

Alloy Ergste® 1.4401PC

Technical Information

ZAPP

Zapp is certified to ISO 9001

Ergste® 1.4401PC

Categorization

Austenitic stainless Chromium-Nickel-Molybdenum-Steel

DIN EN 10088-2: 1.4401, X5CrNiMo17-12-2

ASTM A666/AISI: Type 316 (USA)

UNS S31600

Surfaces and tensile strength

- solution annealed (soft) acc. to DIN EN 10088, procedure 2R
- work hardened (half-hard and hard) in accordance to DIN EN 10151 procedure 2H with tensile strength up to maximum 1400 MPa.

Dimensions

Thickness: 0.035 to 2.0 mm

Width: 3 to 1066 mm

Tolerances are acc. to DIN EN 9445 P

Closer tolerances on request.

Edges

- mill edges
- slit
- deburred
- rounded

Form of delivery

- coils
- multicoils
- spools
- bars

Typical applications

- Stamping and Bending Parts
- Deep Drawing Parts
- Pre-Material for welded tubes and Heat Exchanger
- Buttons
- Pen nibs

Approximate chemical analysis (%)

C	Si	Cr	Ni	Mo
0.035	0.5	16.7	10.5	2.1

Typical mechanical values at room temperature*

	Soft	Half-hard	Hard
Tensile strength R_m [MPa]	580-710	950	1250
0.2 % Yield point $R_{p0.2}$ [MPa]	240-310	810	1110
Elongation A80 [%]	> 35	4	1

* typical values, intermediate values possible

Physical properties at room temperature

	Physical properties at 20 °C
Density ρ	7.95 [kg/dm ³]
Elastic-Modulus	200 [GPa]
Thermal conductivity λ	15 [W/m · K]
Specific heat c_p	500 [J/kg · K]
Specific electrical resistance ρ	0.75 [$\Omega \cdot \text{mm}^2/\text{m}$]
Thermal expansion Ω : 20 - 100 °C	16.5 x 10 ⁻⁶ · K ⁻¹
20 - 400 °C	18.5 x 10 ⁻⁶ · K ⁻¹

Technical properties

Ergste® 1.4401PC is a corrosion resistant steel with good formability in soft condition. Due to the molybdenum content the corrosion resistance is higher than 1.4310 and comparable. The work hardening is greater than the ferritic stainless steels and less than the austenitic Chromium-Nickel-Steel 1.4310.

Ergste® 1.4401PC is well weldable. For machining high quality tooling is required, like for all stainless steels. Polishing is possible. Ergste® 1.4401PC in annealed condition shows no magnetism when is cold formed.

Zapp Precision Metals GmbH

PRECISION STRIP

Hochstraße 32

59425 Unna

P.O. Box 21 29

59411 Unna

Phone +49 2304 79-508

Fax +49 2304 79-7979

precisionstrip@zapp.com

www.zapp.com

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

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