Request a Quote

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Marco Compound # N1027

70 Durometer, Black, Low Temperature Resistance Neoprene for Freon Applications
Technical Datasheet

Common Names:
Neoprene, Chloroprene, CR

General Description:
Neoprene was the first synthetic rubber developed commercially and exhibits generally good ozone, aging and chemical resistance. Marco compound N1027 is formulated to resist many refrigerants including Freon based chemicals. Neoprene rubbers contain Chlorine in the polymer to reduce the reactivity to many oxidizing agents, as well as to oil and flame. Neoprenes have good abrasion and tear resistance and are suitable for use in heating and air conditioning systems (HVAC), refrigeration units and numerous dynamic applications. Please contact engineering@marcorubber.com for assistance in selecting a specialized compound when increased resistance to temperature, lubricants, or physical properties is required.

Features:
- Compatible with many Freon based and other refrigerants
- Excellent resistance to paraffin base mineral oil with low DPI, e.g. ASTM oil No. 1
- Good/Excellent resistance to silicone oil and grease, water and water solvents at low temperatures, ammonia, and carbon dioxide
- Improved ozone, weathering and aging resistance compared with nitrile rubber.

Limitations:
- Aromatic hydrocarbons (benzene)
- Chlorinated hydrocarbons (trichloroethylene)
- Polar solvents (ketones, esters, ethers, acetones).

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Service Temperature:
-67 to 250° F (-55 to 121°C)

PHYSICAL PROPERTY STANDARDS

ORIGINAL PROPERTIES	Typical Test Results
Hardness, Shore A	70 ± 5
Color	Black
Tensile Strength, MPa (psi)	12.8 (1861)
Ultimate Elongation, %	250
Modulus @ 100% Elongation, MPa	3.6
TR-10, °C	-42
Specific Gravity	1.42

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COMPRESSION SET – % Permanent Set	**Typical Test Results**
22 hrs. @ 100°C	9.6
70 hrs. @ 100°C	17.4

HEAT AGING, DRY AIR - 70 hrs. @ 100°C	**Typical Test Results**
Tensile Strength Change, %	+6.0
Elongation Change, %	-10.0
Hardness Change, Pts Shore A	+6

FLUID IMMERSION, DISTILLED WATER – 70 hrs. @ 150°C	**Typical Test Results**
Hardness Change, Pts Shore A	-1
Volume Change, %	+8.1

FLUID IMMERSION, ASTM OIL #1 (IRM 901) – 70 hrs. @ 100°C	**Typical Test Results**
Tensile Strength Change, %	+4.3
Elongation Change, %	-10.0
Hardness Change, Pts Shore A	+1
Volume Change, %	-4.7

FLUID IMMERSION, ASTM OIL #3 (IRM 903) – 70 hrs. @ 100°C	**Typical Test Results**
Tensile Strength Change, %	-27.3
Elongation Change, %	-24.8
Hardness Change, Pts Shore A	-16
Volume Change, %	+43.1