

What Are Deep Groove Ball Bearing Used For?

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Typical applications, the industries that specify deep groove ball bearing, and how to choose the right size, material and finish for the joint.

Deep Groove Ball Bearings are used for supporting a rotating shaft and carrying its radial and axial loads with low friction. They are manufactured to ISO / DIN, and selection is driven by the bore diameter, the fit and tolerance the assembly requires, and the service environment.

Primary duty

Supporting a rotating shaft and carrying its radial and axial loads with low friction

Governing standard

ISO / DIN

Bore diameter range

10 mm to 60 mm

Category

Bearings & Bushings

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



Deep Groove Ball Bearings are selected when an assembly calls for supporting a rotating shaft and carrying its radial and axial loads with low friction. 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 10 mm to 60 mm, they cover general to heavy-duty work.

Typical Applications for Deep Groove Ball Bearing — ISO / DIN (Series 118)

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 Deep Groove Ball Bearing — ISO / DIN (Series 118) for Your Application

- **Size:** Select on bore diameter, and confirm it against the mating feature in the assembly. This product spans 10 mm-60 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 Deep Groove Ball Bearing — ISO / DIN (Series 118) 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)

Bore d (mm)	Outer diameter D (mm)	Width B (mm)	Dynamic load C (kN)	Limit speed (rpm)	Reference standard
10	30	9	5.1	32000	ISO 15 / GB/T 276
12	32	10	6.95	28000	ISO 15 / GB/T 276
15	35	11	7.65	24000	ISO 15 / GB/T 276
17	40	12	9.56	22000	ISO 15 / GB/T 276
20	47	14	12.7	18000	ISO 15 / GB/T 276
25	52	15	14.0	16000	ISO 15 / GB/T 276
30	62	16	19.5	13000	ISO 15 / GB/T 276
35	72	17	25.5	11000	ISO 15 / GB/T 276
40	80	18	30.7	10000	ISO 15 / GB/T 276
45	85	19	33.2	9500	ISO 15 / GB/T 276
50	90	20	35.1	9000	ISO 15 / GB/T 276
60	110	22	52.7	7500	ISO 15 / GB/T 276

Video: What Are Deep Groove Ball Bearing Used For? in use



► Watch video: <https://www.youtube.com/watch?v=zKGrpM7cCe0>

What Are Deep Groove Ball Bearings? Applications & Advantages

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 Deep Groove Ball Bearing — ISO / DIN (Series 118) used for?

Supporting a rotating shaft and carrying its radial and axial loads with low friction. They are supplied to ISO / DIN.

Which industries use Deep Groove Ball Bearing — ISO / DIN (Series 118)?

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 Deep Groove Ball Bearing — ISO / DIN (Series 118)?

Select on bore diameter and on the fit the assembly requires. This product is available from 10 mm to 60 mm; the full dimension table on this page lists each size.

Are Deep Groove Ball Bearing — ISO / DIN (Series 118) 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 Deep Groove Ball Bearing — ISO / DIN (Series 118) 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: [Deep Groove Ball Bearing — ISO / DIN \(Series 118\) — specifications & sizes](#)

Deep Groove Ball Bearing — ISO / DIN (Series 118) Specification Guides

- [A4 stainless Deep Groove Ball Bearing — ISO / DIN \(Series 118\)](#)

Related Fastener Applications

- [Angular Contact Ball Bearing — ISO / DIN \(Series 109\) applications](#)
- [Angular Contact Ball Bearing — ISO / DIN \(Series 111\) applications](#)
- [Angular Contact Ball Bearing — ISO / DIN \(Series 136\) applications](#)
- [Angular Contact Ball Bearing — ISO / DIN \(Series 137\) applications](#)
- [Angular Contact Ball Bearing — ISO / DIN \(Series 138\) applications](#)
- [Cylindrical Roller Bearing — ISO / DIN \(Series 112\) applications](#)