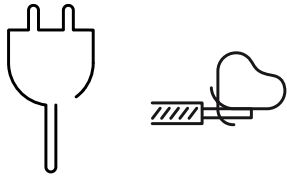


Zapp® 1.4310 FI Data Sheet

Precision Wire

ZAPP

Zapp is Certified to DIN EN ISO 9001



Classification

- Austenitic chrome-nickel steel
- Material-No. 1.4310
- DIN-short name: X10CrNi18-8
- Standard: DIN EN 10088-3
- SAE/UNS: Type S30100

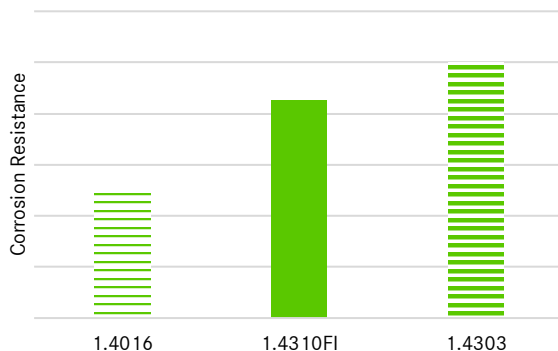
Typical Field of Application

Zapp® 1.4310 FI is a corrosion resistant, austenitic chrome-nickel steel with very good spring properties. Zapp® 1.4310 FI is characterized by its high hardening capacity during cold forming. There can be high tensile strengths with very good ductility achieved. Furthermore, Zapp® 1.4310 FI shows good tempering behavior (see tempering diagram).

- Electrical industry
- Spring industry

Corrosion Resistance

Zapp® 1.4310 FI has good corrosion resistance in all salt solutions that do not contain halide, in strongly oxidizing acids, in weak acids such as carbonic acids and in alkalis.



Cold Deformation

Zapp® 1.4310 FI has a very good cold formability.

Hot Forming

Forging and rolling at 900 – 1,200°C

Typical Chemical Analysis [Mass-%]

C	Si	Mn	P	S	Cr	Mo	Ni
0.07-0.13	≤ 1.80	≤ 1.70	≤ 0.04	≤ 0.015	16.50-18.00	≤ 0.80	6.80-7.80

Mechanical Properties

Tensile strength R_m	650 – 850 MPa, solution annealed 1,600 – 2,400 MPa, cold worked
Yield strength R_e	200 – 350 MPa, solution annealed ≥ 1,450 MPa, cold worked
Elongation A_5	≥ 40 %
Hardness	≤ 250 HRC

Physical Properties

Density ρ	7.9 kg/dm ³
Modulus of elasticity E at 20 °C	200 GPa
Thermal conductivity λ at 20 °C	15.0 W/(m*K)
Coefficient of thermal expansion α	(10 ⁻⁶ K ⁻¹)
20 – 100 °C	16.0
20 – 200 °C	17.0
20 – 300 °C	17.0
20 – 400 °C	18.0
20 – 500 °C	18.0
Specific heat c at 20 °C	500 J/(kg*K)
Specific electrical resistance ρ at 20 °C	0.73 $\mu\Omega\text{m}$

Heat Treatment

Solution Annealing

Temperature: 1,050 – 1,100 °C

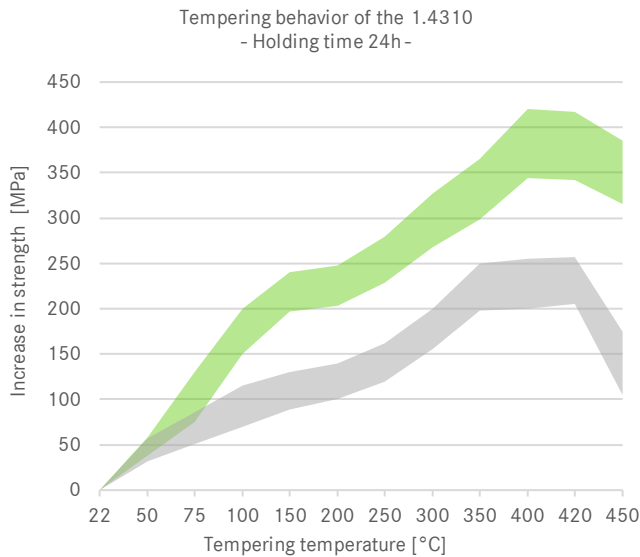
Cooling: water, air

Tempering

Temperature: max. 425 °C

Cooling: air

Tempering Diagram



PRECISION WIRE

Zapp Precision Metals GmbH

Letmather Straße 69

58239 Schwerte

precisionwire@zapp.com

www.zapp.com

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

The illustrations, drawings, dimensional and weight data and other information included in this data sheet are intended only for the purposes of describing our products and represent non-binding average values. They do not constitute quality data, nor can they be used as the basis for any guarantee of quality or durability. The applications presented serve only as illustrations and can be construed neither as quality data nor as a guarantee in relation to the suitability of the material. This cannot substitute for comprehensive consultation on the selection of our products and on their use in a specific application. The datasheet is not subject to change control.

Last revision: June 2026