Alloy Ergste® 1.4306LA
Technical Information

Zapp is certified to ISO 9001

Ergste® 1.4306la

Categorization
Austenitic stainless Chromium-Nickel-Steel

DIN EN 10088-2: 1.4306, X2CrNi 19-11
ASTM /AISI: Type 304L (USA)
JIS G4305: SUS 304L (Japan)

Surfaces and tensile strength
Possible conditions for delivery are:
Solution annealed (soft) procedure 2R, or work hardened (hard) in accordance to DIN EN 10151 procedure 2H with tensile strength up to maximum 1300 MPa.

Dimension
Thickness: 0.035 to 2.0 mm
Width: 3 to 420 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
In soft condition:
- Stamping and Bending Parts, Deep Drawing Parts
- Pre material for Welded Tubes

In hard condition:
- Deep Drawing Parts
- Flat Springs
- Membranes

Approximate chemical analysis (%)

C	Si	Mn	P	S	Cr	Ni	Mo
0.02	0.4	1.3	0.025	0.003	18.1	10.1	0.2

Typical mechanical values at room temperature*

	Soft	Hard
Tensile strength R_m [MPa]	580-680	1250
0.2 % Yield point $R_{p0,2}$ [MPa]	225-280	1150
Elongation A80 [%]	> 35	1

* typical values, intermediate values possible

Physical properties at room temperature

	Physical properties at 20 °C
Density ρ	7.9 [kg/dm³]
Elastic-Modulus	200 [GPa]
Thermal conductivity λ	15 [W/m · K)]
Specific heat c_p	500 [J/kg · K]
Specific electrical resistance ρ	0.73 [Ω · mm²/m]
Thermal expansion Ω: 20 – 100 °C	16.0 x 10^{-6} · K^{-1}
20 – 400 °C	18.0 x 10^{-6} · K^{-1}

Technical properties
Ergste® 1.4306LA is a corrosion resistant steel with good formability in soft condition. The work hardening is greater than the ferritic stainless steels and less than the austenitic Chromium-Nickel-Steel 1.4301.
Ergste® 1.4306LA is weldable and resistant against intercristalline corrosion in accordance to DIN EN ISO 3651 (Strauss test). For machining high quality tooling is required, like for all stainless steels. Polishing is possible. Ergste® 1.4306LA in annealed condition shows no magnetism and becomes slightly magnetic 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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