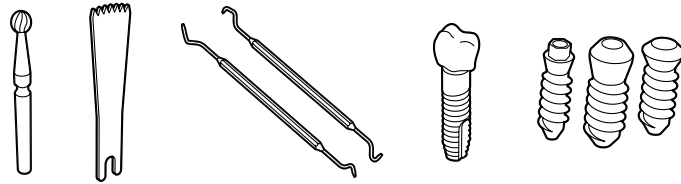


5R10/2R25 Datasheet Medical Wire



Zapp is certified according to ISO 9001



5R10 and 2R25

are austenitic chromium-nickel stainless steels. 2R25 is a low carbon version of 5R10. The grades are characterized by:

- Good corrosion resistance
- Excellent toughness
- Good welding characteristics

Product Standards

- ASTM F899
- ISO 16061

Standards

- ASTM: 304, 304L
- UNS: S30400, S30403
- EN Number: 1.4301, 1.4306
- EN Name: X5CrNi18-10, X2CrNi19-11
- W.Nr.: 1.4301, 1.4306
- DIN: X5CrNi18-10, X2CrNi19-11
- SS: 2332, 2352
- AFNOR: Z6 CN 18 09, Z3 CN 18 10
- BS: 304S31

Applications

These grades are mainly used for surgical instruments and dental tools.

Chemical Composition (nominal) %

	C	Si	Mn	Cr	Ni
5R10	≤ 0.07	≤ 0.75	≤ 2.0	18.5	9.0
2R25	≤ 0.03	≤ 0.70	≤ 1.5	18.5	10.0

Forms of Supply

Wire form

- In coils with weights up to 150 kg
- On various types of spool with wire weights up to 500 kg
- In straightened lengths up to 4 m

Surface finishes and size range

Surface finish	Size range, mm
Coated	0.20 - 8.00
Bright	0.11 - 0.80
Mechanically polished	0.40 - 6.00

Mechanical Properties

Typical mechanical properties for 5R10 and 2R25 at 20 °C.

Grade	Tensile strength Rm	Proof strength Rp0.2	Elongation	Hardness	
	MPa	MPa	%	HRB	HB
5R10	≥ 515	≥ 205	≥ 40	≤ 92	≤ 201
2R25	≥ 485	≥ 170	≥ 40	≤ 92	≤ 201

Physical Properties

Typical physical properties for annealed 5R10 and 2R25 are given below:

Grade	Density g/cm ³	Elastic Modulus 10 ³ MPA	Mean Coefficient of Thermal Expansion mm/m/°C	Thermal Conductivity W/m °C	Specific Heat J/kg °C	Resistivity μΩm
			0 – 100 °C	at 100 °C	0 – 100 °C	20 °C
5R10/2R25	8	193	17	16	500	0.72

Corrosion Resistance

Excellent corrosion resistance in a wide range of atmospheric environments and various corrosive media.

Subject to pitting and crevice corrosion in warm chloride media and to stress corrosion cracking at temperatures above 60 °C.

Considered resistant to potable water with up to approximately 200 mg/l chlorides, at ambient temperatures, reducing to approximately 150 mg/l, at 60 °C.

Zapp Precision Metals (Sweden) AB

PRECISION WIRE

Järnverksleden 18

811 34 Sandviken

Sweden

Phone +46 26 265467

precisionmetals-sweden@zapp.com

www.zapp.com

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