What Are Thin Hex Nut Used For?

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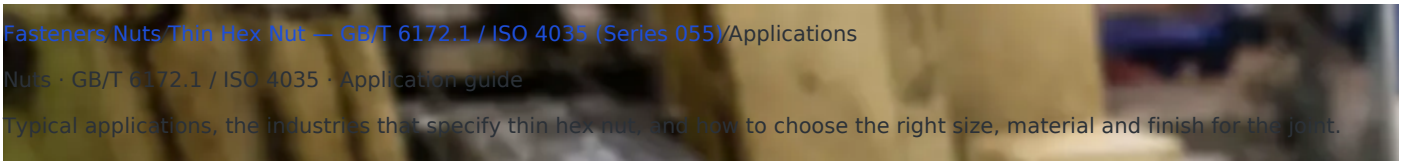


Thin Hex Nuts are used for the clamped counter-face of a bolted joint. They are manufactured to GB/T 6172.1 / ISO 4035, and the choice of size, property class and finish is driven by the load in the joint and the environment it sits in.

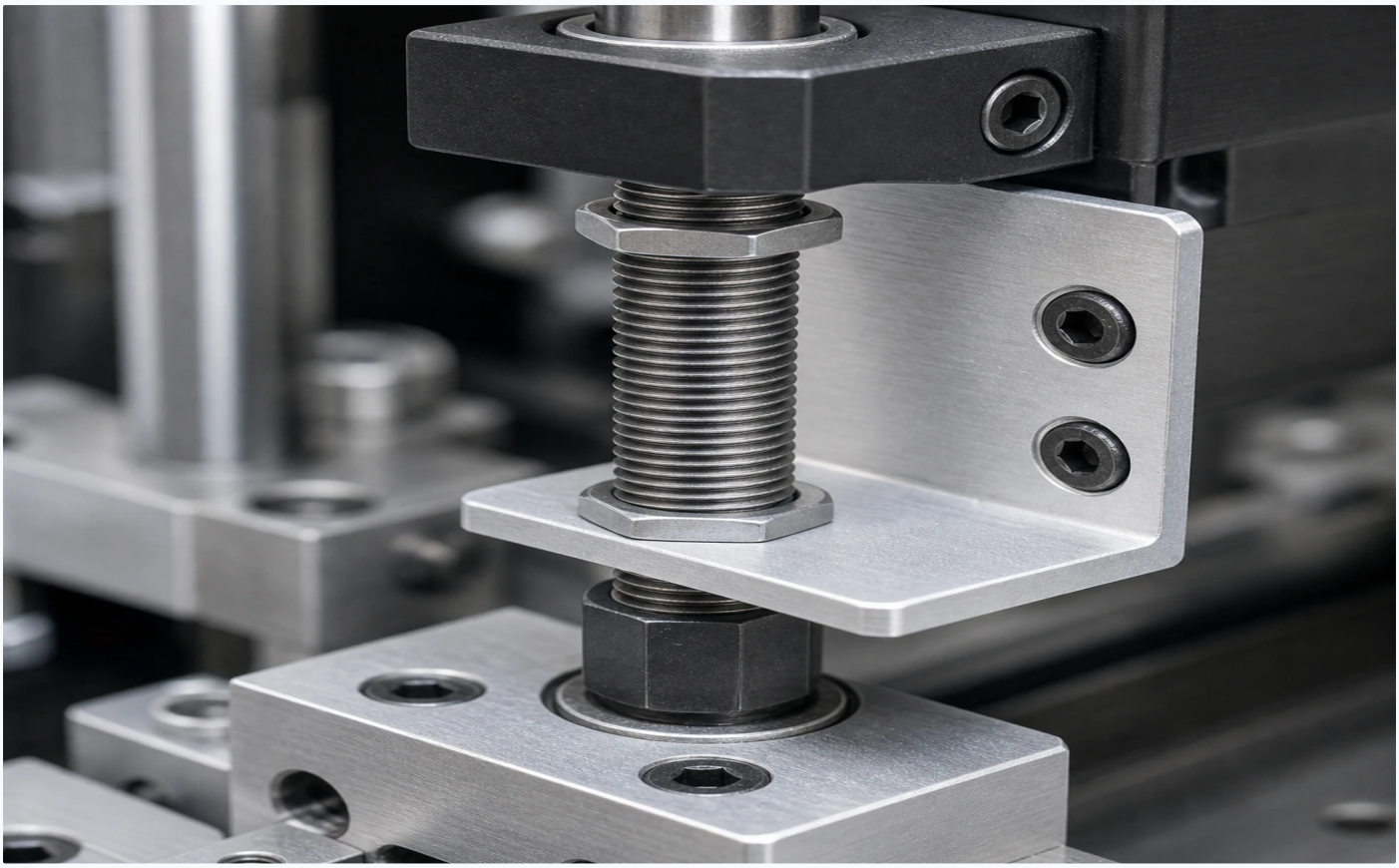
Primary duty
: The clamped counter-face of a bolted joint

