	40 phr, ASTM D3187
	NBR 6850	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 6850	100 phr
	Plasticizer(DOP)	10 phr
	Stearic Acid	1 phr
	Sulfur	0.5 phr
	TT	1 phr
	Zinc Oxide	5 phr

Rheometer

ts1, 160°C x 12 min, 1° Arc, MDR

Descriptive Properties	0.8 min Value	Comments
	1.2 min	t'50, 160°C x 12 min, 1° Arc, MDR
	1.6 min	t'90, 160°C x 12 min, 1° Arc, MDR
	2.2 lb-in	ML, 160°C x 12 min, 1° Arc, MDR
	29.4 lb-in	MH, 160°C x 12 min, 1° Arc, MDR
Volume Swell	-0.025	Aged ASTM D #3 Oil (100°C x 72hrs)
	-0.066	Aged ASTM D #1 Oil (100°C x 72hrs)
	0.421	Aged fuel C (RT°C x 72hrs)

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