

An **O-ring** is a doughnut-shaped gasket used to create a leak-proof seal between two or more parts. They are the most common mechanical seals in the world because they are inexpensive, reliable, and simple to install.

How It Works

- **Compression:** The ring sits in a groove and gets squeezed between mating parts.
- **Pressure Activation:** Fluid or gas pressure forces the ring against the groove wall, increasing the sealing strength.

Common Materials

- **Nitrile (Buna-N):** Best for general use, oil, and water resistance.
- **Viton (FKM):** Ideal for high temperatures and harsh chemicals.
- **Silicone:** Great for extreme temperatures but poor tear resistance.
- **EPDM:** Excellent for outdoor weather, steam, and brake fluids.

Key Measurements

To replace an O-ring, you need three precise measurements:

- **Inside Diameter (ID):** The distance across the inside hole.
- **Cross-Section (CS):** The thickness of the ring wall.
- **Outside Diameter (OD):** The total distance from outer edge to outer edge.