

M3 Spring Lock Washers Dimensions

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M3 Spring Lock Washers dimensions to DIN 127: inside diameter 3.1 mm, outside diameter 6.2 mm, thickness 0.8 mm.

Inside diameter

3.1 mm

Outside diameter

6.2 mm

Thickness

0.8 mm

Figures are nominal values from the governing standard. Confirm against the tolerance class for your application before machining or ordering.



This page covers M3 Spring Lock Washers to DIN 127. M3 is the nominal bolt size; the dimensional row below is reproduced from the product table, followed by the tolerance, material and selection notes that apply to this size.

M3 Dimensional Row (DIN 127)

For bolt size	Inner diameter d1 min (mm)	Outer diameter d2 max (mm)	Width b (mm)
M3	3.1	6.2	2.0

Mating Parts for M3

A M3 flat washer pairs with a M3 bolt/screw and matching M3 nut.

Custom manufacturing · Made to drawing

Need spring lock washers in a size this table does not list?

This page covers M3 spring lock washers. Bearing area is usually the reason for a special washer: a larger outside diameter to spread load into a softer material, or a thicker section to resist dishing. Made by stamping or punching.

Minimum order from 2,000 pieces; samples within 7 days of drawing approval.

Custom washer manufacturing

(<https://engineeringhardware.com/custom/washers/>)

Send a drawing (<https://engineeringhardware.com/custom/washers/#rfq>)

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.



Dimensioned line drawing of M3 Spring Lock Washers to DIN 127. Side view and top view, drawn to the dimensions in the table below and redrawn for any size selected.

Opens a short step to confirm the exact specification before you enter contact details.

Request a Quote

Click “Request this configuration” under the drawing to confirm the exact specification, then add your contact details. You can also send the request without a specification — but only an accurate selection gets an accurate quote.

Dimensions & Specifications (DIN 127)

For bolt size	Inner diameter d1 min (mm)	Outer diameter d2 max (mm)	Width b (mm)
M2	2.1	4.4	1.6
M2.5	2.6	5.1	2.0
M3	3.1	6.2	2.0
M3.5	3.6	7.0	2.5
M4	4.1	7.6	2.5
M5	5.1	9.2	3.0
M6	6.1	11.8	4.0
M7	7.1	13.1	4.0
M8	8.1	14.8	5.0
M10	10.2	18.1	6.0
M12	12.2	21.1	7.0
M14	14.2	24.1	8.0
M16	16.2	27.4	9.0
M18	18.2	29.4	9.0

For bolt size	Inner diameter d1 min (mm)	Outer diameter d2 max (mm)	Width b (mm)
M20	20.2	33.6	10.0
M22	22.5	35.9	11.0
M24	24.5	40.1	12.0
M27	27.5	44.8	12.0
M30	30.5	50.0	14.0
M36	36.5	60.0	16.0

Materials & Grades

Select a material class to see the grades we supply it in. Each designation is listed with its ISO/EN, AISI/SAE, JIS and GB equivalents.

