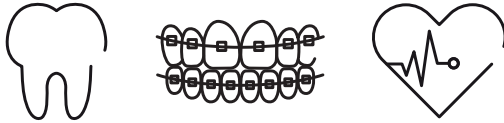


MP35N[®]*, 9.9035*, CoNiCrMo, UNS R30035 Medical – Data Sheet US

ZAPP

Zapp is certified to ISO 9001



MP35N[®]*

MP35N[®] is a product and registered trademark of SPS Technologies, LLC in the EU and the USA.

Zapp[®] 9.9035 HG*

Zapp offers the grade Zapp 9.9035 HG acc. to UNS R30035

The material is a vacuum melted cobalt nick el-alloy with a high content of chromium and molybdenum. Therefore, an excellent ratio between high strength, ductility and outstanding corrosion resistance is achieved. The capability of precipitation depends to a great extent on the contributed distortion.

Typical Fields of Application

- Dental applications
- Vascular intervention

Information about further medical applications at Zapp. [Here](#)

Weldability

Zapp[®] 9.9035 HG / MP35N[®] is well weldable (e.g. laser welding).

Magnetism

Zapp[®] 9.9035 HG / MP35N[®] is not magnetizable.

Corrosion Resistance

Zapp[®] 9.9035 HG / MP35N[®] is highly resistant to pitting and crevice corrosion, regardless of strength level. The corrosion resistance against sulfidation, high temperature oxidation and hydrogen embrittlement is excellent.

Polishability

Zapp[®] 9.9035 HG / MP35N[®] is polishable.

Mechanical Properties

Condition	Tensile strength Rm [ksi]	Yield strength Rp0,2 [ksi]	Elongation A5 [%]
Solution annealed	> 115	> 35	> 40
Cold-worked medium hard	> 145	> 95	> 20
Cold-worked hard	> 174	> 145	> 10
Cold worked and aged	> 260	> 230	> 8

Physical Properties

Physical Properties	
Young's Modulus E at 68 °F [ksi]	33,939
Density ρ [lb/in ³]	0.303
Thermal Conductivity λ at 68 °F [Btu in/hr ft ² °F]	78
Coefficient of Thermal Expansion α [µin/in °F] 68 - 212 °F	7.22
Specific Heat c at 68 °F [Btu/lb °F]	119
Specific Electrical Resistance ρ at 68 °F [Ω circular-mil/ft]	620

Heat Treatment

Solution annealing

Temperature: 1,922 ± 59 °F

Holding time: depends on size (1 to 2 h)

Cooling: air, water

Machinability

Machining after heat treatment is difficult.

Typical Chemical Analysis (Mass-%)

	C	Si	Mn	P	S	Cr	Ni	Mo	Fe	Ti	B	Co
Min.	-	-	-	-	-	19.0	33.0	9.0	-	-	-	
Max.	0.025	0.15	0.15	0.015	0.010	21.0	37.00	10.50	1.00	1.00	0.015	Bal.

Hot Working

Forging at 2,138 – 1,598 °F

Please see our linecard of further medical grades. [Here](#)

Corresponding Standards

- UNS R30035
- Wrought cobalt-nickel-chromium-molybdenum-alloy according to DIN ISO 5832-6
- Wrought 35cobalt-35nickel-20chromium-10molybdenum alloy according to ASTM F562

MEDICAL ALLOYS

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Further information regarding our products and locations are available in our image brochure and under www.zapp.com

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