

Alloy Ergste® 1.4376PH/1.4372FH

Technical Information

ZAPP

Zapp is certified to ISO 9001

Ergste® 1.4376PF FM/ 1.4372FH

Categorization

Austenitic stainless chromium-nickel-manganese steel
Stahleisenliste No.

1.4376: X8CrMnNi19-6-3

DIN EN 10151, ISO 6931-2

1.4372: X12CrMnNi17-7-5

ASTM A666/ AISI: Type 201 (USA)

Properties

Ergste® 1.4376PH/ 1.4372FH is a corrosion resistant steel with good formability in soft condition. The work hardening is greater than other austenitic stainless steels. This is the basis for the usability for spring strip with high tensile strength. Ergste® 1.4376PH/ 1.4372FH is conditional weldable. For machining high quality tooling is required, like for all stainless steels. Polishing is possible. Ergste® 1.4376PH/ 1.4372FH in annealed condition shows no magnetism and becomes slightly magnetic when is cold formed.

Surface condition 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 max. 1800 Mpa.

Form of delivery and dimensions

Ergste® 1.4376PH/ 1.4310Fh is produced as precision strip in the thickness range from 0.035 mm to 2.0 mm. the possible width is in between 3.00 mm to 700 mm, whereas the width should be ten times greater than the thickness.

Tolerances are in accordance to DIN EN ISO 10258.

Typical chemical analysis (%) per weight

C	Si	Mn	Cr	Ni	N
0.08	0.4	7.0	16.5	4.5	0.10

Mechanical-technological values at room temperature, solution annealed

	Short symbol	
Tensile strength	Rm	700 - 880 MPa
0,2% Yield point	Rp 0,2	300 - 450 MPa
Elongation	A80	> 35 %

Physical properties at room temperature 20 °C

	Short symbol	Values at 20 °C	Unit
Density	ρ	7,9	$\frac{\text{kg}}{\text{dm}^3}$
Specific heat	c	500	$\frac{\text{J}}{\text{kg} \cdot \text{K}}$
Thermal conductivity	λ	15	$\frac{\text{W}}{\text{K} \cdot \text{m}}$
Specific electrical resistance	ρ	0,73	$\frac{\Omega \cdot \text{mm}^2}{\text{m}}$
Elastic modul	E	200	Gpa
Thermal expansion 20 - 100	°C	16	$\frac{10^{-6}}{\text{K}}$
20 - 400	°C	17,5	$\frac{10^{-6}}{\text{K}}$

Typical applications

In annealed condition.

- Punching-Parts
- Stamping-Parts

In hard condition:

- Punching-Parts
- Stamping-Parts
- Springs
- Diaphragmes

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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