

Rubber O-ring



An O-ring, also known as a toric seal, is a loop of elastomer with a round cross-section, designed to be seated in a groove and compressed during assembly between two or more parts, creating a seal at the interface.

O-rings are one of the most common seals used in machine design because they are inexpensive, easy to make, reliable, and have simple mounting requirements. They can seal tens of megapascals (thousands of psi) of pressure.

Applications:

O-rings may be used in static applications or in dynamic applications where there is relative motion between the parts and the O-rings. Dynamic examples include rotating pump shafts and hydraulic cylinder pistons.

The rubber O-ring materials could be NR, NBR, neoprene, EPDM, silicone, FKM, etc. Below are some typical O-rings made from part of the rubber material varieties available from us.

OR5200 NBR rubber O-ring

NBR (Nitrile) rubber has good resistance to petroleum oils, aromatic hydrocarbons, mineral oils, vegetable oils, and many acids. It also has good elongation properties as well as adequate resilience, tensile and compression set.

Typical Specifications:

Normal Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.25g/cm ³	≥14Mpa	≥250%	70±5 Shore A

OR5600 Silicone rubber O-ring

Silicone rubber is chemically extremely stable and suitable for use with many acids and alkalis. It resists to oil, ozone, oxidation, ultraviolet light, high temperature and weathering in general.

Typical Specifications:

Normal Colors	Density	Tensile strength	Elongation	Compression set	Hardness
Red, black	1.25g/cm ³	≥8Mpa	≥250%	≤30% (150°C, 24h)	70±5 Shore A

OR5700 FKM rubber O-ring

FKM (Viton) rubber has excellent resistance to oil, flame, chemical corrosion, weathering and aging. It resists a wide variety of corrosive fluids at elevated temperatures while retaining their mechanical properties.

Typical Specifications:

Normal Colors	Density	Tensile strength	Elongation	Compression set	Hardness
Black, brown	2.0g/cm ³	≥10Mpa	≥150%	≤30% (150°C, 24h)	75±5 Shore A

Dimensions:

The dimensions of the O-rings meet the requirements of American standard SAE AS568, or other standards. Customized sizes are also available upon request.

The sizes of an O-ring are usually defined by ID and CS dimensions.

