



## 1. Material Description:

<b>Material Name:</b> EPDM (Ethylene Propylene Diene Monomer Rubber)	<b>Polymer Type:</b> Synthetic Elastomer
<b>Polymer Class (ASTM D1418):</b> EPDM	<b>CAS Number (General):</b> 25038-36-2

EPDM is a non-polar, chemically stable synthetic rubber well-known for its **exceptional resistance to weathering, ozone, UV, steam, and water** providing outstanding durability in outdoor and high humidity environments making it ideal for Construction, Automotive and Industrial Applications.

## 2. Types Available:

- **Sulfur-Cured EPDM:** Standard general-purpose, economical
- **Peroxide-Cured EPDM:** Higher heat resistance, lower compression set
- **FDA-Grade EPDM:** Non-toxic, suitable for food and pharma contact
- **Flame-Retardant EPDM:** With additives for improved fire resistance

## 3. Typical Physical & Mechanical Properties:

Property	Range / Typical Values
Hardness (Shore A)	40 – 90
Tensile Strength	7 – 14 MPa
Elongation at Break	250% – 600%
Compression Set (125°C / 22h)	≤ 25%
Specific Gravity	1.10 – 1.40
Tear Resistance	15 – 40 kN/m
Abrasion Resistance	Good
Rebound Resilience	Moderate
Water Absorption	< 1%
Brittleness Point	-55°C to -60°C

## 4. Thermal Performance:

Property	Range / Typical Values
Continuous Service Temperature	-40°C to +130°C (up to 150°C for peroxide-cured)
Intermittent Temperature Exposure	Up to 160°C (Peroxide-cured)
Decomposition Point	> 200°C
Post-Cure Required	Not typically required

## 5. Chemical Resistance:

Excellent Resistance To:	Limited Resistance / Not Recommended For:
Water, steam	Petroleum-based oils and fuels
Alcohols, ketones	Aromatic and aliphatic hydrocarbons



# ELPLASTO INNOVATIONS

CONNECTING LINKS SMOOTHLY

Diluted acids and alkalis	Strong acids (e.g., nitric, sulfuric)
Brake fluids (glycol-based)	Chlorinated solvents (e.g., trichloroethylene)
Phosphate esters	
Ozone, UV, and weather exposure	

## 6. Applications:

EPDM is widely used for its long service life, chemical stability, and flexibility:

- **Automotive:** Weatherstrips, radiator hoses, seals, window gaskets
- **Construction:** Roofing membranes, window/door profiles
- **Industrial:** Gaskets, seals, steam hoses, electrical insulation
- **Consumer:** Washing machine parts, pool components, solar tubing
- **Pharma/Food:** White/blue FDA-compliant grades for hygienic environments

## 7. Raw Rubber & Compound Details:

- **Cure System:** Sulfur or Peroxide (based on application)
- **Fillers & Additives:** Carbon black, silica, fire retardants, UV stabilizers
- **Form Available:**
  - Extruded profiles, cords, gaskets
  - Molded parts (O-rings, sealing plugs, diaphragms)
  - Sponge profiles (closed-cell)

## 8. Curing System Differences:

Property	Sulfur Cured	Peroxide Cured
Heat Resistance	Up to 130°C	Up to 150°C
Compression Set	Higher	Lower
Weather / Ozone Resistance	Very good	Excellent
Crosslink Stability	Moderate	Superior
Use Case	General-purpose	Automotive, industrial seals

## 8. Processing Guidelines:

- **Storage Conditions:** Cool, dry area; avoid sunlight and ozone exposure
- **Shelf Life:** 5 – 10 years as per ISO 2230

## 9. Customization Options by Elplasto Innovations:

- Custom hardness: 45 – 85 Shore A
- Color matching for aesthetic applications
- Flame-retardant and FDA-grade EPDM on request
- Fabric or metal-insert reinforced profiles

**10. Disclaimer:** The above information is based on our current knowledge and is provided in good faith. It does not constitute a legally binding guarantee. Suitability and performance must be confirmed by the user under actual service conditions.