

1.4016 IH, AISI 430, Ferritic Corrosion Resistant Steel, Data Sheet



Zapp is certified to ISO 9001 | IATF 16949



Typical Area of Applications of Material 1.4016 IH

Zapp® 1.4016 IH is used in solenoid valves for pneumatic, hydraulic and HVAC applications where moderate but defined magnetic properties are required in combination with high strength.

Zapp® 1.4016 IH (similar to X6Cr17) is a stainless steel with moderate magnetic properties and high strength. It is resistant in water, steam and other less aggressive media.

For improved properties in selective cases, we recommend the following Zapp® grades:

Surface Finish

Crack-testes according to DIN EN ISO 683-7,
Surface finish qualities 1 – 4

Delivery Forms

Round bars	Annealed, ground
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Typical Analysis*

C	Si	Mn	S	Cr	Mo
≤ 0.09	≤ 1.0	≤ 1.0	≤ 0.03	16.00 – 18.00	≤ 0.60

* Weight percentage/reference value

Mechanical Properties 6.8 – 20 mm*

	annealed	half-hard	full-hard
Tensile strength R_m	600 – 900 MPa	800 – 1,100 MPa	≥ 1,000 MPa
Yield strength R_e	≥ 500 MPa	≥ 600 MPa	-
Elongation A4d	≥ 20 %	-	-

* Other sizes on request

Physical Properties*

Density ρ	7.7 kg/dm ³
Specific electrical resistance ρ	≥ 0.60 $\mu\Omega\text{m}$

* For information only

Magnetic Properties 6.8 – 20 mm*

	soft	half-hard
Coercivity H_c	≤ 350 A/m	≤ 800 A/m
Maximum permeability μ_{max}	≥ 900	≥ 500
Magnetic polarization J_s	≥ 1.55 T	≥ 1.55 T

* Other sizes on request

For improved properties in selected cases we recommend the following grades:

Cold Heading

Zapp® 1.4003 IA
Zapp® 1.4016 IM

Corrosion Resistance

Zapp® 1.4113 IM
Zapp® 1.4523 IM

Machinability

Zapp® 1.4105 IM
Zapp® 1.4105 IL
Zapp® 9.9013 IL

Magnetic Properties

Zapp® 1.4005 IA
Zapp® 9.9013 IL

Weldability

Zapp® 1.4511 IA

[Here you can find more materials.](#)

Overview Magnetic Properties



PRECISION WIRE

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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 brochure is not subject to change control.

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