

What Are Internally Threaded Dowel Pin Used For?

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[Fasteners Pins Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 \(Series 099\)](#) Applications

Pins · GB/T 120.1 / ISO 8735 · Application guide

Typical applications, the industries that specify internally threaded dowel pin, and how to choose the right size, material and finish for the joint.

Internally Threaded Dowel Pins are used for precise location and light shear duty between two parts. They are manufactured to GB/T 120.1 / ISO 8735, and selection is driven by the nominal diameter, the fit and tolerance the assembly requires, and the service environment.

Primary duty

Precise location and light shear duty between two parts

Governing standard

GB/T 120.1 / ISO 8735

Nominal diameter range

4 mm to 20 mm

Category

Pins

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



Internally Threaded Dowel Pins (GB/T 120.1 / ISO 8735) are specified where the joint requires precise location and light shear duty between two parts. The sections below cover the typical end-uses by industry, the size and material decisions for each, assembly practice, and the applications this fastener type is not suited to. Stocked across roughly 4 mm to 20 mm, they cover general to heavy-duty work.

Typical Applications for Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099)

The most common settings where these are specified:

- **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.
- **Jigs & fixtures:** precise location of tooling plates and locating features.
- **Linkages & hinges:** pivot points carrying light shear.
- **Machine alignment:** dowelling mating housings so they reassemble in the same position.

How to Specify Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099) for Your Application

- **Size:** Select on nominal diameter, then on the hole tolerance and fit class — the fit, not the diameter alone, determines whether the part locates or slips. This product spans 4 mm–20 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 GB/T 120.1 / ISO 8735. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Installation & Assembly Practice

- Ream the hole to the specified fit class; a dowel pressed into a drilled-only hole will not locate accurately.
- Press pins in with steady force rather than hammer blows where possible, and chamfer the hole entry.

Common Selection Mistakes with Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099)

- Using a dowel pin as a load-carrying shear bolt — dowels locate, they are not sized for sustained shear.
- Ignoring the fit class: a locational fit and an interference fit need different hole tolerances.

Where Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099) Are Not the Right Choice

Not for carrying significant tensile or repeated heavy shear loads — use a bolt or a keyed joint for that.

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 (GB/T 120.1 / ISO 8735)

Nominal diameter d (mm)	Length L (mm)	Internal thread	Material	Reference standard
4	16	M3	Alloy steel	ISO 8736 / GB/T 120
5	20	M4	Alloy steel	ISO 8736 / GB/T 120
6	24	M4	Alloy steel	ISO 8736 / GB/T 120
8	30	M5	Alloy steel	ISO 8736 / GB/T 120
10	40	M6	Alloy steel	ISO 8736 / GB/T 120
12	50	M8	Alloy steel	ISO 8736 / GB/T 120
16	60	M10	Alloy steel	ISO 8736 / GB/T 120
20	80	M12	Alloy steel	ISO 8736 / GB/T 120

Video: What Are Internally Threaded Dowel Pin Used For? in use



► Watch video: <https://www.youtube.com/watch?v=zNcbfoXj3q8>

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

Which industries use Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099)?

They are commonly specified in jigs & fixtures, linkages & hinges and machine alignment, among other sectors.

How do I choose the right size of Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099)?

Select on nominal diameter and on the fit the assembly requires. This product is available from 4 mm to 20 mm; the full dimension table on this page lists each size.

What material should Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099) be for outdoor use?

For damp, coastal or chemical environments specify A4 (316) stainless or a suitably coated steel. For indoor or dry use, A2 (304) stainless or zinc-plated steel is normally adequate.

Are Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099) made to a recognized standard?

Yes — they are manufactured to GB/T 120.1 / ISO 8735, so dimensions are interchangeable between suppliers when you quote the standard on your order.

Can I get a quote for Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099) 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: [Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 \(Series 099\) — specifications & sizes](#)

Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 (Series 099) Specification Guides

- [A4 stainless Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 \(Series 099\)](#)

Related Fastener Applications

- [Clevis Pin — ISO / DIN \(Series 101\) applications](#)
- [Clevis Pin — ISO / DIN \(Series 105\) applications](#)
- [Clevis Pin — ISO / DIN \(Series 150\) applications](#)
- [Dowel Pins applications](#)
- [Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 \(Series 100\) applications](#)
- [Slotted Spring Pins, Heavy Duty applications](#)