Stainless Steel

Carbon Steel66

Alloy Steel41

Bearing Steels5

Spring Steel25

Aluminum and Aluminum Alloys21

Brass17

Bronze11

Copper8

Titanium and Titanium Alloys18

Nickel and Nickel Alloys22

Iron-Nickel and High-Temperature Alloys10

Tool Steel and Specialty Hardened Steel9

Structural and Construction Steel9

Stainless Steel

Austenitic Stainless Steel

A1

AISI 303 · SAE 303 · SUS303 · EN 1.4305 · X8CrNiS18-9

A2

AISI 304 · SAE 304 · SUS304 · EN 1.4301 · X5CrNi18-10 · 06Cr19Ni10

304L

AISI 304L · SUS304L · EN 1.4307 · X2CrNi18-9 · 022Cr19Ni10

302

AISI 302 · SUS302 · EN 1.4310

305

AISI 305 · SUS305 · EN 1.4303

A4

AISI 316 · SAE 316 · SUS316 · EN 1.4401 · X5CrNiMo17-12-2 · 06Cr17Ni12Mo2

316L

AISI 316L · SUS316L · EN 1.4404 · X2CrNiMo17-12-2 · 022Cr17Ni12Mo2

321

AISI 321 · SUS321 · EN 1.4541 · X6CrNiTi18-10

310 / 310S

AISI 310 · AISI 310S · SUS310S · EN 1.4845

302HQ

AISI 302HQ

A3**A5****347**

AISI 347 · SUS347 · EN 1.4550 · X6CrNiNb18-10

309 / 309S

AISI 309 · AISI 309S · SUS309S

Martensitic Stainless Steel**AISI 410**

SUS410 · EN 1.4006 · X12Cr13 · 12Cr13

AISI 420

SUS420J1 · SUS420J2 · EN 1.4021 · EN 1.4028 · 20Cr13 · 30Cr13

AISI 431

SUS431 · EN 1.4057 · X17CrNi16-2

C1**C3****C4****AISI 440A****AISI 440B****AISI 440C**

SUS440C · EN 1.4125

Ferritic Stainless Steel

AISI 430

SUS430 · EN 1.4016 · X6Cr17 · 10Cr17

F1

AISI 434

AISI 444

Precipitation-Hardening Stainless Steel

17-4 PH

AISI 630 · UNS S17400 · SUS630 · EN 1.4542 · X5CrNiCuNb16-4

15-5 PH

UNS S15500

17-7 PH

UNS S17700

Duplex and Super Duplex Stainless Steel

Duplex 2205

UNS S31803 · UNS S32205 · EN 1.4462

Super Duplex 2507

UNS S32750 · EN 1.4410

D2

D4

D6

D8

Lean Duplex 2101

UNS S32101

Super Duplex S32760

UNS S32760 · EN 1.4501

Carbon Steel

Low-Carbon Steel

SAE 1006**SAE 1008****SAE 1010****SAE 1018****SAE 1020****Q195****Q235****SAE 1012****SAE 1015****Q215****ML08****ML08AI****ML10****ML15****ML20****SWRCH6A****SWRCH8A****SWRCH10A****SWRCH12A****SWRCH15A****SWRCH18A**

Medium-Carbon Steel

SAE 1035**SAE 1045**

S45C**C45****SAE 1030****SAE 1040****SAE 1050****30****35****40****45****50****S35C****S40C****S50C****C35****C40****High-Carbon Steel****SAE 1060****SAE 1070****65Mn****SAE 1065****SAE 1075****SAE 1080****SAE 1085****SAE 1090****SAE 1095****60****65**

70**75****80****85**

Cold-Heading Steel

SWRCH22A**10B21****SWRCH22K****SWRCH25K****SWRCH30K****SWRCH35K****SWRCH40K****ML20Mn****ML25****ML30****ML35****ML40****15B25**

Alloy Steel

Chromium Steel

40Cr**45Cr****AISI 5140****SAE 5140**

AISI 5120**SAE 5120****SCr420****SCr440****Chromium-Molybdenum Steel****35CrMo****42CrMo****AISI 4140****SCM435****SCM440****42CrMo4****30CrMo****AISI 4130****SAE 4130****SAE 4140****AISI 4142****AISI 4145****SCM415****SCM420****SCM445****EN 1.7220****EN 1.7225****25CrMo4****34CrMo4****Nickel-Chromium-Molybdenum Steel****AISI 4340**

SAE 4340**40CrNiMo****SNCM439****EN 1.6511****36CrNiMo4****Boron Alloy Steel****10B22****10B21****15B21****15B25****20MnTiB****20Mn2B****35VB****40MnB****Bearing Steel****Bearing Steel****GCr15****AISI 52100****SAE 52100 · UNS G52986****SUJ2****100Cr6****EN 1.3505****GCr15SiMn**

Spring Steel

Carbon Spring Steel

SAE 1065**SAE 1070****SAE 1075****SAE 1080****SAE 1095****65****70****75****80****65Mn**

Silicon-Manganese Spring Steel

60Si2Mn**60Si2MnA****SUP6****SUP7**

Chromium-Vanadium Spring Steel

50CrVA**SAE 6150****AISI 6150****SUP10**

Stainless Spring Steel

AISI 301**SUS301**

EN 1.4310**AISI 302****AISI 304****AISI 316****17-7 PH**

Aluminum and Aluminum Alloys

Commercially Pure Aluminum

1050**1060****1070****1100**

2xxx Series Aluminum

2024**2011****2014****2017**

5xxx Series Aluminum

5052**5083****5754**

6xxx Series Aluminum

6061**6061-T6**

6063**6082****6082-T6****7xxx Series Aluminum****7075****7075-T6****7005****7050****7075-T73****Brass****Free-Cutting Brass****C36000****H62****HPb59-1****C3601****C3602****C3604****CuZn36Pb3****CuZn39Pb3****EN CW614N****EN CW617N****H65****Lead-Free Brass****C69300**

