

What Are Hexagon Coupling Nuts Used For?

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[Fasteners/Nuts Hexagon Coupling Nuts](#) [Applications](#)

[Nuts - DIN 6334](#) · [Application guide](#)

Typical applications, the industries that specify hexagon coupling nuts, and how to choose the right size, material, and finish for the joint.

Hexagon Coupling Nuts are used for joining two threaded rods or studs end to end, or extending a threaded assembly across a gap. They are manufactured to DIN 6334, and the choice of size, property class and finish is driven by the load in the joint and the environment it sits in.

Primary duty

Joining two threaded rods or studs end to end, or extending a threaded assembly across a gap

Governing standard

DIN 6334

Thread size range

M6 to M36

Category

Nuts

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



Hexagon Coupling Nuts are selected when an assembly calls for joining two threaded rods or studs end to end, or extending a threaded assembly across a gap. This application guide to the DIN 6334 type covers concrete end-uses, the specification checklist, correct installation, and where an alternative fastener performs better. Stocked across roughly M6 to M36, they cover general to heavy-duty work.

Typical Applications for Hexagon Coupling Nuts

The most common settings where these are specified:

- **Bolted joints:** the clamping counter-face on studs and bolts across every assembly type.
- **Vibration-prone equipment:** where a locking or flanged style resists loosening.
- **Frames & weldments:** captive or welded options for repeatable assembly.
- **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.

How to Specify Hexagon Coupling Nuts for Your Application

- **Size:** Match the nominal size to the mating thread or hole. This product spans M6–M36; check the full table below for the exact dimensions of each size.

- **Locking & grade:** Match the strength grade to the bolt, and choose a locking style (nyloc, all-metal, serrated flange) if the joint sees vibration.
- **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 6334. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Installation & Assembly Practice

- Run the nut down by hand before applying the wrench to catch cross-threading early.
- Tighten the nut rather than the bolt head where access allows — the torque-to-preload relation is more consistent.
- For locking styles, note that nyloc inserts are single-use in critical joints and lose grip above roughly 120 °C.

Common Selection Mistakes with Hexagon Coupling Nuts

- Pairing a high-class bolt with a lower-class nut — the nut strips before the bolt reaches proof load; the nut class must meet or exceed the bolt class.
- Using a plain nut with a spring washer in severe vibration instead of a prevailing-torque locking nut.
- Re-using nyloc nuts in critical joints.

Where Hexagon Coupling Nuts Are Not the Right Choice

Not on their own — they need a matching bolt or stud — and a plain nut is not a substitute for a locking type under heavy vibration.

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 6334)

Size	Pitch (mm)	Width across flats s (mm)	Width across corners e (mm)	Length l (mm)	Reference standard
M6	1.0	10	11.05	18	DIN 6334
M8	1.25	13	14.38	24	DIN 6334
M10	1.5	17	18.90	30	DIN 6334
M12	1.75	19	21.10	36	DIN 6334
M14	2.0	22	24.49	42	DIN 6334
M16	2.0	24	26.75	48	DIN 6334
M18	2.5	27	29.56	54	DIN 6334
M20	2.5	30	33.53	60	DIN 6334
M22	2.5	32	35.03	66	DIN 6334
M24	3.0	36	39.98	72	DIN 6334
M27	3.0	41	45.20	81	DIN 6334
M30	3.5	46	50.85	90	DIN 6334
M33	3.5	50	55.37	99	DIN 6334
M36	4.0	55	60.79	108	DIN 6334

Video: What Are Hexagon Coupling Nuts Used For? in use



► Watch video: <https://www.youtube.com/watch?v=u2YZrxUrdWA>

[GMBOLT.com M12 COUPLING NUT COUPLER m10 m16 m20 galvanized](#)

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

Do Hexagon Coupling Nuts need a locking feature?

If the joint sees vibration or cyclic load, use a locking style (nyloc, all-metal lock, or serrated flange) or a thread-locking adhesive. For static joints a standard nut tightened correctly is usually sufficient.

What material should Hexagon Coupling Nuts 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 Hexagon Coupling Nuts made to a recognized standard?

Yes — they are manufactured to DIN 6334, so dimensions are interchangeable between suppliers when you quote the standard on your order.

What are Hexagon Coupling Nuts used for?

Joining two threaded rods or studs end to end, or extending a threaded assembly across a gap. They are supplied to DIN 6334.

Can I get a quote for Hexagon Coupling Nuts 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: [Hexagon Coupling Nuts — specifications & sizes](#)

Hexagon Coupling Nuts Specification Guides

- [M6 Hexagon Coupling Nuts size guide](#)
- [A4 stainless Hexagon Coupling Nuts](#)

Related Fastener Applications

- [All-Metal Lock Nuts applications](#)
- [All-Metal Prevailing Torque Hex Lock Nut \(Type 1\) — GB/T 6184 / ISO 7042 \(Series 047\) applications](#)
- [Cap \(Acorn\) Nuts applications](#)
- [Castellated Hex Nut — GB/T 6180 / ISO 7036 \(Series 048\) applications](#)
- [Custom Slotted Round Nut — GB/T 812 \(Series 070\) applications](#)
- [Hex Flange Nuts applications](#)