



Compound

23811**ETHYLENE PROPYLENE
BLACK COLOR - 80 DURO
ACID & ALKALI RESIST.****PRODUCT DATA SHEET**

Compound 23811 is an 80 durometer black colored EPDM elastomer, it is formulated for use with acids and alkalis with the exception of concentrated Nitric and Sulfuric acid. It exhibits excellent resistance to heat, compression set and automotive brake fluid. It will remain non brittle at very low temperatures. It also demonstrates excellent weathering and steam properties.

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

ASTM D2000 2 AA 815 A13 C12 F17 EA14

2 BA 815 C12 F17
4 BA 815 A14 C12 F17
7 BA 810 C126 CA 810 A25 B35 C32 F17 EA14
7 CA 815 A25 B35 C32 F17 F18 EA14
8 CA 815 A25 B35 C32 F19 G11 G212 DA 815 A26 B36 C32 F19 G11 G21 EA14
3 DA 815 A26 B36 C32 F19 G11 G21 EA14**Original Properties**

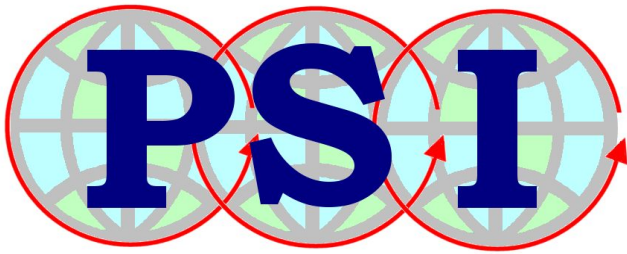
Modulus @ 100% Elongation	875 psi	6.0 MPa
Tensile Strength	2019 psi	13.9 MPa
Ultimate Elongation	221 %	
Hardness, Shore A	81 Durometer	
Specific Gravity	1.11 grams/cc	
Brittleness Temperature	< -76 °F	< -60 °C
Tear Resistance, Die B	162 ppi	28.4 kN/m
Tear Resistance, Die C	181 ppi	31.7 kN/m

Compression Set

Solid: 22 hrs @ 158°F (70°C)	6.4 %
Solid: 22 hrs @ 212°F (100°C)	8.4 %
Solid: 22 hrs @ 257°F (125°C)	5.5 %
Solid: 70 hrs @ 212°F (100°C)	7.0 %
Plied: 22 hrs @ 158°F (70°C)	8.1 %
Plied: 22 hrs @ 212°F (100°C)	10.2 %
Plied: 22 hrs @ 257°F (125°C)	11.0 %
Plied: 22 hrs @ 302°F (150°C)	14.3 %
Plied: 70 hrs @ 212°F (100°C)	9.9 %

HEAT AGED: 70 hrs @ 158°F (70°C)

Change - Tensile Strength	+ 1.7 %
Change - Elongation	- 5.9 %
Change - Hardness, Shore A	+ 2



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Change - Tensile Strength	- 2.0 %
Change - Elongation	- 7.7 %
Change - Hardness, Shore A	+ 2

HEAT AGED: 70 hrs @ 257°F (125°C)

Change - Tensile Strength	- 6.0 %
Change - Elongation	- 12.2 %
Change - Hardness, Shore A	+ 2

HEAT AGED: 70 hrs @ 302°F (150°C)

Change - Tensile Strength	+ 2.7 %
Change - Elongation	- 5.4 %
Change - Hardness, Shore A	+ 3

HEAT AGED: 70 hrs @ 257°F (125°C) Test Tube Method

Change - Tensile Strength	- 6.0 %
Change - Elongation	- 12.2 %
Change - Hardness, Shore A	+ 2

HEAT AGED: 70 hrs @ 302°F (150°C) Test Tube Method

Change - Tensile Strength	+ 2.7 %
Change - Elongation	- 5.4 %
Change - Hardness, Shore A	+ 3

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

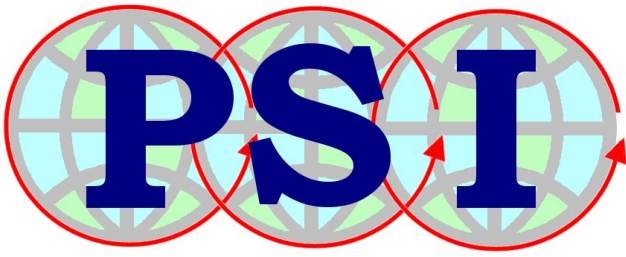
Change - Tensile Strength	- 4.5 %
Change - Elongation	- 4.1 %
Change - Hardness, Shore A	0
Change - Volume	+ 0.1 %

DOT #3 BRAKE FLUID: Aged 70 hrs @ 248°F (120°C)

Change - Tensile Strength	- 8.9 %
Change - Elongation	- 5.9 %
Change - Hardness, Shore A	- 1
Change - Volume	+ 2.1 %

DOT #5 BRAKE FLUID: Aged 70 HRS @ 248°F (120°C)

Change - Tensile Strength	- 3.7 %
Change - Elongation	- 5.9 %
Change - Hardness, Shore A	- 1
Change - Volume	+ 3.6 %



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SAE COMPATABILITY FLUID: 70 hrs @ 248°F (120°C)

Change - Tensile Strength	- 6.9 %
Change - Elongation	- 2.3 %
Change - Hardness, Shore A	- 2
Change - Volume	+ 1.6 %

HYDROCHLORIC ACID: Aged 70 hrs @ RT (70°F, 23°C)

Change - Tensile Strength	+ 6.0 %
Change - Elongation	+ 1.8 %
Change - Hardness, Shore A	0
Change - Volume	+ 3.1 %

METHANOL: Aged 70 hrs @ RT (73°F, 23°C)

Change - Tensile Strength	- 5.0 %
Change - Elongation	- 4.1 %
Change - Hardness, Shore A	- 1
Change - Volume	+ 0.3 %

METHYL ETHYL KETONE: Aged 70 hrs @ RT (70°F, 23°C)

Change - Tensile Strength	- 19.9 %
Change - Elongation	- 17.6 %
Change - Hardness, Shore A	- 5
Change - Volume	+ 11.3 %

NITRIC ACID: Aged 70 hrs @ RT (70°F, 23°C)

Change - Tensile Strength	- 9.1 %
Change - Elongation	+ 4.1 %
Change - Hardness, Shore A	- 1
Change - Volume	+ 7.3 %

SODIUM HYDROXIDE: Aged 70 HRS @ RT (73°F, 23°C)

Change - Tensile Strength	- 7.9 %
Change - Elongation	- 10.9 %
Change - Hardness, Shore A	0
Change - Volume	+ 0.3 %