C27450**CW510L****CW511L****Naval Brass****C46400****CuZn39Sn1****Bronze****Silicon Bronze****C65500****C65100****C65600****Phosphor Bronze****C51000****C52100****CuSn6****CuSn8****Aluminum Bronze****C95400****C95500****C63000****CuAl10Ni5Fe4**

Copper

Copper

C11000**T2****C10100****C10200****C12200****T1****TU1****TU2**

Titanium and Titanium Alloys

Commercially Pure Titanium

Grade 2**Grade 1****Grade 3****Grade 4****TA1****TA2****TA3**

Alpha-Beta Titanium Alloys

Grade 5**Ti-6Al-4V****TC4****UNS R56400**

Low-Interstitial Grade

Grade 23

Ti-6Al-4V ELI

UNS R56407

Other Titanium Fastener Alloys

Ti-6Al-6V-2Sn

Ti-6Al-2Sn-4Zr-2Mo

Beta-C titanium

Ti-10V-2Fe-3Al

Nickel and Nickel Alloys

Commercially Pure Nickel

Nickel 200

UNS N02200

Nickel 201

UNS N02201

Inconel Alloys

Inconel 625

UNS N06625

Inconel 718

UNS N07718

Inconel 600

UNS N06600

Inconel 601

UNS N06601

Inconel 686

UNS N06686**Inconel X-750****UNS N07750****Monel Alloys****Monel 400****UNS N04400****Monel K-500****UNS N05500****Hastelloy Alloys****Hastelloy C-276****UNS N10276****Hastelloy C-22****UNS N06022****Hastelloy B-2****UNS N10665****Hastelloy B-3****UNS N10675****Hastelloy X****UNS N06002****Other Nickel Alloys****Alloy 20****UNS N08020****Alloy 625****Alloy 718****Alloy 825****UNS N08825****Alloy 925****UNS N09925**

Iron-Nickel and High-Temperature Alloys

A286

A-286**UNS S66286****EN 1.4980**

Invar

Invar 36**Alloy 36****UNS K93600****FeNi36**

Alloy 42

Alloy 42**UNS K94100****FeNi42**

Tool Steel and Specialty Hardened Steel

Tool Steel and Specialty Hardened Steel

AISI D2**AISI H13****SKD11****Cr12MoV****AISI O1****AISI A2****AISI S7**

SKD61**9CrSi**

Structural and Construction Steel

Structural and Construction Steel

ASTM A36**Q235B****Q355B****S355JR****Q235C****Q355C****S235JR****S275JR****S355J2**

Applications & Industries for M3 Spring Lock Washers

Spring Lock Washers are bought for a small number of well-defined jobs. These are the ones we ship them for. Stocked from M2 to M36 (nominal bolt size).

Industries that specify Spring Lock Washers

Rotating & vibrating plant **Spring, tooth and wedge types that maintain or lock bolt tension.**

Steel fabrication **Spreading load under a head or nut and protecting the surface finish.**

Machine building & OEM **Setting bearing area on soft alloy, plastic and oversized holes.**

Timber & construction **Large-diameter washers that stop pull-through in softer material.**

Typical applications

- **spreading clamp load over a soft or oversized bearing face**
- **protecting a painted or plated surface under a turned nut**
- **maintaining bolt tension in a joint that settles**

Service conditions to specify against

Marine and coastal

Available in A4 (316) stainless for chloride exposure — coastal structures, pool halls, water treatment and deck hardware, where A2 will eventually pit.

