



1. Material Description

Material Name: Neoprene (CR) - Chloroprene Rubber	Polymer Type: Synthetic Elastomer
Polymer Class (ASTM D1418): CR	CAS Number (General): 9010-98-4

Material Overview: Neoprene (Chloroprene Rubber) is a versatile elastomer known for its **balanced properties** including **moderate oil resistance, excellent weather and ozone resistance, and good mechanical strength**. It is widely used for **general-purpose sealing applications** in industrial, marine, and construction environments.

2. Types Available

- **General-Purpose CR:** Balanced mechanical and environmental properties
- **Oil-Resistant CR Grades:** Improved resistance to petroleum-based fluids
- **Weather-Resistant Grades:** Enhanced ozone, UV, and aging resistance
- **Fire-Retardant Grades:** Self-extinguishing formulations for safety-critical use

3. Typical Physical & Mechanical Properties

Property	Range / Typical Values
Hardness (Shore A)	40 – 90
Tensile Strength	7 – 21 MPa
Elongation at Break	200 – 600%
Compression Set (100°C / 70h)	≤ 30%
Specific Gravity	1.23 – 1.50
Tear Resistance	Moderate (20 – 40 kN/m)
Abrasion Resistance	Good
Rebound Resilience	Medium

4. Thermal Performance

Property	Range / Typical Value
Continuous Service Temperature	-35°C to +120°C
Intermittent Service Temperature	Up to +135°C
Brittle Point	-40°C (depending on compound)
Decomposition Point	> 200°C

5. Chemical Resistance

Excellent Resistance To:

- Weathering, ozone, UV, and sunlight
- Moderate resistance to oils and greases
- Refrigerants (ammonia, Freon®)
- Dilute acids and alkalis
- Water and seawater

**Limited / Not Recommended For:**

- Aromatic and oxygenated solvents (benzene, ketones)
- Strong acids and concentrated oxidizing agents
- Hydrocarbons (petrol, diesel, kerosene in long-term exposure)

6. Applications

- **Automotive & Transportation:** Hoses, belts, gaskets, and vibration mounts
- **Construction & Civil:** Bridge bearings, seals, vibration pads, roofing membranes
- **Marine Industry:** Seawater-resistant gaskets, dock bumpers, marine seals
- **Industrial Equipment:** Conveyor belts, shock absorbers, hoses, and O-rings
- **Electrical:** Cable jackets and insulating sleeves

7. Raw Rubber & Compound Details

- **Raw Material Brands:** Denka®, DuPont®, Tosoh®
- **Cure System:** Sulfur or metal oxide cured (depending on application)
- **Fillers & Additives:** Carbon black, silica, anti-aging agents, optional pigments
- **Form Available:** Molded seals, extruded profiles, hoses, coated fabrics

8. Processing Guidelines

- **Molding Temperature:** 150 – 180°C
- **Post Cure Required:** Generally not required, but optional for enhanced stability
- **Storage Conditions:** Store in a cool, dry environment away from sunlight and ozone sources
- **Shelf Life:** Typically 5 – 10 years (as per ISO 2230)

9. Colour Characteristics

Colour	Meaning / Use
Black	Standard industrial use
Grey	Often used in marine applications
White	Limited use in specialty applications
Custom Colours	Available upon request

10. Disclaimer

The information provided above is based on current technical knowledge and industry references. It does not represent a guarantee of performance. Final suitability should always be tested under actual service conditions.