

Zapp 316-SW Data Sheet for Wirelines



Zapp is certified according to ISO 9001

Zapp 316-SW for Wirelines

is an austenitic stainless steel alloy suitable for service in less severe oil and gas wells.

The grade is characterized by

- Good resistance to general corrosion
- Better resistance to pitting than ASTM 304, because of the molybdenum content
- High tensile strength

Standards

- ASTM 316
- UNS S31600
- EN Number 1.4436

PRE* value: 25

* PRE, Pitting Resistance Equivalent = Cr + 3.3Mo + 30N

Chemical Composition (nominal) %

C	Si	Mn	P	S	Cr	Ni	Mo
≤ 0.04	≤ 0.6	≤ 1.2	≤ 0.030	≤ 0.015	17.0	11.0	2.6

Product Program

Diameter		Breaking load		Weight	
mm	in.	N	lbf	kg/1,000 m	Lb/1,000 ft
2.083	0.082	5,109	1,149	27.5	18.4
2.337	0.092	6,431	1,446	34.6	23.2
2.667	0.105	8,378	1,883	45.0	30.2
2.743	0.108	8,864	1,992	47.6	32.0
3.175	0.125	11,131	2,491	63.8	42.8
3.810	0.150	15,985	3,587	91.4	61.27
4.064	0.160	18,157	4,082	103.8	69.60

Mechanical Properties

Wire in Zapp 316-SW for wirelines is tested and certified in accordance with a minimum tensile strength. Proof strength is approximately 90 % of the tensile strength. Zapp 316-SW for wirelines is able, therefore, to resist high loads without permanent set of the wire.

At 20 °C (68 °F)

Proof strength, R _{p0.2}		Tensile strength, R _m		Dimension	
MPa	ksi	MPa	ksi	in.	mm
≥ 1,350	≥ 196	≥ 1,500	≥ 218	< 0.108	< 2,743
≥ 1,260	≥ 183	≥ 1,400	≥ 203	> 0.125	> 3,175

Forms of Supply

Zapp 316-SW for wirelines precision wire is supplied cold drawn and degreased, in continuous lengths, without welds, on metallic spools.

Physical Properties

Density	8.0 g/cm ³ , 0.29 lb/in ³
Specific heat capacity, at 20 °C (68 °F)	485 J/kg °C, 0.12 Btu/lb h °F
Thermal expansion, 30 - 100 °C	16.5 * 10 ⁻⁶ /°C, 86 - 210 °F, 9.5 * 10 ⁻⁶ /°F
Thermal conductivity, at 20 °C (68 °F)	15 W/m °C, 9 Btu/ft h °F
Permeability, at 20 °C (68 °F)	1.004
Resistivity, at 20 °C (68 °F)	0.76 μΩm, 30.1 μΩin.
Modulus of elasticity, at 20 °C (68 °F)	180,000 MPa, 26,100 ksi

PRECISION WIRE

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