DIN 580 Eye Bolts Specification

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Bolts · DIN 580

Dimensional table, tolerance classes and the DIN / ISO / ASME parts that supersede or match this standard.

DIN 580 specifies the dimensions and tolerances for eye bolts. The full dimensional table is reproduced below, followed by the DIN, ISO and ASME parts that match or supersede it.

Standard

DIN 580

Product

Eye Bolts

Governing standards

DIN 580

Equivalence between national standards is dimensional, not always metallurgical. Check the property class separately when substituting.

Specification summary of DIN 580 as applied to eye bolts: the dimensions the standard fixes, the full size range supplied, and the related designations commonly cross-referenced.

DIN 580 — Scope

DIN 580 specifies the dimensional requirements for eye bolts. Material, surface condition and any performance rating are set by separate documents specific to this part family — ISO 898-1 and ISO 898-2, which govern bolt and nut property classes, do not apply here.

Tolerance & Product Grades

Tolerances for eye bolts are given as limits on the individual dimensions in the table rather than as a fastener product grade. Where a general-tolerance class is cited on the drawing instead, it applies to the dimensions not otherwise toleranced.

Dimensions Specified by DIN 580

Thread size	Pitch (mm)	Ring inside diameter d (mm)	Ring outside diameter (mm)	Thread length (mm)	Max load vertical (kg)	Reference standard	Notes
M6	1.0	20	36	12	70	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M8	1.25	25	45	16	140	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M10	1.5	30	54	20	230	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M12	1.75	36	63	24	340	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M14	2.0	42	72	28	500	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M16	2.0	45	81	32	700	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M18	2.5	50	90	36	930	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M20	2.5	56	99	40	1200	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M24	3.0	63	117	48	1800	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M30	3.5	80	144	60	3200	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull

Thread size	Pitch (mm)	Ring inside diameter d (mm)	Ring outside diameter (mm)	Thread length (mm)	Max load vertical (kg)	Reference standard	Notes
M36	4.0	95	171	72	4600	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull

Equivalent Standards

Where direct equivalents exist (ISO ↔ DIN, ISO ↔ ASME), they are listed on the parent Eye Bolts page. Always confirm against the dimensions on this page, since some "equivalent" standards differ in tolerances and head geometry.

Companion Standards

DIN 580 controls only the geometry of eye bolts. Surface finish is governed by separate finish standards (for example ISO 4042 for electroplating), and corrosion testing by ISO 9227 (neutral salt spray). Mechanical performance is set by the standards specific to this part family, not by ISO 898-1 or ISO 898-2, which apply to bolts, screws and nuts.

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 580)

Thread size	Pitch (mm)	Ring inside diameter d (mm)	Ring outside diameter (mm)	Thread length (mm)	Max load vertical (kg)	Reference standard	Notes
M6	1.0	20	36	12	70	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
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M10	1.5	30	54	20	230	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M12	1.75	36	63	24	340	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M14	2.0	42	72	28	500	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M16	2.0	45	81	32	700	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M18	2.5	50	90	36	930	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M20	2.5	56	99	40	1200	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M24	3.0	63	117	48	1800	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull
M30	3.5	80	144	60	3200	DIN 580 / WLL	Drop-forged lifting eye bolt, vertical pull

Thread size	Pitch (mm)	Ring inside diameter d (mm)	Ring outside diameter (mm)	Thread length (mm)	Max load vertical (kg)	Reference standard	Notes
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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 Steel38 Carbon Steel66 Alloy Steel41 Bearing Steel5 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
- 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

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 does DIN 580 specify for Eye Bolts?
DIN 580 specifies the dimensions and tolerances of eye bolts. Material and property class are governed by separate standards in the same family.

Does DIN 580 specify the mechanical strength?
No. DIN 580 controls the dimensional requirements for eye bolts. Mechanical performance is set by the standards specific to this part family — ISO 898-1 and ISO 898-2 apply to bolts, screws and nuts and do not cover this product.

Can I substitute DIN 580 for the corresponding DIN standard on a drawing?
On modern drawings the ISO standard is the master reference; the older DIN equivalent is a cross-reference. For most dimensional purposes the parts are interchangeable, but check tolerance grades and the head height — these are the most common points of

divergence.

Which edition of DIN 580 does this table follow?

The table reproduces the dimensions we supply eye bolts to. We do not publish an edition year against it, so where the edition is contractually significant, cite the edition you require on the enquiry and we will confirm it against the table before quoting.

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 Eye Bolts page