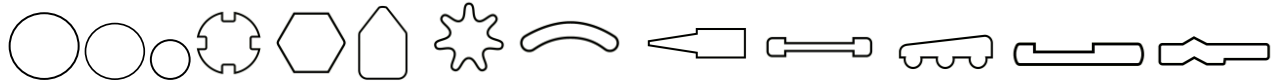


Zapp is certified to ISO 9001



Zapp – EN- and AISI-Designations

Stainless steel

Austenitic grades/ EN	Austenitic grades/ AISI
Ergste 1.4301FC, PA, PT, PV, PW	AISI 304
Ergste 1.4301VD	AISI 304, AISI 304L
Ergste 1.4303SA,	AISI 305
Ergste 1.4305	AISI 303
Ergste 1.4305UA, UB	~AISI 303
Ergste 1.4306LU	AISI 304/AISI 304L
Ergste 1.4310FA, FB, FD, FE ₁ , FI, FV	AISI 301/302
Ergste 1.4370WA	-
Ergste 1.4374SN	AISI 202
Ergste 1.4401PA	AISI 316
Ergste 1.4401SB	AISI 316
Ergste 1.4404LB	AISI 316L
Ergste 1.4404UA	-
Ergste 1.4427UA	-
Ergste 1.4435	-
Ergste 1.4439LN	-
Ergste 1.4441LA ₁ , LN ₁	~AISI 316L
Ergste 1.4472RN	-
Ergste 1.4539LN, LW	-
Ergste 1.4541TA, TB, TS	AISI 321
Ergste 1.4567, LC	-
Ergste 1.4570UA	-
Ergste 1.4571LU, TA	AISI 316Ti
Ergste 1.4578SC	-
Ergste 1.4598UA	-
Ergste 1.4828ZA	-
Ergste 1.4845	AISI 310S
Ergste 1.4961PW	~AISI 347H
Ergste 1.4872ZA	-
Ergste 1.4980TA	-
Ergste 9.9200GA	-
Ergste 9.9201FN	AISI 201
Ergste 9.9244PC	-
Ergste 9.9253ZA	-
Ni-free austenitic grades/ EN	Ni-free austenitic grades/ AISI
Ergste 1.3816CN	-
Ergste 1.4456CA	-
Ergste 9.9007CN	-

Ferritic grades for magnetic valve applications/ EN

Ferritic grades/ AISI

Ergste 1.4003IA	-
Ergste 1.4003IB, ID	-
Ergste 1.4005IA, IH, ID	AISI 416
Ergste 1.4016IM, IH	AISI 430
Ergste 1.405IB	-
Ergste 1.4105IL, IT	AISI 430F
Ergste 1.4105IM, IU	-AISI 430F
Ergste 1.4105IQ	-
Ergste 1.4113IL	AISI 434
Ergste 1.4113IM, IU	-
Ergste 1.4114IU	XM-34
Ergste 1.4511IA, IH	AISI 430
Martensitic grades/ EN	Martensitic grades/ AISI
Ergste 1.4005IU	AISI 416
Ergste 1.4006YH	AISI 410
Ergste 1.4021, YA, YB	AISI 420, 420A
Ergste 1.4024	~AISI 410
Ergste 1.4028YC, YN	AISI 420, 420B
Ergste 1.4028MO	AISI 420, 420X (+Mo)
Ergste 1.4031YA	AISI 420
Ergste 1.4031YC, YE	AISI 420, ~420X
Ergste 1.4034YS, YE, YK	AISI 420, 420C
Ergste 1.4034YN	-
Ergste 1.4035YU	AISI 420C (+S)
Ergste 1.4037YR	AISI 420
Ergste ₁ 1.4057YE	AISI 431
Ergste 1.4057YN	~AISI 431
Ergste 1.4104, YU	~AISI 430F
Ergste ₁ 1.4108	-
Ergste 1.4112YE ₁ , YL	-
Ergste 1.4112YA,	-
Ergste 1.4120YT	-
Ergste 1.4122YA, YN, YL	-
Ergste 1.4123YN ₁	AISI 420 Mod
Ergste 1.4125YC, YE ₁	AISI 440C
Ergste 1.4197YU	AISI 420F Mod
Ergste 1.4418YB	-
Ergste 9.9440YA	AISI 440A
Ergste 9.9440YL	~AISI 440A

Carbon steel/alloyed steels /EN	Carbon steel/alloyed steels/ AISI
Ergste ⁿ 1.0611	-
Ergste 1.0613	-
Ergste 1.0617QC	-
Ergste 1.0715	-
Westig 1.0759EA	-
Westig 1.1268EA	-
Ergste 1.2243	-
Westig 1.2833EB	~AISI W2
Ball bearing steel	AISI
Ergste 1.3505ER	-
Nickel/nickel base alloys	AISI
Ergiloy 2.4360HM	-
Ergiloy 2.4631HN	-
Ergiloy 2.4632HN	-
Ergiloy 2.4668HX	-
Ergiloy 2.4669HX	-
Ergiloy 2.4816HN	-
Ergiloy 2.4819HX	-
Ergiloy 2.4858HX	-
Ergiloy 2.4856HS	-
Titanium/titanium alloys/ EN	- Titanium/titanium alloys/ AISI
Ergitan 3.7025MP, MG	-
Ergitan 3.7035MG	-
Ergitan 3.7055MG	-
Ergitan 3.7065MG, MT	-
Ergitan 3.7165MG	-

Wire

Size Range

Ø 0.006 – 0.8" diameter (0,15 – 20 mm)diameter

Thickness tolerances

ISO 286-2 (ISO h11-h6)

