

The O-Ring Store LLC

We make getting o-rings easy!

DATA SHEET FOR COMPOUND H70 : HNBR 70 DUROMETER



Hydrogenated nitrile is a synthetic polymer that results from the hydrogenation of nitrile rubber (NBR). Superior mechanical characteristics, particularly high strength, helps reduce extrusion and wear. Also known as highly saturated nitrile (HSN), HNBR is widely known for its physical strength and retention of properties after long-term exposure to heat, oil, and chemicals. The unique properties and higher temperature rating attributed to HNBR when compared to NBR has resulted in wide adoption of HNBR in automotive, industrial, and assorted, performance-demanding applications.

COMPOUND FEATURES

- Excellent resistance to R134a Refrigerants.
- Excellent resistance to petroleum products.
- Excellent water resistance.
- Excellent compression set resistance.
- Resistance to ethylene glycol fluids.
- Works well with silicone grease or oil lubricants.
- Good low temperature flexibility.
- Good abrasion and wear resistance.
- Good compression set.
- Good Permeation resilience.

COMPOUND LIMITATIONS

- Poor resistance to UV/sunlight, ozone, and weathering.
- Halogenated hydrocarbons.
- Poor resistance to ketones (MEK) and other strong solvents.
- Poor resistance to strong acids.
- Poor resistance to automotive and aircraft brake fluids.

TEMPERATURE RANGE

-40°F to +302°F (-40°C to +150°C)



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ORIGINAL PROPERTIES

PROPERTIES	ASTM DESIGNATION	TEST METHOD	UNIT OF MEASURE	ASTM D2000 SPECIFICATION	H70 COMPOUND PROPERTY
DUROMETER	-	-	SHORE A	70 ± 5	72
TENSILE STRENGTH			MPA	2321	2956
ELONGATION RESISTANCE			%	250	334

HEAT AGE

PROPERTIES	ASTM DESIGNATION	TEST METHOD	UNIT OF MEASURE	ASTM D2000 SPECIFICATION	H70 COMPOUND PROPERTY
DUROMETER CHANGE	A26	ASTM D573 70 HOURS @ 150° C	SHORE A	+10	+3
TENSILE STRENGTH CHANGE			%	-15	-1
ELONGATION RESISTANCE CHANGE			%	-25	-10

COMPRESSION SET

PROPERTIES	ASTM DESIGNATION	TEST METHOD	UNIT OF MEASURE	ASTM D2000 SPECIFICATION	H70 COMPOUND PROPERTY
ORIGINAL DEFLECTION	B36	ASTM D573 70 HOURS @ 150° C	%	35 MAX	16

OIL RESISTANCE - IRM 901 OIL

PROPERTIES	ASTM DESIGNATION	TEST METHOD	UNIT OF MEASURE	ASTM D2000 SPECIFICATION	H70 COMPOUND PROPERTY
DUROMETER CHANGE	EO16	ASTM D471 70 HOURS @ 150° C	SHORE A	-5 TO +10	+1
TENSILE STRENGTH CHANGE			%	-20	+10
ELONGATION RESISTANCE CHANGE			%	-30	-9
CHANGE IN VOLUME			%	-10 TO +5	-3

OIL RESISTANCE - IRM 903 OIL

PROPERTIES	ASTM DESIGNATION	TEST METHOD	UNIT OF MEASURE	ASTM D2000 SPECIFICATION	H70 COMPOUND PROPERTY
DUROMETER CHANGE	EO36	ASTM D471 70 HOURS @ 150° C	SHORE A	-15	-7
TENSILE STRENGTH CHANGE			%	-4	-5
ELONGATION RESISTANCE CHANGE			%	-30	-17
CHANGE IN VOLUME			%	+25	+10

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TR-10 LOW TEMPERATURE RESISTANCE

PROPERTIES	ASTM DESIGNATION	TEST METHOD	UNIT OF MEASURE	ASTM D2000 SPECIFICATION	H70 COMPOUND PROPERTY
BRITTLENESS	F17	ASTM D2137 A 3 MIN @ -40° C	PASS/FAIL	NON-BRITTLE	PASS

FLUID RESISTANCE - REFRIGERANT - 95% R134A , 5% PAG OIL

PROPERTIES	ASTM DESIGNATION	TEST METHOD	UNIT OF MEASURE	ASTM D2000 SPECIFICATION	H70 COMPOUND PROPERTY
DUROMETER CHANGE	Z1	168 HOURS @ 23° C	SHORE A	-	-3
TENSILE STRENGTH CHANGE			%	-	-7
ELONGATION RESISTANCE CHANGE			%	-	+9
CHANGE IN VOLUME			%	-	+4

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