Governing standard
: GB/T 6172.1 / ISO 4035

Thread size range
: M3 to M36

Category
: Nuts

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



The primary duty of Thin Hex Nuts is the clamped counter-face of a bolted joint. Below: the sectors that specify them in volume, the checklist used to select the right size and material for the application, installation notes, and the known limits of the type. Stocked across roughly M3 to M36, they cover general to heavy-duty work.

Typical Applications for Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055)

The most common settings where these are specified:

- **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.
- **Fabrication & metalwork:** bench and on-site assembly of steel frames, enclosures and weldments.

How to Specify Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) for Your Application

- **Size:** Match the nominal size to the mating thread or hole. This product spans M3–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 GB/T 6172.1 / ISO 4035. 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 Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055)

- 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 Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) 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 (GB/T 6172.1 / ISO 4035)

Size	Pitch (mm)	Width across flats s (mm)	Width across corners e (mm)	Nut height m (mm)	Reference standard
M3	0.5	5.5	6.01	1.8	ISO 4035 / GB/T 6172
M4	0.7	7.0	7.66	2.2	ISO 4035 / GB/T 6172
M5	0.8	8.0	8.79	2.7	ISO 4035 / GB/T 6172
M6	1.0	10.0	11.05	3.2	ISO 4035 / GB/T 6172
M8	1.25	13.0	14.38	4.0	ISO 4035 / GB/T 6172
M10	1.5	16.0	17.77	5.0	ISO 4035 / GB/T 6172
M12	1.75	18.0	20.03	6.0	ISO 4035 / GB/T 6172
M14	2.0	21.0	23.36	7.0	ISO 4035 / GB/T 6172
M16	2.0	24.0	26.75	8.0	ISO 4035 / GB/T 6172
M18	2.5	27.0	30.14	9.0	ISO 4035 / GB/T 6172
M20	2.5	30.0	33.53	10.0	ISO 4035 / GB/T 6172
M24	3.0	36.0	39.98	12.0	ISO 4035 / GB/T 6172
M30	3.5	46.0	50.85	15.0	ISO 4035 / GB/T 6172
M36	4.0	55.0	60.79	18.0	ISO 4035 / GB/T 6172

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 material should Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) 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 Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) made to a recognized standard?
Yes — they are manufactured to GB/T 6172.1 / ISO 4035, so dimensions are interchangeable between suppliers when you quote the standard on your order.

What are Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) used for?
The clamped counter-face of a bolted joint. They are supplied to GB/T 6172.1 / ISO 4035.

Which industries use Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055)?

They are commonly specified in general machine building, maintenance & repair (mro) and fabrication & metalwork, among other sectors.

Can I get a quote for Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) 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: Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) — specifications & sizes

Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) Specification Guides

- M3 Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055) size guide
- A4 stainless Thin Hex Nut — GB/T 6172.1 / ISO 4035 (Series 055)

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