

Compound

55904**HIGHLY SATURATED NITRILE
90 DUROMETER - BLACK COLOR
HEAT RESISTANT****PRODUCT DATA SHEET**

Compound 55904 is a 90 durometer black colored Highly Saturated Nitrile (HNBR) elastomer, it is formulated for high temperature applications. It exhibits good resistance to petroleum based oils and sour crude.

This compound will meet or exceed the specifications listed and has the following physical properties:

ASTM D2000 6 BG 915 A14 B14 B34 EO14 EO34
7 BG 915 B14 EO14 EO34 EF11 EF21 EA14 F16

M 4 BK 910 A24 B14 B34 EF11 EO14

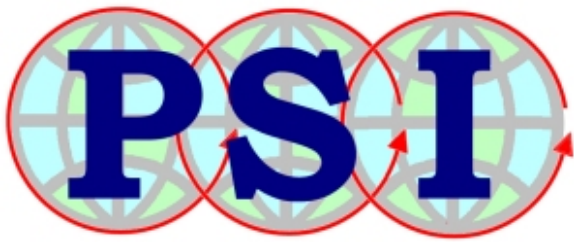
3 CH 915 A25 B14 B34 EO16 EO36
4 CH 915 A25 B14 EO15 EO35 EF31 F16
5 CH 915 A25 B14 B34 F14
6 CH 915 A25 B14 B34 EO36

4 DH 929 B36 EO16 EO36

M 4 DH 920 B36 EO16 EO36

**Original Properties**

Modulus @ 50% Elongation	1171 psi	8.1 MPa
Modulus @ 100% Elongation	2355 psi	16.2 MPa
Tensile Strength	3,107 psi	21.4 MPa
Ultimate Elongation	158 %	
Hardness, Shore A	91 Durometer	
Specific Gravity	1.22 grams/cc	
Brittleness Temperature	-35 °F	-37 °C
TR-10 Temperature	-20 °F	-29 °C
Tear Resistance, Die B	215.0 ppi	37.7 kN/m
Tear Resistance, Die C	242.0 ppi	42.4 kN/m



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Solid: 22 hrs @ 212°F (100°C)	8.4 %
Solid: 22 hrs @ 257°F (125°C)	9.1 %
Solid: 22 hrs @ 302°F (150°C)	13.2 %
Solid: 70 hrs @ 212°F (100°C)	11.4 %
Plied: 22 hrs @ 212°F (100°C)	13.0 %
Plied: 22 hrs @ 257°F (125°C)	14.0 %
Plied: 22 hrs @ 302°F (150°C)	17.9 %
Plied: 70 hrs @ 212°F (100°C)	14.2 %

HEAT AGED: 70 hrs @ 212°F (100°C)

Change - Tensile Strength	- 2.5 %
Change - Elongation	- 15.2 %
Change - Hardness, Shore A	+ 2

HEAT AGED: 70 hrs @ 257°F (125°C)

Change - Tensile Strength	+ 7.9 %
Change - Elongation	- 7.6 %
Change - Hardness, Shore A	+ 2

HEAT AGED: 70 hrs @ 302°F (150°C)

Change - Tensile Strength	+ 10.7 %
Change - Elongation	- 29.7 %
Change - Hardness, Shore A	+ 4

HEAT AGED: 70 hrs @ 212°F (100°C) Test Tube

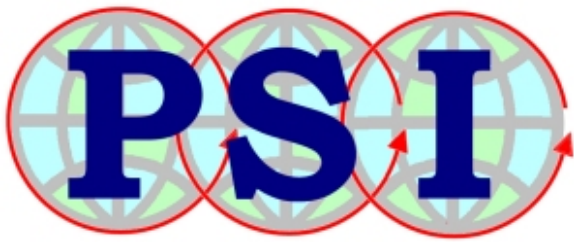
Change - Tensile Strength	- 2.5 %
Change - Elongation	- 15.2 %
Change - Hardness, Shore A	+ 2

DISTILLED WATER AGED: 70 hrs @ 212°F (100°C)

Change - Hardness, Shore A	- 1
Change - Volume	+ 1.4 %

ASTM REFERENCE FUEL A: 70 hrs @ RT (73°F, 23°C)

Change - Tensile Strength	- 7.5 %
Change - Elongation	- 5.7 %
Change - Hardness, Shore A	- 1
Change - Volume	+ 1.2 %



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Change - Tensile Strength	- 33.8 %
Change - Elongation	- 32.3 %
Change - Hardness, Shore A	- 12
Change - Volume	+ 28.6 %

ASTM REFERENCE FUEL C: 70 hrs @ RT (73°F, 23°C)

Change - Tensile Strength	- 40.1 %
Change - Elongation	- 38.6 %
Change - Hardness, Shore A	- 14
Change - Volume	+ 46.0 %

ASTM OIL #1 (IRM 901): 70 hrs @ 212°F (100°C)

Change - Tensile Strength	+ 5.2 %
Change - Elongation	- 2.5 %
Change - Hardness, Shore A	0
Change - Volume	- 2.0 %

ASTM OIL #1 (IRM 901): 70 hrs @ 257°F (125°C)

Change - Tensile Strength	+ 7.8 %
Change - Elongation	+ 0.6 %
Change - Hardness, Shore A	+ 1
Change - Volume	- 2.1 %

ASTM OIL #1 (IRM 901): 70 hrs @ 302°F (150°C)

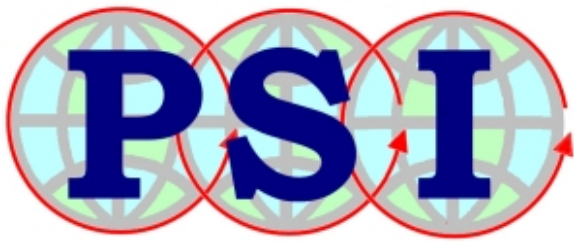
Change - Tensile Strength	+ 7.1 %
Change - Elongation	- 3.6 %
Change - Hardness, Shore A	+ 1
Change - Volume	- 2.1 %

ASTM OIL #3 (IRM 903): 70 hrs @ 212°F (100°C)

Change - Tensile Strength	+ 2.5 %
Change - Elongation	- 11.4 %
Change - Hardness, Shore A	- 4
Change - Volume	+ 8.9 %

ASTM OIL #3 (IRM 903): 70 hrs @ 257°F (125°C)

Change - Tensile Strength	- 3.9 %
Change - Elongation	- 23.4 %
Change - Hardness, Shore A	- 4
Change - Volume	+ 9.3 %



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ASTM OIL #3 (IRM 903): 70 hrs @ 302°F (150°C)

Change - Tensile Strength	- 3.7 %
Change - Elongation	- 20.3 %
Change - Hardness, Shore A	- 4
Change - Volume	+ 10.3 %