

What Are Spring (Roll) Pins Used For?

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Typical applications, the industries that specify spring (roll) pins, and how to choose the right size, material and finish for the joint.

Spring (Roll) Pins are used for retaining and locating parts in a drilled hole, gripping by their own spring force without a press fit.

They are manufactured to ISO 8748 / DIN 1481, and selection is driven by the nominal diameter, the fit and tolerance the assembly requires, and the service environment.

Primary duty

Retaining and locating parts in a drilled hole, gripping by their own spring force without a press fit

Governing standard

ISO 8748 / DIN 1481

Nominal diameter range

1 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.



Spring (Roll) Pins are used primarily for retaining and locating parts in a drilled hole, gripping by their own spring force without a press fit. This page lists the industries and assemblies where they are specified, the selection criteria that matter for each application, installation practice, and the cases where a different fastener type is the correct choice. Parts are supplied to ISO 8748 / DIN 1481. Stocked across roughly 1 mm to 20 mm, they cover general to heavy-duty work.

Typical Applications for Spring (Roll) Pins

The most common settings where these are specified:

- **Linkages & hinges:** pivot points carrying light shear.
- **Machine alignment:** dowelling mating housings so they reassemble in the same position.
- **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 Spring (Roll) Pins 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 1 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 ISO 8748 / DIN 1481. 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 Spring (Roll) Pins

- 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 Spring (Roll) Pins 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 (ISO 8748 / DIN 1481)

Nominal diameter (mm)	Recommended hole (mm)	Common length range (mm)	End chamfer (mm)	Material	Reference standard
1.0	1.0	4~10	0.3	Spring steel	ISO 8748 / DIN 1481
1.2	1.2	4~12	0.3	Spring steel	ISO 8748 / DIN 1481
1.5	1.5	4~16	0.3	Spring steel	ISO 8748 / DIN 1481
2.0	2.0	6~20	0.5	Spring steel	ISO 8748 / DIN 1481
2.5	2.5	6~24	0.5	Spring steel	ISO 8748 / DIN 1481
3.0	3.0	8~30	0.5	Spring steel	ISO 8748 / DIN 1481
4.0	4.0	8~40	0.8	Spring steel	ISO 8748 / DIN 1481
5.0	5.0	10~50	0.8	Spring steel	ISO 8748 / DIN 1481
6.0	6.0	12~60	1.0	Spring steel	ISO 8748 / DIN 1481
8.0	8.0	16~80	1.0	Spring steel	ISO 8748 / DIN 1481
10.0	10.0	20~100	1.5	Spring steel	ISO 8748 / DIN 1481
12.0	12.0	25~120	1.5	Spring steel	ISO 8748 / DIN 1481
13.0	13.0	25~120	1.5	Spring steel	ISO 8748 / DIN 1481
14.0	14.0	30~160	2.0	Spring steel	ISO 8748 / DIN 1481

Nominal diameter (mm)	Recommended hole (mm)	Common length range (mm)	End chamfer (mm)	Material	Reference standard
16.0	16.0	30~160	2.0	Spring steel	ISO 8748 / DIN 1481
20.0	20.0	40~200	2.0	Spring steel	ISO 8748 / DIN 1481

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.



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 Spring (Roll) Pins used for?

Retaining and locating parts in a drilled hole, gripping by their own spring force without a press fit. They are supplied to ISO 8748 / DIN 1481.

Which industries use Spring (Roll) Pins?

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 Spring (Roll) Pins?

Select on nominal diameter and on the fit the assembly requires. This product is available from 1 mm to 20 mm; the full dimension table on this page lists each size.

What material should Spring (Roll) Pins 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.

Can I get a quote for Spring (Roll) Pins 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: [Spring \(Roll\) Pins — specifications & sizes](#)

Spring (Roll) Pins Specification Guides

- [A4 stainless Spring \(Roll\) Pins](#)

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 \(Series 099\) applications](#)
- [Internally Threaded Dowel Pin — GB/T 120.1 / ISO 8735 \(Series 100\) applications](#)