



# GLOBAL O-RING AND SEAL, LLC

## Compound C70

### Chloroprene Rubber (CR)

#### Material Description

Chloroprene (CR), also known by its trade name “Neoprene”, was one of the first successful synthetic elastomers in 1931 made by Dupont. It is prepared by emulsion polymerization of chloroprene, or 2-chlorobutadiene. CR is a multi-purposed elastomer which yields a balanced combination of properties. It performs well in contact with oils and many chemicals and has good resistance to sun, ozone and weather. It also displays outstanding toughness and good resistance to fire.

#### Cure system: Sulfur-cured

Standard CRs are metal oxides and organic accelerators.

#### Other Common Variations

- CR has been used in thousands of diverse environments, including the automotive, wire and cable industries.
- CR is most often used in air condition systems, especially old refrigerated media like R12 or R22 and lubricants with mineral oils.

#### GENERAL INFORMATION

ASTM D1418 Designation	CR
ISO/DIN 1629 Designation	CR
ASTM D2000/SAE J 200 Codes	BC, BE
Standard Color	Black
Hardness Range	30 to 90 Shore A
Relative Cost	Low

#### SERVICE TEMPERATURES

Standard Low Temperature	-40°C (-40°F)
Standard High Temperature	100°C (212°F)
Special Compound Low Temperature	-55°C (-67°F)
Special Compound High Temperature	125°C (257°F)

#### PERFORMS WELL IN:

- Refrigerants
- Ammonia
- Water
- Silicone grease and oils
- High aniline point mineral oil

#### DOESN'T PERFORM WELL IN:

- Aromatic hydrocarbons
- Ketones
- Esters
- Ethers
- Strong oxidizing acids
- Chlorinated hydrocarbons

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<b>TEST REPORT FOR COMPOUND C70</b> MATERIAL: NEOPRENE DUROMETER: 70 COLOR: BLACK ASTM* D2000 M2BC710 A14 C12 F17 Z1 Z2				
SECTION OF	PROPERTIES	REQUIREMENTS	RESULTS	ASTM TEST
	<b>ORIGINAL PHYSICAL PROPERTIES</b>			
	Hardness, Shore A	70±5	70	D2240-04
	Tensile Strength, psi (MPa)	1450 (min.)	2269 (15.65)	D412-98a
	Elongation, percent	250 (min.)	282	D412-98a
	Modulus at 100%, psi (MPa)		652 (4.50)	D412-98a
	Specific Gravity (g/cm <sup>3</sup> )		1.388	
A14	<b>HEAT AGE</b>			
	<b>70 hours at 100°C (212°F)</b>			
	Hardness Change, points	+15 (max.)	+9	D573-04
	Tensile Strength Change, percent	-15 (max.)	-1	
	Elongation Change, percent	-40 (max.)	-9	
	Weight Change, percent		-2.8	
Z1	<b>COMPRESSION SET</b>			
	<b>70 hours at 100°C (212°F), percent</b>			
		35 (button) (max.)	33.2	D395-03, Method B
C12	<b>OZONE RESISTANCE</b>			
	<b>50 ppm, 70 hours at 40°C (104°F)</b>			
		No crack	Pass	D1171-99
F17	<b>LOW-TEMPERATURE BRITTLINESS POINT</b>			
	<b>3 minutes at -40°C (-40°F)</b>			
	Sample type: T-50			D2137-94, Method A
	Coolant : Methanol			
	Brittleness temperature to nearest 1°C (1°F)	No crack	Pass	

\*American Society for Testing and Materials

