

What Are Nylon Flat Washers Used For?

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Nylon Flat Washers are used for load distribution and anti-loosening under a bolt or nut. They are manufactured to DIN 125 A, and selection is driven by the thread size, the fit and tolerance the assembly requires, and the service environment.

Primary duty

Load distribution and anti-loosening under a bolt or nut

Governing standard

DIN 125 A

Thread size range

M2 to M20

Category

Washers

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



Nylon Flat Washers are selected when an assembly calls for load distribution and anti-loosening under a bolt or nut. This application guide to the DIN 125 A type covers concrete end-uses, the specification checklist, correct installation, and where an alternative fastener performs better. Stocked across roughly M2 to M20, they cover general to heavy-duty work.

Typical Applications for Nylon Flat Washers

The most common settings where these are specified:

- **Vibration applications:** spring and serrated types that maintain tension under cyclic load.
- **Timber & soft materials:** large-OD types that prevent pull-through.
- **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 Nylon Flat Washers for Your Application

- **Size:** Match the nominal size to the mating thread or hole. This product spans M2-M20; check the full table below for the exact dimensions of each size.
- **Type & OD:** Select flat for load spreading, spring/serrated for anti-loosening, or fender/large-OD for soft or oversized holes.

- **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 125 A. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Installation & Assembly Practice

- Place the washer under the rotating element (usually the nut) so tightening does not score the surface.
- Chamfered-hole side of a hardened washer faces the bolt head fillet.
- On serrated-flange hardware, do not add a plain washer — it defeats the serrations.

Common Selection Mistakes with Nylon Flat Washers

- Relying on a spring washer for locking on class 8.8+ joints — at high preload it flattens and adds nothing.
- Choosing an OD too small for soft material, so the head pulls through or embeds.

Where Nylon Flat Washers Are Not the Right Choice

A washer does not replace a locking feature on its own in severe vibration, and a spring washer adds little clamp on high-strength joints.

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 125 A)

Thread size	Inner diameter d1 (mm)	Outer diameter d2 (mm)	Thickness s (mm)	Material	Temperature range (deg C)	Reference standard
M2	2.2	5	0.3	PA6	-40 to +100	DIN 125 A series
M2.5	2.7	6	0.5	PA6	-40 to +100	DIN 125 A series
M3	3.2	7	0.5	PA6	-40 to +100	DIN 125 A series
M4	4.3	9	0.8	PA6	-40 to +100	DIN 125 A series
M5	5.3	10	1.0	PA6	-40 to +100	DIN 125 A series
M6	6.4	12	1.6	PA6	-40 to +100	DIN 125 A series
M8	8.4	16	1.6	PA6	-40 to +100	DIN 125 A series
M10	10.5	20	2.0	PA6	-40 to +100	DIN 125 A series
M12	13	24	2.5	PA6	-40 to +100	DIN 125 A series
M16	17	30	3.0	PA6	-40 to +100	DIN 125 A series
M20	21	37	3.0	PA6	-40 to +100	DIN 125 A series

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 Nylon Flat Washers 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 Nylon Flat Washers made to a recognized standard?

Yes — they are manufactured to DIN 125 A, so dimensions are interchangeable between suppliers when you quote the standard on your order.

What are Nylon Flat Washers used for?

Load distribution and anti-loosening under a bolt or nut. They are supplied to DIN 125 A.

Which industries use Nylon Flat Washers?

They are commonly specified in fabrication & metalwork, bolted structural joints and vibration applications, among other sectors.

Can I get a quote for Nylon Flat Washers 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: [Nylon Flat Washers — specifications & sizes](#)

Nylon Flat Washers Specification Guides

- [M2 Nylon Flat Washers size guide](#)
- [A4 stainless Nylon Flat Washers](#)

Related Fastener Applications

- [Bearing Lock Washers \(MB Series\) applications](#)
- [Bonded Sealing Washers applications](#)
- [Conical Spring Washers \(HV\) applications](#)
- [Cup Washers applications](#)
- [Disc Springs \(Belleville Washers\) applications](#)
- [EPDM Sealing Washers applications](#)