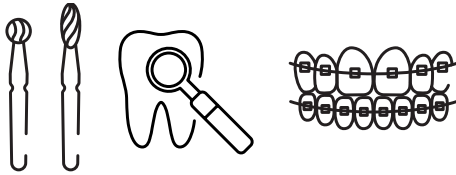


Zapp is certified according to ISO 9001



Grade Zapp® 1.4305 UA/UB

Zapp® 1.4305 UA/UB are stainless austenitic chromium nickel machining steels. Due to the high sulfur content Zapp® 1.4305 UA has an excellent machinability as well as a moderate corrosion resistance. In contrast Zapp® 1.4305 UB has a more stable structure due to the higher nickel and copper content and an increased corrosion resistance.

Typical Fields of Applications

- _ surgical instruments
- _ dental instruments
- _ components for braces

Corresponding Standards

- _ DIN EN 10088-3 (X8 CrNiS 18-9)
- _ ASTM F899 AISI 303 (UNS S30300)

Weldability

Zapp® 1.4305 UA/UB are conditionally weldable because the material tends to hot cracks due to the desulfurization. Friction welding is recommended, if welding is necessary.

Magnetism

Zapp® 1.4305 UA/UB are not magnetizable in annealed condition.

Corrosion Resistance

Due to the high sulfur content Zapp® 1.4305 UA/UB are severely corrodible in all media.

PREN figure: 17-20,76 (not considering the impact of sulfur)

Typical Chemical Composition

C	Si	Mn	P	S	Cr	Ni
max. 0.10	max. 1.00	mx. 2.00	max. 0.045	0.15 – 0.35	17.00 – 19.00	8.00 – 10.00

Mechanical Properties

Tensile Strength TS [ksi]	73 – 109
Yield Strength [ksi]	min. 33
Elongation A5 [%]	min. 35
Hardness HB	max. 250

Physical Properties

Modulus of Elasticity at 68 °F [ksi]	29,008
Specific Density [lb/in³]	0.285
Thermal Conductivity 68 °F [Btu in/hr ft² °F]	104
Coefficient of Thermal Expansion [µin/in °F]	
68 – 212 °F	8.89
68 – 392 °F	9.17
68 – 572 °F	9.44
68 – 752 °F	9.72
68 – 932 °F	10.00
Specific Heat at 68 °F [Btu/lb °F]	119
Electric Resistivity at 68 °F [Ω circular-mil/ft]	439

Polishability

The material Zapp® 1.4305 UA/UB are conditionally polishable.

Heat Treatment

Solution Annealing

Temperature: 1,832 – 2,012 °F

Cooling: Air, Water

Machining

Zapp®1.4305 UA is characterized by an outstanding machinability.

Hot Working

Forging at 2,192 – 1,652 °F

Working in the lower temperature levels is more appropriate to prevent hot cracks.

MEDICAL ALLOYS

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Further information regarding our products and locations are available in our image brochure and under www.zapp.com

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