

What Are Serrated Flange Lock Nuts Used For?

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Typical applications, the industries that specify serrated flange lock nuts, and how to choose the right size, material and finish for the joint.

Serrated Flange Lock Nuts are used for the clamped counter-face of a bolted joint. They are manufactured to DIN 6923, 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

DIN 6923

Thread size range

M4 to M20

Category

Nuts

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



Serrated Flange Lock Nuts (DIN 6923) are specified where the joint requires the clamped counter-face of a bolted joint. The sections below cover the typical end-uses by industry, the size and material decisions for each, assembly practice, and the applications this fastener type is not suited to. Stocked across roughly M4 to M20, they cover general to heavy-duty work.

Typical Applications for Serrated Flange Lock 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 Serrated Flange Lock Nuts for Your Application

- **Size:** Match the nominal size to the mating thread or hole. This product spans M4-M20; 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 6923. 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 Serrated Flange Lock 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 Serrated Flange Lock 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 6923)

Thread size	Pitch (mm)	Across flats s (mm)	Flange diameter dc (mm)	Total height m (mm)	Flange thickness c (mm)	Reference standard
M4	0.7	7	9.0	5.0	1.0	DIN 6923
M5	0.8	8	11.8	5.0	1.0	DIN 6923
M6	1.0	10	14.2	6.0	1.1	DIN 6923
M8	1.25	13	17.9	8.0	1.2	DIN 6923
M10	1.5	15	21.8	10.0	1.5	DIN 6923
M12	1.75	18	26.0	12.0	1.8	DIN 6923
M14	2.0	21	29.9	14.0	2.1	DIN 6923
M16	2.0	24	34.5	16.0	2.4	DIN 6923
M20	2.5	30	42.8	20.0	3.0	DIN 6923

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 Serrated Flange Lock 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 Serrated Flange Lock 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 Serrated Flange Lock Nuts made to a recognized standard?

Yes — they are manufactured to DIN 6923, so dimensions are interchangeable between suppliers when you quote the standard on your order.

What are Serrated Flange Lock Nuts used for?

The clamped counter-face of a bolted joint. They are supplied to DIN 6923.

Can I get a quote for Serrated Flange Lock 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: [Serrated Flange Lock Nuts — specifications & sizes](#)

Serrated Flange Lock Nuts Specification Guides

- [M4 Serrated Flange Lock Nuts size guide](#)
- [A4 stainless Serrated Flange Lock 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](#)