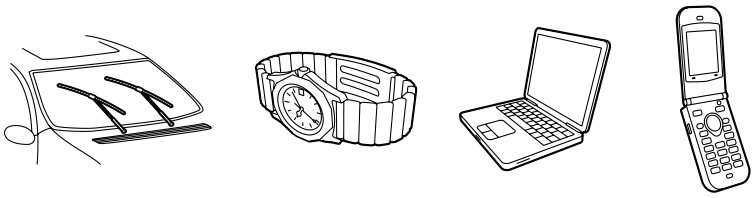
Ergste® 9.9204AG Datasheet
Precision Wire

Zapp is Certified to ISO 9001



Grade Ergste® 9.9204AG

The Ergste® grade 9.9204AG is an austenitic stainless steel with a very low-nickel-content which has been developed as an alternative grade to the Ergste® 1.4301. To achieve comparable mechanical properties and comparable corrosion resistance, elements like manganese as well as nickel, chrome, copper and nitrogen are alloyed well-balanced.
Because of the very low nickel content the costs and variability of the alloy surcharge are lower than the grade 1.4301.

Typical Applications

- Screws
- Wiper blades
- Springs
- Conveyor belts
- Jewelry industry

Weldability

The material 9.9204AG can be welded by shielded fusion and resistance welding processes, comparably to 1.4301.

Magnetic Properties

The grade 9.9204AG is nonmagnetic in the annealed condition. After heavy cold forming this grade is lightly magnetic.

Suitable for Use in Food

The material 9.9204AG is suitable for the contact in food and corresponds to the legal regulations of the norm ANSI/NSF51.

Allergic Properties

The grade 9.9204AG excites non-allergic reactions, especially to persons who suffer from nickel sensitivity.

Because of this, this material can be used in the jewelry or clothing industry.

Cold Working

The material 9.9204AG is extremely tough and ductile and can be deformed exceedingly. Its cold forming characteristics respond well to upsetting, bending as well as drawing.

Corrosion Resistance

The grade 9.9204AG features a good weathering resistance and its resistance to some acids and corrosive products is comparable to that 1.4301.

Standard Description

EN 10088-3: X8CrMnCuNB17-8-3 – 1.4597,
AISI 204-Cu (UNS S20430)

Chemical Composition*

C	Si	Mn	P	S	Cr	Ni	Cu	N
max 0.1	max 1.0	7.0	max 0.06	max 0.03	16.0	3.0	3.5	0.1

* Average value in weight-%

Mechanical Properties

(Solution Annealed)

	Short symbol	Value at 20 °C	Unit
Tensile strength	Rm	> 650	MPa
Rp $_{0,2}$–Yield strength	Rp $_{0,2}$	< 350	MPa
Elongation	A	> 38	%

(Cold Formed Full Hard)

	Short symbol	Value at 20 °C	Unit
Tensile strength	Rm	max. 1,900	MPa
Rp $_{0,2}$–Yield strength	Rp $_{0,2}$	max. 1,600	MPa
Elongation	A100	1	%

Heat Treatment

	Temperature [°C]	Cooling
Annealing	1,030 – 1,070	water quench

Physical Properties

	Short symbol	Value at 20 °C	Unit
Density	ρ	7.8	$\frac{kg}{dm^3}$
Specific heat	c	498	$\frac{J}{kg\ K}$
Heat conduction	λ	15	$\frac{W}{K\ m}$
Specific electrical resistance	ρ	0.76	µΩm
Modulus of elasticity	E	200	GPa
Thermal expansion coefficient	α_L	17	$10^{-6}*K^{-1}$

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