

# What Are O-Ring Seal Used For?

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[Fasteners/Seals O-Ring Seal — ISO / DIN \(Series 159\)/Applications](#)

[Seals · ISO / DIN · Application guide](#)

Typical applications, the industries that specify o-ring seal, and how to choose the right size, material and finish for the joint.

O-Ring Seals are used for containing fluid or excluding contamination at a static or dynamic interface. They are manufactured to ISO / DIN, and selection is driven by the inside diameter, the fit and tolerance the assembly requires, and the service environment.

## Primary duty

Containing fluid or excluding contamination at a static or dynamic interface

## Governing standard

ISO / DIN

## Inside diameter range

5 mm to 100 mm

## Category

Seals

Application notes are general engineering guidance. Verify the property class and any approval requirement against your own design calculation.



O-Ring Seals are selected when an assembly calls for containing fluid or excluding contamination at a static or dynamic interface. This application guide to the ISO / DIN type covers concrete end-uses, the specification checklist, correct installation, and where an alternative fastener performs better. Stocked across roughly 5 mm to 100 mm, they cover general to heavy-duty work.

## Typical Applications for O-Ring Seal — ISO / DIN (Series 159)

The most common settings where these are specified:

- **General machine building:** fastening covers, brackets, motors and sub-assemblies on production equipment.
- **Maintenance & repair (MRO):** a stocked size for servicing existing plant where the original fastener spec must be matched.
- **Fabrication & metalwork:** bench and on-site assembly of steel frames, enclosures and weldments.

## How to Specify O-Ring Seal — ISO / DIN (Series 159) for Your Application

- **Size:** Select on inside diameter, and confirm it against the mating feature in the assembly. This product spans 5 mm–100 mm; check the full table below for the exact dimensions of each size.
- **Material:** Choose the material and finish for the service environment — plated steel for general use, stainless for corrosion resistance.

- **Environment:** For damp, coastal or chemical exposure prefer A4/316 stainless or a suitable coating; indoors, plated steel or A2 is usually sufficient.
- **Standard:** This product is supplied to ISO / DIN. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

## Where O-Ring Seal — ISO / DIN (Series 159) Are Not the Right Choice

Match the fastener to the load, environment and whether the joint must be reopened; the wrong class or style is the usual cause of joint failure.

## Technical Drawing

Customize the parameters below — every spec field is editable, and the drawing redraws to match the values you choose. Changing the size will snap the other fields to that size's standard values; you can then override any individual value.

Sends the selected values to the quote form below.

## Request a Quote

The form below follows the current technical drawing configuration. Change the drawing values above and the request details update automatically.

## Dimensions & Specifications (ISO / DIN)

| Inner diameter d1<br>(mm) | Outer diameter d2<br>(mm) | Wire dia<br>(mm) | Material | Working temp<br>range | Reference<br>standard |
|---------------------------|---------------------------|------------------|----------|-----------------------|-----------------------|
| 5                         | 9                         | 2                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 8                         | 12                        | 2                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 10                        | 16                        | 3                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 15                        | 21                        | 3                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 20                        | 26                        | 3                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 25                        | 33                        | 4                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 30                        | 38                        | 4                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 40                        | 50                        | 5                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 50                        | 60                        | 5                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 60                        | 72                        | 6                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 80                        | 92                        | 6                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |
| 100                       | 114                       | 7                | NBR 70   | -30 to +110 C         | ISO 3601 / GB/T 3452  |

## Video: What Are O-Ring Seal Used For? in use



► Watch video: <https://www.youtube.com/watch?v=aweDWuNkPw0>

### O-Rings? O-Yeah! How to Select, Design, and Install O-Ring Seals

Third-party video, selected automatically for this topic. It is not produced by Engineering Hardware and is not a specification source — use the tables on this page for dimensional data.

Inside the plant

## Manufactured in our own plant

This part is cold-formed, threaded, heat-treated and finished in-house. The stages below are where its class and finish are actually decided.

1.



01

### **Cold heading**

Wire rod is drawn to size and cold-formed into blanks. Forming rather than cutting keeps the grain flow continuous around the head, which is where a bolt is most likely to fail.

Head dimensions and under-head radius checked at set-up and per shift.



2.

02

## Thread rolling

Threads are rolled between hardened dies rather than cut. Rolled threads are stronger in fatigue than cut threads and hold pitch and flank angle far more consistently across a batch.

Go / no-go ring gauges to ISO 965 tolerance class 6g.

3.



03

### Heat treatment

Quench-and-temper brings carbon and alloy steel to the property class ordered — 8.8, 10.9 or 12.9 — with the furnace charge tracked so a finished lot can be traced back to it.

Core hardness and tensile tested per lot to ISO 898-1.

4.



04

### Surface treatment

Zinc, zinc-nickel, hot-dip galvanizing, black oxide, phosphate and Dacromet, selected against the service environment rather than against the price list.

Coating thickness and neutral salt spray hours to ISO 9227.

## Frequently Asked Questions

What are O-Ring Seal — ISO / DIN (Series 159) used for?

Containing fluid or excluding contamination at a static or dynamic interface. They are supplied to ISO / DIN.

Which industries use O-Ring Seal — ISO / DIN (Series 159)?

They are commonly specified in general machine building, maintenance & repair (mro) and fabrication & metalwork, among other sectors.

How do I choose the right size of O-Ring Seal — ISO / DIN (Series 159)?

Select on inside diameter and on the fit the assembly requires. This product is available from 5 mm to 100 mm; the full dimension table on this page lists each size.

Are O-Ring Seal — ISO / DIN (Series 159) made to a recognized standard?

Yes — they are manufactured to ISO / DIN, so dimensions are interchangeable between suppliers when you quote the standard on your order.

Can I get a quote for O-Ring Seal — ISO / DIN (Series 159) in the size and material I need?

Yes. Use the technical drawing and quote form on this page to set the size and options, then send the exact configuration to our team for pricing and lead time.

## Related Pages

Product page: [O-Ring Seal — ISO / DIN \(Series 159\) — specifications & sizes](#)

### O-Ring Seal — ISO / DIN (Series 159) Specification Guides

- [A4 stainless O-Ring Seal — ISO / DIN \(Series 159\)](#)

### Related Fastener Applications

- [AS568 O-Rings \(Inch Series\) applications](#)
- [O-Ring Seal — ISO / DIN \(Series 160\) applications](#)