A4 (316) Stainless Steel Threaded Spring Plungers

A4 Stainless Steel Threaded Spring Plungers are supplied to ISO 3506 group A4 (316 / 1.4401), commonly supplied A4-80. Corrosion behaviour is superior, including marine and chloride environments, the material is largely non-magnetic, and the usable service range is approx. -200 °C to +400 °C, subject to the property class and the joint. In practice this grade is specified for marine, coastal and chemical applications.

Grade

ISO 3506 group A4 (316 / 1.4401), commonly supplied A4-80

Corrosion resistance

Superior, including marine and chloride environments

Magnetic response

Largely non-magnetic

Service temperature

approx. -200 °C to +400 °C, subject to the property class and the joint

Property values are typical for the grade. Certified mechanical test data is available on request for production orders.



Material page for threaded spring plungers in A4 Stainless Steel (ISO 3506 group A4 (316 / 1.4401), commonly supplied A4-80). The sizes below are the ones we supply; there is no published dimensional standard for this article, so the table rather than a standard number is what to quote. Corrosion behaviour is superior, including marine and chloride environments and the service range is approx. -200 °C to +400 °C, subject to the property class and the joint.

Why Choose A4 Stainless Steel for Threaded Spring Plungers

Specified for marine, coastal and chemical applications. For threaded spring plungers, this matters when superior, including marine and chloride environments is the primary requirement.

Mechanical & Physical Properties

Grade designation	ISO 3506 group A4 (316 / 1.4401), commonly supplied A4-80
Magnetic response	Largely non-magnetic
Service temperature	approx. -200 °C to +400 °C, subject to the property class and the joint
Corrosion characteristic	Superior, including marine and chloride environments

Corrosion Behavior in Service

A4 (316) adds 2–3% molybdenum to the A2 (304) composition, which dramatically improves resistance to chloride-pitting corrosion. For Threaded Spring Plungers in marine, coastal, swimming-pool or food-processing environments, A4 is the default selection.

Comparable Grades

For Threaded Spring Plungers, the alternative stainless grade is A2 (304). A2 (304) covers general indoor and outdoor service. A4 (316) adds molybdenum, which is what buys the chloride resistance for marine and de-icing-salt exposure. Where strength

matters more than corrosion, plated alloy steel in class 8.8 or 10.9 is the swap to make.

Using Stainless Fasteners in Aluminum

Stainless steel is more noble than aluminum, so with an electrolyte present — rain, condensation, salt spray — the aluminum becomes the anode and corrodes at the joint. Area ratio decides how bad it gets: a small stainless fastener in a large aluminum section is normally acceptable, a large stainless fastener in thin aluminum is not. Where the joint gets wet, isolate the metals with a coated or nylon washer and a sealant, or specify an aluminum or coated fastener instead.

Sizes of Threaded Spring Plungers Available in A4 Stainless Steel

Thread size	Plunger types	Housing material	Ball material
M2	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M3	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M4	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M5	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M6	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M8	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M12	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M20	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C

Dimensions are independent of the material: the table above lists the sizes supplied, and on this page every one of them is quoted in A4 Stainless Steel. The catalogue's default material column has been omitted here so it cannot be read as contradicting that.

Custom manufacturing · Made to drawing

Need this pin in a grade that is not listed?

A4 Stainless Steel is one of the grades the catalog describes. Tolerance class is what a special pin usually turns on — a locating pin and a retaining pin want very different fits in the same nominal size. Made by cold heading or turning.

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

Custom pin manufacturing (https://engineeringhardware.com/custom/pins/)

Send a drawing (https://engineeringhardware.com/custom/pins/#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 M2 Threaded Spring Plungers to Trade series (GN 615). Side view and top view, drawn to the dimensions in the table below and redrawn for any size selected.

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 (Trade series (GN 615))

Thread size	Plunger types	Housing material	Ball material
M2	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M3	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M4	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M5	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M6	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M8	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M12	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C
M20	K / KS / KN / KSN	blackened steel or AISI 303 stainless	hardened steel or AISI 420C

Product catalog

Related Spring Plungers products



(https://engineeringhardware.com/product/oem-cnc-bronze-brass-bearing-bushing-set-for-agricultural-spring-pins-a-precision/)

Spring, Roll & Coiled Pins

OEM CNC Bronze & Brass Bearing Bushing Set for Agricultural Spring Pins â Precision-Machined Cu-Alloy Bearings, Custom Sizes, Bulk Supply (https://engineeringhardware.com/product/oem-cnc-bronze-brass-bearing-bushing-set-for-agricultural-spring-pins-a-precision/)bushing-set-for-agricultural-spring-pins-a-precision/)

Bushing · Cuzn25al5mn4fe3

US$0.74 – 1.92MOQ 10 pieces



(https://engineeringhardware.com/product/din1481-stainless-steel-304-316-slotted-spring-pins/)