Closer or different tolerances according to customer requirements

Finishes

Finally annealed

Drawn

Bright drawn

Diamond drawn

Degreased

Coated/bondered

Zapp-coat

Nickel (Ni) coated wire

Cu – Sn coated bright drawn wire

Specially coated

Ergitan 3.7195MG	-
Ergitan 9.9150MG	AISI 244
Ergitan 9.9367MG	-
Cobalt base alloys	AISI
Ergiloy 9.9035HG	-
Ergiloy 9.9135HL	-
Ergiloy 9.9229HW	-
Ergiloy 9.9605XL	-
Ergiloy 2.4964HL	-
Stainless steels/ ferritic- austenitic	AISI
Ergste 1.436	-
Ergste 1.4462	-
Ergste 1.4462XA	-
Precipitation-hardenable stainless steel	AISI
Ergste 1.4542GE ¹⁾ , GG	AISI 630
Ergste 1.4543GG ¹⁾	-
Ergste 1.4568GA	AISI 631
Ergste 9.9204AG	-
Ergste 9.9455GG ¹⁾	-

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1) ESR

C-steels for special applications in cold-rolled and hardened version on request.

We are looking forward to receive your inquiries according to JIS and GOST

ASTM A555, ASTM A580

Quality standards

Annealed, cold-hardened in accordance with EN 10088-3; ISO 5832-1

Spring hard to EN 10270-3

Eddy current testing (Schweden)

Closer mechanical, technological or physical values for your specific application

Forms of delivery

Coils up to 2,095 lbs (950 kg)

Top hat

Wire on spools (several types of spools)

Wire in barrels (wide range of drums)

Catalog for forms of delivery on request

Standards

Primarily used standards:

EN 10088-1+3/EN 10270-3/DIN 17850

ASTM B863/ASTM A580/ASTM A555/ASTM A313

ASTM A493/SEW 470/ISO 5832-1/ASTM F138

Profile

Size Range

Width 0.016 – 2.5" (0,4 – 63, 50 mm)

Thickness 0.01 – 1.34" (0,25 – 34 mm)

Forms of profiles

Square, hexagon, octagon, key bar

Special profiles according to customer specification

Finishes

Drawn to profile, specially rolled, rolled to profile

Cross and longitudinal shaping

Profiles made of faultlessly ground rolled rods

Finishes depend on material, shape and tensile strength

Surface finishes

Dull, bright, very bright, bonderized

Lowest roughness values

Tolerances

EN 10278

Tightest tolerances depending on geometry on request

Straightness

Minimal deviation depending on product form by agreement

Edge finishes

Special edge finishes by agreement

Quality standards

Annealed, cold-hardened according to EN 10088-3, ISO 5832-1

Closer mechanical, technical or physical properties by agreement

Forms of delivery (EN 10278)

Bars in manufactured lengths, stock lengths, precise lengths can be supplied up to 354.3" +/- 0.2" (9,000 mm +/- 5 mm)

Spools to EN 60264-2-1

Packet wrapped coils

Special spools of 22 – 4,400 lbs (10 – 2,000 kg)

Chamfered or sawn bar ends

Forms of delivery depend on the cross-profile

Standards

Primarily used standards DIN 17850/SEW 470/EN 10095/ EN1088-3/ISO 5832-1/ASTM F138

Bars

Size Range

Ø 0.003 – 3.94" (0,7 – 100 mm) diameter

Thickness tolerance

ISO 286-2 (ISO h11-h5)

Closer or different tolerances according to customer requirements

Finishes

Drawn, straightened

Drawn, straightened, polished

Drawn, ground, polished

Drawn, straightened, ground, polished

Drawn, annealed, straightened

Drawn, annealed, ground

Drawn, annealed, ground, polished

Drawn, annealed, straightened, ground, polished

Surface roughness Ø 0.039 – 0.157" (Ø 1,0 – 40 mm)

Ground, polished

$R_{max.} \leq 5 \mu\text{m} / R_z \leq 3 \mu\text{m} / R_a \leq 0,5 \mu\text{m}$

$R_{max.} \leq 2,5 \mu\text{m} / R_z \leq 2 \mu\text{m} / R_a \leq 0,3 \mu\text{m}$

Straightness Ø 0.039 – 0.157" (Ø 1,0 – 40 mm)

Up to 0.02" (0.5 mm)/40.0" (1 m) as standard

Up to 0.008" (0.2 mm)/40.0" (1 m) on request

Quality standards

Annealed and/or cold hardened in accordance with EN 10088-3

Closer and higher mechanical, technological or physical values according to customer requirements

Crack tested in accordance to EN 10277-1 Table 1-4

Tempered

Demagnetized

Defined magnetic characteristics

Ultrasonic tested (Ø 0.24 – 0.98"/Ø 6 – 25 mm), circular disk-shaped reflector at least 0.028" (0.7 mm) or better

Bar length (DIN 10278, manufacturing, stock, exact lengths)

Ø 0.03 – 0.06" (0.7–1.5 mm) in lengths 10.0 – 80.0" (250 – 2,000 mm)

Ø 0.06 – 0.2" (1.5 – 5 mm) in lengths 10.0 – 160.0" (250 – 4,000 mm)

Ø 0.2 – 3.94" (5 – 100 mm) in lengths 80 – 240" (2,000 – 6,000 mm)

Larger diameters, other bar lengths and tolerances on request

End machining

On one or both sides

Chamfered 90° (45°)

Pointed 60° (30°)

Face chamfered

Standards

Production according to national and international standards DIN/ISO/ASTM (e.g., EN 10088-3/ISO 5832-1/ASTM F138)

ZAPP PRECISION WIRE

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Fax +49 2304 79-6148

precisionwire@zapp.com

Further information regarding our products and locations are available in our image brochure and under <http://www.zapp.com>

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