

What Are Jam Nuts (Thin Hex, Inch) Used For?

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Fasteners Nuts Jam Nuts (Thin Hex, Inch)/Applications

Nuts · ASME B18.2.2 · Application guide

Typical applications, the industries that specify jam nuts (thin hex, inch), and how to choose the right size, material and finish for the joint.

Jam Nuts (Thin Hex, Inch) are used for the clamped counter-face of a bolted joint. They are manufactured to ASME B18.2.2, 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

ASME B18.2.2

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 Jam Nuts (Thin Hex, Inch) 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.

Typical Applications for Jam Nuts (Thin Hex, Inch)

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.
- **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.

How to Specify Jam Nuts (Thin Hex, Inch) for Your Application

- **Size:** Match the size to the mating part — see the dimension table below for each option.
- **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 ASME B18.2.2. 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 Jam Nuts (Thin Hex, Inch)

- 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 Jam Nuts (Thin Hex, Inch) 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.

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 (ASME B18.2.2)

Thread size	Across flats s (mm)	Across corners e (mm)	Nut height m (mm)	Across flats (in)	Nut height (in)	Reference standard
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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 Jam Nuts (Thin Hex, Inch)?

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

How do I choose the right size of Jam Nuts (Thin Hex, Inch)?

Match the size to the mating part using the dimension table on this page.

Do Jam Nuts (Thin Hex, Inch) 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 Jam Nuts (Thin Hex, Inch) 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 Jam Nuts (Thin Hex, Inch) 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: [Jam Nuts \(Thin Hex, Inch\) — specifications & sizes](#)

Jam Nuts (Thin Hex, Inch) Specification Guides

- [A4 stainless Jam Nuts \(Thin Hex, Inch\)](#)

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](#)