

An oil seal is a mechanical component used to retain lubricants in rotating shafts and prevent dirt, water, and debris from entering. Typically made of elastomeric materials like Nitrile (NBR), silicone, or Viton, they feature a flexible sealing lip and a garter spring that wraps around the shaft to maintain constant pressure.

Key Functions

- **Fluid Retention:** Prevents oils, greases, and hydraulic fluids from leaking through the gap between a rotating shaft and the housing.
- **Contamination Exclusion:** Blocks external elements such as dust, water, and chemicals from entering the engine or machinery.
- **Friction & Wear Reduction:** Minimizes the contact area on the shaft to keep temperatures cool and protect expensive bearings and gears from failing prematurely.