



HANNA RUBBER COMPANY

# Types of Rubber

## Butyl Rubber

**Butyl rubber, also known as Isobutylene-isoprene rubber (IIR), is a synthetic elastomer made primarily from the copolymerization of isobutylene and a small percentage of isoprene. It was first developed in the 1940s and has since become a popular material in various industries due to its unique physical properties.**

### **Physical properties of butyl sheet rubber include:**

**Low Permeability:** Butyl rubber has exceptionally low gas and moisture permeability, making it an ideal material for seals, gaskets, and other applications where airtight or watertight barriers are required.

**Resistance to Aging and Weathering:** Butyl rubber has excellent resistance to aging, oxidation, sunlight, and ozone, which contributes to its long service life in outdoor or harsh environments.

**Thermal Stability:** Butyl rubber has good thermal stability, with a wide temperature range for functionality. It remains flexible and retains its properties at low temperatures, typically around  $-40^{\circ}\text{C}$  to  $-60^{\circ}\text{C}$ , and can withstand heat up to around  $130^{\circ}\text{C}$ .

**Chemical Resistance:** Butyl rubber exhibits excellent resistance to many chemicals, including acids, alkalis, and polar solvents. However, it is less resistant to hydrocarbon solvents, oils, and fuels.

**Electrical Insulation:** Butyl rubber has good electrical insulating properties, making it suitable for applications in electrical and electronic industries.

**Vibration Damping and Shock Absorption:** Butyl rubber has excellent vibration damping and shock-absorbing characteristics, making it ideal for use in automotive, construction, and machinery applications where vibration or shock control is needed.

**Low Resilience:** One of the drawbacks of butyl rubber is its low resilience, which means it does not return to its original shape quickly after being deformed. This can result in lower performance in dynamic applications.

Butyl sheet rubber is commonly used in a variety of industries, such as automotive, construction, pharmaceutical, and chemical processing, among others. Its applications include hoses, gaskets, seals, liners, roofing membranes, and electrical insulating materials.



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Butyl rubber is produced by several manufacturers under various trade names. Some of these trade names include:

**ExxonMobil Chemical:** Butyl and Bromobutyl (also known as Exxpro)

**Lanxess:** Bromobutyl, Chlorobutyl, and Regular Butyl Rubber (also known as Buna CB, Buna BU, and Buna BE)

**Reliance Industries Limited (RIL):** Reflex Butyl and Reflex Chlorobutyl

**Sibur:** Butyl and Halogenated Butyl Rubber (also known as Togliatti and Togliatti Neft)

**PJSC Nizhnekamskneftekhim:** BK-1675N, BCI, and BCII (Butyl, Chlorobutyl, and Bromobutyl)

**Formosa Plastics:** Butyl Rubber (also known as Formobutyl)

**Zhejiang Cenway:** Cenway Butyl, Cenway Chlorobutyl, and Cenway Bromobutyl

Please note that trade names may change over time or vary regionally. It's important to consult the specific manufacturer's product literature or website for the most up-to-date and accurate information.