

Freudenberg Simrit N431 Nitrile Elastomer (NBR)

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

Material Notes:

General Purpose; Internal Lubricant. Inferior resistance to ozone, sunlight and natural aging; poor resistance to oxygenated solvents. All testing done on AS568-214 size o-rings

Order this product through the following link:

http://www.lookpolymers.com/polymer_Freudenberg-Simrit-N431-Nitrile-Elastomer-NBR.php

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	60	60	Original Properties; ASTM D2240
	50	50	ASTM Reference Fuel B Immersion, 70 hours; ASTM D2240
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
	61	61	ASTM Fuel A Immersion, 70 hours; ASTM D2240
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
	63	63	Air Aging, 70 hours; ASTM D2240
@Temperature 100 Å°C	@Temperature 212 Å°F		
63	63	ASTM IRM-903 Oil Immersion, 70 hours; ASTM D2240	
@Temperature 100 Å°C	@Temperature 212 Å°F		
64	64	Water Resistance, 70 hours; ASTM D2240	
@Temperature 100 Å°C	@Temperature 212 Å°F		
Tensile Strength, Ultimate	12.9 MPa	1870 psi	Original Properties; ASTM D412 Die C
	7.4304 MPa	1077.7 psi	ASTM Reference Fuel B Immersion, 70 hours; ASTM D412 Die C
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
	13.18 MPa	1912 psi	ASTM Fuel A Immersion, 70 hours; ASTM D412 Die C
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
	13.66 MPa	1981 psi	Air Aging, 70 hours; ASTM D412 Die C
@Temperature 100 Å°C	@Temperature 212 Å°F		
15.82 MPa	2294 psi	ASTM IRM-903 Oil Immersion, 70 hours; ASTM D412 Die C	
@Temperature 100 Å°C	@Temperature 212 Å°F		
Elongation at Break	486 %	486 %	Original Properties; ASTM D412 Die C

Mechanical Properties	Metric	English	Comments
	292 % @Temperature 23.0 Â°C	379.08 % @Temperature 73.4 Â°F	ASTM Reference Fuel B Immersion, 70 hours; ASTM D412 Die C
	379.08 % @Temperature 100 Â°C	379.08 % @Temperature 212 Â°F	Air Aging, 70 hours; ASTM D412 Die C
	448 % @Temperature 100 Â°C	448 % @Temperature 212 Â°F	ASTM IRM-903 Oil Immersion, 70 hours; ASTM D412 Die C
	476.28 % @Temperature 23.0 Â°C	476.28 % @Temperature 73.4 Â°F	ASTM Fuel A Immersion, 70 hours; ASTM D412 Die C
Compression Set	13 % @Temperature 100 Â°C, Time 79200 sec	13 % @Temperature 212 Â°F, Time 22.0 hour	ASTM D395

Descriptive Properties	Value	Comments
Volume Change (%), ASTM D471	-1.1	ASTM IRM-903 Oil Immersion, 70 hours at 100Â°C
	-1.2	ASTM Fuel A Immersion, 70 hours at 23Â°C
	17.1	ASTM Reference Fuel B Immersion, 70 hours at 23Â°C
	-4.8	Water Resistance, 70 hours at 100Â°C

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