Spring, Roll & Coiled Pins

DIN1481 Stainless Steel 304 316 Slotted Spring Pins

(https://engineeringhardware.com/product/din1481-stainless-steel-304-316-slotted-spring-pins/)

Stainless Steel · DIN, ANSI

US$0.0012 – 11.96 MOQ 100 pieces


DIN1481-6X40
DIN1481-10X60

(https://engineeringhardware.com/product/pins-din1481-slotted-spring-pin-10x60/)

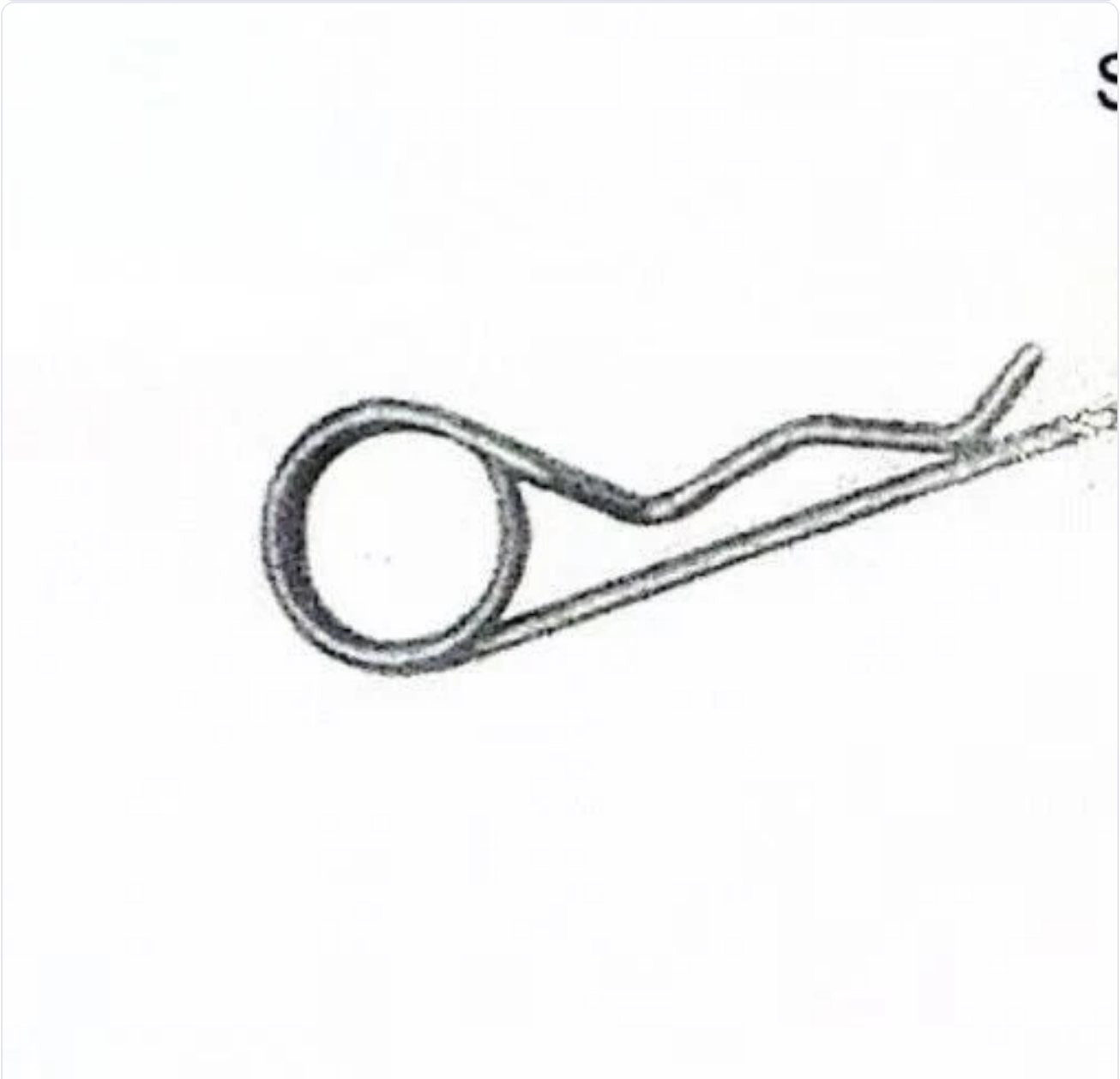
Spring, Roll & Coiled Pins

Pins DIN1481, Slotted Spring Pin, 10X60

(https://engineeringhardware.com/product/pins-din1481-slotted-spring-pin-10x60/)

Carbon Steel 65mn, Stainless Steel · From 1.5mm to 16mm

Price on request MOQ 1,000 pieces



(https://engineeringhardware.com/product/zinc-plated-double-spring-pin-double-loop-spring-lock-pin-for-securing/)

Spring, Roll & Coiled Pins

Zinc Plated Double Spring Pin, Double Loop Spring Lock Pin for Securing (https://engineeringhardware.com/product/zinc-plated-double-spring-pin-double-loop-spring-lock-pin-for-securing/)

