

Ascend Sealing Technology Compound: N14970BL

Ascend Sealing has developed nitrile rubber (NBR) to be the most cost-effective compound, without sacrificing performance for general usage. Nitrile rubber is one of the most popular material for sealing application. We specially formulated N14970BL for good resistance to common chemicals and oils with ideal mechanical properties. As the for general purpose, N14970BL is a sulfur-cured compound with good balance between physical and chemical resistance.

Service Temperature: -30°F to 250°F (-34°C to 121°C)

Ascend Sealing provides a wide range of NBRs. For additional technical support, please contact us at customer_service@ascendsealing.com.

Compatible

- Dilute acids
- Silicone oils and greases
- Ethylene glycol
- Water to below 212°F (100°C)
- Petroleum based oils and fuels
- Aliphatic hydrocarbons
- Vegetable oils

Incompatible

- Ozone / weathering / sunlight
- Ketones
- Aromatic hydrocarbons
- Strong acids
- Esters
- Ethers
- Automotive brake fluid
- Chlorinated hydrocarbons
- Phosphate ester hydraulic fluids

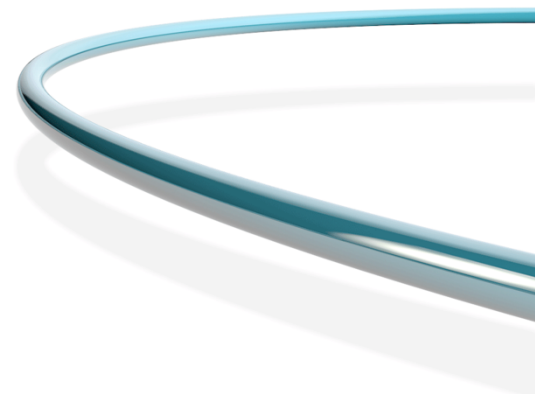
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LABORATORY REPORT

MATERIAL :	BUTADIENE ACRYLONITRILE COPOLYMER	E-07-C
COMPOUND :	N7096AA	
SPEC. :	ASTM D2000 M2BG714 A14 B14 EA14 EF11 EF21 EO14 EO34 Z1	
COLOR :	BLACK	

<u>Original Physical Properties</u>	<u>Requirements</u>	<u>Results</u>
Hardness, (Shore A) (ASTM D2240-05)	70 ± 5	72
Tensile Strength, psi(MPa) (ASTM D412-06a)	2031 (14) (min)	2506 (17.28)
Elongation, (%) (ASTM D412-06a)	250(min)	328
Modulus at 100%, psi(MPa) (ASTM D412-06a)		719 (4.96)
Specific Gravity, (g/cm ³)		1.24
<u>A14 Heat Age, 70 Hrs @ 100°C (ASTM D573-04)</u>		
Hardness Change, pts.	±15	+1
Tensile Strength Change, %	±30	0
Elongation Change, %	-50 (max)	-15
Weight Change, %		-0.7
<u>B14 Compression Set, 22 Hrs @ 100°C (ASTM D395-14, Method B)</u>	25% (button) (max)	6.0
<u>EA14 Water Resistance, 70 Hrs @ 100°C (ASTM D471-12a)</u>		
Hardness Change, pts.	±10	-4
Tensile Strength Change, %		+1
Elongation Change, %		-5
Volume Change, %	±15	+4.5
<u>EF11 ASTM Fuel A Resistance, 70 Hrs @ 23°C (ASTM D471-12a)</u>		
Hardness Change, pts.	±10	-2
Tensile Strength Change, %	-25 (max)	-6
Elongation Change, %	-25 (max)	-9
Volume Change, %	-5 ~ +10	+2.9
<u>EF21 ASTM Fuel B Resistance, 70 Hrs @ 23 °C (ASTM D471-12a)</u>		
Hardness Change, pts.	-30 ~ 0	-16
Tensile Strength Change, %	-60 (max)	-32
Elongation Change, %	-60 (max)	-31

