

## LG Chemical NBR 6840 High Acrylonitrile Polymer

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

### Material Notes:

Description: NBR 6840 is a copolymer of butadiene and acrylonitrile manufactured by advanced emulsion polymerization technology of Goodyear and LG Chem. NBR 6840 is a non staining, medium low mooney, and medium high acrylonitrile polymer designed for easy processing, high productivity and excellent elastic properties. NBR 6840 offers very low mold fouling, fast cure, and high resilience. Applications: NBR 6840 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-6840-High-Acrylonitrile-Polymer.php](http://www.lookpolymers.com/polymer_LG-Chemical-NBR-6840-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	40 @Temperature 100 Â°C	40 @Temperature 212 Â°F	ML 1+4
Ash	<= 0.50 %	<= 0.50 %	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	70 @Temperature 145 Â°C, Time 1190 sec	70 @Temperature 293 Â°F, Time 0.330 hour	Cured
	75 @Temperature 100 Â°C, Time 259000 sec	75 @Temperature 212 Â°F, Time 72.0 hour	Circulating Oven Aging
	47 @Treatment Temp. 25.0 Â°C, Time 259000 sec	47 @Treatment Temp. 77.0 Â°F, Time 72.0 hour	Aged fuel C
	71 @Treatment Temp. 100 Â°C, Time 259000 sec	71 @Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #3 Oil
	75 @Treatment Temp. 100 Â°C, Time 259000 sec	75 @Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #1 Oil
	17.4 MPa	2520 psi	

Mechanical Properties	Metric	English	Comments
	@ Temperature 145 Â°C, Time 1190 sec	@ Temperature 293 Â°F, Time 0.330 hour	
	18.0 MPa	2610 psi	
	@Temperature 100 Â°C, Time 259000 sec	@Temperature 212 Â°F, Time 72.0 hour	Circulating Oven Aging
	28.4 MPa	4120 psi	
	@Temperature 145 Â°C, Time 2990 sec	@Temperature 293 Â°F, Time 0.830 hour	cured; ASTM D412
	13.4 MPa	1940 psi	
	@Treatment Temp. 25.0 Â°C, Time 259000 sec	@Treatment Temp. 77.0 Â°F, Time 72.0 hour	Aged fuel C
	18.0 MPa	2610 psi	
	@Treatment Temp. 100 Â°C, Time 259000 sec	@Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #3 Oil
	18.6 MPa	2700 psi	
	@Treatment Temp. 100 Â°C, Time 259000 sec	@Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #1 Oil
Elongation at Break	386.4 %	386.4 %	
	@Temperature 100 Â°C, Time 259000 sec	@Temperature 212 Â°F, Time 72.0 hour	Circulating Oven Aging
	417 %	417 %	
	@Temperature 145 Â°C, Time 1190 sec	@Temperature 293 Â°F, Time 0.330 hour	Cured
	517 %	517 %	
	@Temperature 145 Â°C, Time 2990 sec	@Temperature 293 Â°F, Time 0.830 hour	cured; ASTM D412
	371.6 %	371.6 %	
	@Treatment Temp. 25.0 Â°C, Time 259000 sec	@Treatment Temp. 77.0 Â°F, Time 72.0 hour	Aged fuel C
	394.9 %	394.9 %	
	@Treatment Temp. 100 Â°C, Time 259000 sec	@Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #1 Oil
	394.9 %	394.9 %	
	@Treatment Temp. 100 Â°C, Time 259000 sec	@Treatment Temp. 212 Â°F, Time 72.0 hour	Aged ASTM D #3 Oil

Mechanical Properties	Metric	English	Comments
300% Modulus	0.0142 GPa	2.06 ksi	
	@Temperature 145 Å°C, Time 2990 sec	@Temperature 293 Å°F, Time 0.830 hour	cured; ASTM D412
Rebound	44.3 %	44.3 %	
	@Temperature 30.0 Å°C	@Temperature 86.0 Å°F	
Abrasion	0.3439	0.3439	AKRON
Compression Set	21.2 %	21.2 %	160Å°C x 30 min. Cured)
	@Temperature 100 Å°C, Time 259000 sec	@Temperature 212 Å°F, Time 72.0 hour	

Descriptive Properties	Value	Comments
Bound AN Content	0.34	
Color	Light Tan	
Components	HAF (IRB#7)	40 phr, ASTM D3187
	NBR 6840	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 6840	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
	1.3 min	t'50, 160°C x 12 min, 1° Arc, MDR
	1.7 lb-in	ML, 160°C x 12 min, 1° Arc, MDR
	1.7 min	t'90, 160°C x 12 min, 1° Arc, MDR
	27.1 lb-in	MH, 160°C x 12 min, 1° Arc, MDR
Volume Swell	-0.029	Aged ASTM D #3 Oil (100°C x 72hrs)
	-0.068	Aged ASTM D #1 Oil (100°C x 72hrs)
	0.412	Aged fuel C (RT°C x 72hrs)

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