Alloy Steel, Carbon Steel, Stainless Steel · SGS CE

US$0.012 – 1.20 MOQ 1 piece



(https://engineeringhardware.com/product/whole-stainless-steel-material-customizable-headed-quick-release-ball-lock-spring/)

(https://engineeringhardware.com/product/whole-stainless-steel-material-customizable-headed-quick-release-ball-lock-spring/)

Spring, Roll & Coiled Pins

Whole Stainless-Steel Material Customizable Headed Quick Release Ball Lock Spring Pin Plunger Safety Pin
(https://engineeringhardware.com/product/whole-stainless-steel-material-customizable-headed-quick-release-ball-lock-spring/)
(https://engineeringhardware.com/product/whole-stainless-steel-material-customizable-headed-quick-release-ball-lock-spring/)

Pin · DIN, GB, ANSI, BSW, JIS

US$0.12 – 0.14 MOQ 1,000 pieces



(https://engineeringhardware.com/product/wg9000520078-heavy-duty-howo-front-plate-bushing-original-sinotruk-howo-truck-spare/)

Spring, Roll & Coiled Pins

Wg9000520078 Heavy-Duty HOWO Front Plate Bushing & Original Sinotruk HOWO Truck Spare Parts Leaf Spring Pin Wg9100520065
(https://engineeringhardware.com/product/wg9000520078-heavy-duty-howo-front-plate-bushing-original-sinotruk-howo-truck-spare/)
(https://engineeringhardware.com/product/wg9000520078-heavy-duty-howo-front-plate-bushing-original-sinotruk-howo-truck-spare/)

TS16949 · 1 Year

US$6.00 – 120.00 MOQ 500 pieces

View all Spring, Roll & Coiled Pins →
(https://engineeringhardware.com/fastener-products/pins-dowel-fasteners/spring-roll-coiled-pins/)

Full product catalog (https://engineeringhardware.com/products/)

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 Steel 66

Alloy Steel 41

Bearing Steel 5

Spring Steel 25

Aluminum and Aluminum Alloys 21

Brass 17

Bronze 11

Copper 8

Titanium and Titanium Alloys 18

Nickel and Nickel Alloys 22

Iron-Nickel and High-Temperature Alloys 10

Tool Steel and Specialty Hardened Steel 9

Structural and Construction Steel 9

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
- ML08Al
- 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

What Threaded Spring Plungers are specified for, industry by industry. Stocked from M2 to M20.

Industries that specify Threaded Spring Plungers

Conveyor changeover **Low-force positioning of guides and adjustable stops.**

Instrument controls **Small locating contacts under knobs, slides and adjustment parts.**

Jig and fixture building **Threaded spring plungers used for stops, detents and repeat location.**

Machine guarding **Spring contacts that hold removable covers in a chosen position.**

Agricultural & plant **Implement connections made and broken in the field.**

Gearboxes & housings **Dowelled joints where the bolts clamp and the pins locate.**

Typical applications

- **setting a repeatable detent without a loose removable pin**
- **matching ball and housing material to the contact environment**
- **providing a threaded spring-loaded ball contact**
- **choosing standard, high-load or locking-slot plunger types**
- **pivot and hinge joints loaded in shear**
- **quick connections made and broken by hand**

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.

Hole preparation

The hole is half the specification: a ground dowel needs a reamed H7 hole, a grooved or spring pin will hold in a drilled one.

Where to use something else

- **Do not use a spring plunger as the primary shear retainer or as a substitute for a clamp bolt.**

Full application guide: where Threaded Spring Plungers are used, how to specify them, and the cases they are wrong for (https://engineeringhardware.com/applications/threaded-spring-plungers-gn-615/)

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.



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.



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 A4 Stainless Steel food-grade?

A4 (316) is the standard food-contact stainless grade in most jurisdictions, particularly where chloride exposure (brines, dairy CIP) is present.

Can A4 Stainless Steel Threaded Spring Plungers be used with aluminum?

Yes, but stainless drives mild galvanic corrosion of aluminum in wet service — isolate with a coating, sleeve or paint, or accept the trade-off if the joint is dry and indoor.

What's the service temperature limit for A4 Stainless Steel?

The practical service range is approx. -200 °C to +400 °C, subject to the property class and the joint.

Can A4 Stainless Steel replace plated alloy steel structurally?

Only at the standard strength classes — A2-70 / A4-80 are roughly equivalent to class 7 steel; A4-100 reaches class 8.8. For class 10.9 or 12.9 strength, plated alloy steel is required.

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 Threaded Spring Plungers page (https://engineeringhardware.com/fastener/threaded-spring-plungers-gn-615/)

More Threaded Spring Plungers Guides

- **A2 Stainless Steel Threaded Spring Plungers (https://engineeringhardware.com/guide/material/a2-stainless-steel-threaded-spring-plungers-gn-615/)**