	Volume Change, %	0 ~ +40	+24.7
		<u>Requirements</u>	<u>Results</u>
<u>EO14</u>	<u>IRM 901 Oil, 70 Hrs @ 100°C (ASTM D471-12a)</u>		
	Hardness Change, pts.	-5 ~ +10	+6
	Tensile Strength Change, %	-25 (max)	+2
	Elongation Change, %	-45 (max)	-18
	Volume Change, %	-10 ~ +5	-9.1
<u>EO34</u>	<u>IRM 903 Oil, 70 Hrs @ 100°C (ASTM D471-12a)</u>		
	Hardness Change, pts.	-10 ~ +5	-3
	Tensile Strength Change, %	-45 (max)	+3
	Elongation Change, %	-45 (max)	-9
	Volume Change, %	0 ~ +25	+0.8
<u>Z1</u>	<u>Low Temperature Retraction Test (TR Test)</u> <u>(ASTM D1329-02)</u>		
	Testing Elongation 50%		
	The Equipment of measure temperature: thermocouple		
	Length of Sample: 51 mm		
	Rate of Temperature : 1°C / min		
	Test Temperature: 26 °C		
	Coolant : Methanol		
	<u>TR10, °C</u>		-31.9
	<u>Original Physical Properties</u>	<u>Requirements</u>	<u>Results</u>
	Hardness, (Shore A) (ASTM D2240-05)	70 ± 5	72
	Tensile Strength, psi(MPa) (ASTM D412-06a)	1015 (7) (min)	1496 (10.31)
	Elongation, (%) (ASTM D412-06a)	200 (min)	274
	Modulus at 100%, psi(MPa) (ASTM D412-06a)		828 (5.71)
	Density, (Mg/m ³) (CNS 5341-96, Method A)		1.27
<u>G11</u>	<u>Tear Resistance, (ASTM D624-00)</u>	26 kN/m (Die B) (min)	32.36
<u>A25</u>	<u>Heat Age, 70 Hrs @ 125 °C (ASTM D865-99)</u>		
	Hardness Change, pts.	+10 (max)	+2
	Tensile Strength Change, %	-20 (max)	+15
	Elongation Change, %	-40 (max)	-28

	Weight Change, %			+0.1
<u>B35</u>	<u>Compression Set, 22 Hrs @ 125 °C (ASTM D395-14, Method B)</u>		70% (plied) (max)	55.5
<u>EA14</u>	<u>Water Resistance, 70 Hrs @ 100 °C (ASTM D471-12a)</u>			
	Hardness Change, pts.			0
	Tensile Strength Change, %			-12
	Elongation Change, %			-18
	Volume Change, %		± 5	+1.8
<u>F17</u>	<u>Low-Temperature Brittleness Point Test, 3 minute @ -40 °C (ASTM D2137-11, Method A)</u>			
	Sample type: T-50,			
	Coolant : Isopropyl alcohol,			
	Brittleness temperature to nearest 1°C		no-cracks	PASS
<u>Z1</u>	<u>Low Temperature Retraction Test (TR Test) (ASTM D1329-02)</u>			
	Testing Elongation 50%			
	The Equipment of measure temperature: thermocouple			
	Length of Sample: 51 mm			
	Rate of Temperature increasing: 1°C/min			
	Test Temperature: 26 °C			
	Coolant : Methanol			
	<u>TR10, °C</u>			-42.3
	<u>Original Physical Properties</u>			
	Hardness (shore A) (ASTM D2240-15)		75 ± 5	77
	Tensile Strength, psi (MPa) (ASTM D412-15a)	1450 (min)	2331 (16.08)	
	Elongation (%) (ASTM D412-15a)		175 (min)	193
	Modulus at 100%, psi (MPa) (ASTM D412-15a)		1155 (7.97)	
	Density (Mg/m ³) (CNS341-96, METHOD A)	1.85		
<u>Z1</u>	<u>Heat age, 70 Hrs @ 250 °C (ASTM D573-04)</u>			

Hardness Change, pts.

Tensile Strength Change, %

Elongation Change, %

Weight Change, %

A1-10 Compression set, 22 Hrs @ 200 °C (ASTM D395-16,Method B)

ASTM Fuel C Resistance, 70 Hrs @ 23 °C (ASTM D471-16a)

Hardness

Change,

pts.

Tensile Strength Change, %

Elongation

Change, %

B38 Volume Change, %

EF31 ASTM No. 101 Oil, 70 Hrs @ 200 °C (ASTM D471-16a)

Hardness

Change,

pts.

Tensile Strength Change, %

Elongation

Change, %

Volume Change, %

EO78 Low Temperature Retraction Test (TR Test) (ASTM D1329-08)

Testing Elongation 50%

Length of Sample: 51 mm

Rate of Temperature
increasing: 1°C / min

Test Temperature: 26 °C

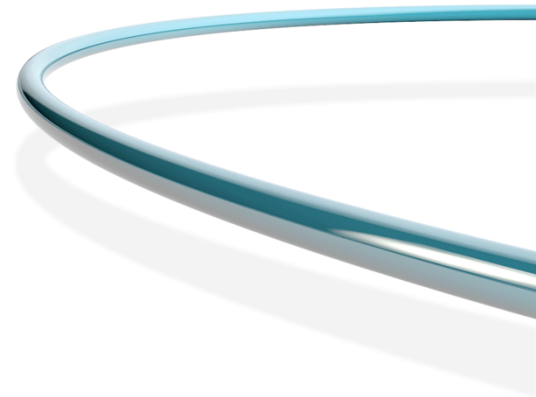
The Equipment of measure
temperature: thermocouple

Z2

TR10, °C



Statement and recommendation provided in this data sheet correspond to Ascend Sealing Technology's best knowledge on the subject at the date of its publication. The user should conduct their own analysis and testing and is solely responsible for making the final selection of the system and component. Since Ascend Sealing Technology cannot anticipate all the application parameters in actual conditions, we do not guarantee the results and assume no liability in connection with any use of this information.



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