Vibration

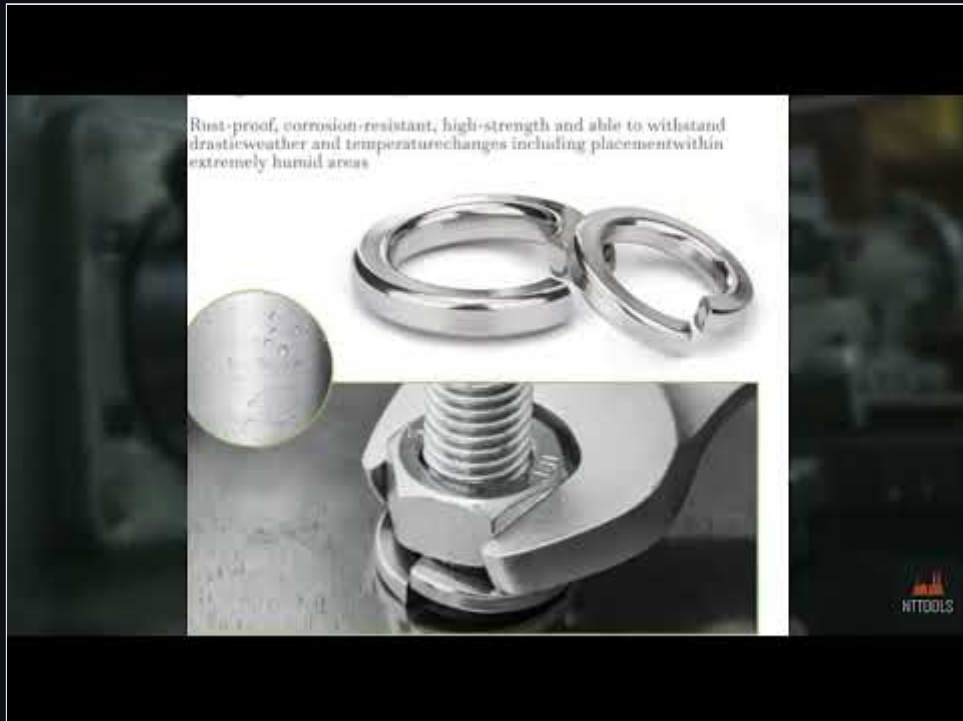
Specified where cyclic load would loosen a plain nut or screw — rotating plant, rail, mobile equipment and anything that is not re-torqued in service.

Hardness matters

Under a high-strength bolt a soft washer embeds into the joint and preload is lost — specify a hardened washer for structural bolting.

Full application guide: where Spring Lock Washers are used, how to specify them, and the cases they are wrong for (<https://engineeringhardware.com/applications/spring-lock-washers/>)

Video: M3 Spring Lock Washers Dimensions



https://www.youtube.com/watch?v=Yy_ke3Fz0o8

► Watch video: https://www.youtube.com/watch?v=Yy_ke3Fz0o8 (https://www.youtube.com/watch?v=Yy_ke3Fz0o8)

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.



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.



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.



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.



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

Is M3 Spring Lock Washers suitable for electronics and small mechanisms?

M3 Spring Lock Washers is in the micro range and is widely used in electronics, instrument enclosures and small precision mechanisms. Watch the over-torque margin — micro joints strip easily.

What's the typical proof load behavior of M3 class 8.8?

Micro-thread joints are sensitive to plastic deformation in the first turn under load — use a torque-limiting driver and check the bearing surface deformation on softer mating materials.

Which washer dimensions matter most for M3?

For a flat washer, the outside diameter (the bearing surface) and the thickness control how the load is spread under the head and how much elastic preload is preserved. The inside diameter must clear the bolt body but not be so large that the head bears mostly on the washer's outer rim.

What is the coarse-thread pitch of M3 for Spring Lock Washers?

For M3 the standard coarse pitch is 0.5 mm — this is the value used for Spring Lock Washers.

How do I request a quotation?

Use the technical drawing on this page to pick the exact configuration, then submit it with the quote form. We respond within one business day.

Related Pages

[View the full Spring Lock Washers page \(https://engineeringhardware.com/fastener/spring-lock-washers/\)](https://engineeringhardware.com/fastener/spring-lock-washers/)

More Spring Lock Washers Guides

- **M2 Spring Lock Washers** (<https://engineeringhardware.com/guide/size/m2-spring-lock-washers/>)
- **M2.5 Spring Lock Washers** (<https://engineeringhardware.com/guide/size/m2-5-spring-lock-washers/>)
- **M3.5 Spring Lock Washers** (<https://engineeringhardware.com/guide/size/m3-5-spring-lock-washers/>)
- **M4 Spring Lock Washers** (<https://engineeringhardware.com/guide/size/m4-spring-lock-washers/>)
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