



Glossary of Technical Terms

Anti-extrusion Ring

A ring used to support a softer sealing ring and prevent it from extruding.

Back-up Ring

Anti-extrusion ring or support ring.

Bearing

See Wear Ring

Bi-directional Seal

A seal that prevents leakage from both directions.

Cold Flow

Continued deformation under stress

Composite Material

Materials made from two or more constituent materials with significantly different physical or chemical properties which remain separate and distinct on a macroscopic level within the finished structure.

Compression Set

The permanent deformation of a seal after release of a compressive load.

Copolymer

A copolymer is a polymer derived from two (or more) monomeric species.

Creep

Creep is the tendency of a solid material to slowly move or deform permanently under the influence of stresses.

Double acting Seal

A seal designed to take pressure from two sides.

Dynamic Seal

A seal designed to prevent leakage between two moving surfaces.

Elasticity

The property of a substance that enables it to change its length, volume, or shape in direct response to a force effecting such a change and to recover its original form upon the removal of the force.

Elastomer

An elastic substance occurring naturally, as natural rubber, or produced synthetically, as butyl rubber or nitrile.

Extrusion

Distortion or flow of part of a seal into an extrusion gap under pressure.

Extrusion Gap

The clearance on the low-pressure side between two parts, which house the seal.

Face Seal

A seal that is compressed in a direction parallel to its axis.

Flash

Extruded material on the partially finished product formed during the moulding process.

Flex Cracking

A surface cracking induced by repeated bending or flexing.

Free Height

The height of a seal in its free-state.

Friction

Friction is the force resisting the relative motion of two surfaces in contact.

Gasket

A rubber, metal, or other material, for packing a piston or placing around a joint to make it seal a fluid or gas.

Gland

A cavity into which a seal is installed. Component at the working end of a cylinder which contains seals.

Hardness

The measured resistance of a material to indentation, abrasion, deformation, or machining.

Housing

A rigid component which contains a seal assembly.

Hydraulic Seal

A hydraulic seal is usually a relatively soft, non-metallic ring captured in a groove or fixed in a combination of rings, forming a seal assembly, to block or separate fluid in reciprocating motion applications.

Leakage Rate

The rate at which a fluid passes a seal in a given time.

Lip Seal

An elastomeric seal that prevents leakage in rotary seal applications through the use of one or more contact lips operating on the shaft surface. These seals are commonly called shaft seals, oil seals or rotary lip seals.

O-Ring

A toroidal shaped sealing device usually made from an elastomeric material, may also be made from metal or PTFE.

Perfluoroelastomer

An elastomer with high temperature and chemical resistances.

Permanent Set

Permanent deformation of spring or elastomer upon release of load.

Permeation

The passage of a fluid under pressure through a solid material by diffusion.

Polymer

A material formed by the joining together of many (poly) units (mer) of one or more monomers.

Porosity

Quality or state of being porous.

PTFE

Polytetrafluoroethylene

Rubber

See "Elastomer"

Scraper

A seal used to keep dirt or other foreign matter out of a hydraulic or pneumatic device.

Seal

A device designed to prevent the passage of a medium (fluid or solid).

Single acting Seal

A seal designed to take pressure from only one side.

Spring

A machine element capable of restoring energy and releasing it.

Static Seal

A seal between two non-moving parts.

Tensile Strength

Ratio of the maximum load a material can support without fracture when being stretched to the original area of a cross section of the material.

Thermal Expansion

Expansion caused by increase in temperature.

Uni-directional Seal

A seal that prevents leakage from only one direction.

Vacuum

An enclosed space that is occupied by a gas at less than atmospheric pressure.

Vulcanization

Refers to a specific curing process of rubber involving high heat and the addition of sulfur or other equivalent curatives.

Weepage

A minute amount of liquid passing by a seal.

Wiper Ring

See "Scraper"

Wear Ring

Element used to protect moving parts from wear.