

What Are Woodruff Keys Used For?

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Keys · DIN 6888 · Application guide

Typical applications, the industries that specify woodruff keys, and how to choose the right size, material and finish for the joint.

Woodruff Keys are used for transmitting torque between a shaft and a hub. They are manufactured to DIN 6888, and selection is driven by the key section, the fit and tolerance the assembly requires, and the service environment.

Primary duty

Transmitting torque between a shaft and a hub

Governing standard

DIN 6888

Key section range

1 mm to 10 mm

Category

Keys

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



Application guide for Woodruff Keys to DIN 6888. The core duty of the type is transmitting torque between a shaft and a hub. The typical industries, the how-to-specify checklist, assembly practice and the exclusion cases are set out below. Stocked across roughly 1 mm to 10 mm, they cover general to heavy-duty work.

Typical Applications for Woodruff Keys

The most common settings where these are specified:

- **Pumps & fans:** driving rotating components without slip.
- **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.
- **Power transmission:** locking pulleys, sprockets and couplings to a shaft.

How to Specify Woodruff Keys for Your Application

- **Size:** Select on key section, and confirm it against the mating feature in the assembly. This product spans 1 mm–10 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 DIN 6888. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Where Woodruff Keys Are Not the Right Choice

Not for very high reversing torque without an interference fit, and not as an axial retainer.

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 (DIN 6888)

Key width b (mm)	Disc diameter d (mm)	Key height h (mm)	Chord length l (mm)	Shaft groove depth t1 (mm)	Hub groove depth t2 (mm)	Reference standard
1.0	4	1.4	3.7	1.0	0.6	DIN 6888 / ISO 3912
1.5	4	1.4	3.7	1.0	0.6	DIN 6888 / ISO 3912
2.0	5	1.8	4.7	1.4	0.6	DIN 6888 / ISO 3912
2.0	6	2.6	5.7	2.0	0.8	DIN 6888 / ISO 3912
2.5	7	3.0	6.8	2.3	1.0	DIN 6888 / ISO 3912
3.0	7	3.0	6.8	2.3	1.0	DIN 6888 / ISO 3912
3.0	9	4.0	8.8	3.2	1.0	DIN 6888 / ISO 3912
3.0	10	4.5	9.8	3.5	1.2	DIN 6888 / ISO 3912
4.0	9	4.0	8.8	3.2	1.0	DIN 6888 / ISO 3912
4.0	10	4.5	9.8	3.5	1.2	DIN 6888 / ISO 3912
4.0	13	6.0	12.7	5.0	1.4	DIN 6888 / ISO 3912
5.0	10	4.5	9.8	3.5	1.2	DIN 6888 / ISO 3912
5.0	13	6.0	12.7	5.0	1.4	DIN 6888 / ISO 3912
5.0	16	7.5	15.7	6.3	1.4	DIN 6888 / ISO 3912

Key width b (mm)	Disc diameter d (mm)	Key height h (mm)	Chord length l (mm)	Shaft groove depth t1 (mm)	Hub groove depth t2 (mm)	Reference standard
6.0	13	6.0	12.7	5.0	1.4	DIN 6888 / ISO 3912
6.0	16	7.5	15.7	6.3	1.4	DIN 6888 / ISO 3912
6.0	19	9.0	18.6	7.5	1.8	DIN 6888 / ISO 3912
8.0	19	9.0	18.6	7.5	1.8	DIN 6888 / ISO 3912
8.0	22	11.0	21.6	9.3	1.8	DIN 6888 / ISO 3912
10.0	22	11.0	21.6	9.3	1.8	DIN 6888 / ISO 3912
10.0	25	13.0	24.5	11.0	2.3	DIN 6888 / ISO 3912

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

Are Woodruff Keys made to a recognized standard?

Yes — they are manufactured to DIN 6888, so dimensions are interchangeable between suppliers when you quote the standard on your order.

What are Woodruff Keys used for?

Transmitting torque between a shaft and a hub. They are supplied to DIN 6888.

Which industries use Woodruff Keys?

They are commonly specified in power transmission, gearboxes & motors and pumps & fans, among other sectors.

How do I choose the right size of Woodruff Keys?

Select on key section and on the fit the assembly requires. This product is available from 1 mm to 10 mm; the full dimension table on this page lists each size.

Can I get a quote for Woodruff Keys 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: [Woodruff Keys — specifications & sizes](#)

Woodruff Keys Specification Guides

- [A4 stainless Woodruff Keys](#)

Related Fastener Applications

- [Parallel Keys applications](#)