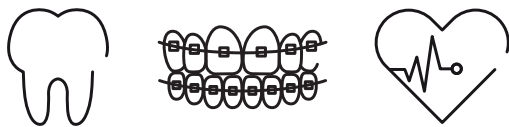


MP35N[®]*, 9.9035, CoNiCrMo, UNS R30035 Medical – Data Sheet



Zapp is certified to ISO 9001



MP35N[®]*

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

Zapp[®] 9.9035

Zapp offers the grade Zapp 9.9035 HG acc. to UNS R30035. The material is a vacuum melted cobalt nickel-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 R _m [MPa]	Yield strength R _{p0.2} [MPa]	Elongation A ₅ [%]
Solution annealed	> 793	> 241	> 40
Cold-worked medium hard	> 1,000	> 655	> 20
Cold-worked hard	> 1,200	> 1,000	> 10
Cold worked and aged	> 1,793	> 1,586	> 8

Physical Properties

Young's Modulus E at 20 °C [GPa]	234
Density ρ [kg/ dm ³]	8.4
Thermal Conductivity λ at 20°C [W/ m*K]	11.2
Coefficient of Thermal Expansion α [10 ⁻⁶ * K ⁻¹] 20 - 100 °C	13.0
Specific Heat c at 20°C [J/ kg*K]	500
Specific Electrical Resistance ρ at 20°C [Ω*mm ² / m]	1.03

Heat Treatment

Solution annealing

Temperature: 1,050 ± 15 °C

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

Cooling: air, water

Machinability

Machining after heat treatment is difficult.

Hot Working

Forging at 1,170 – 870 °C

Information about further medical grades at Zapp. [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

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.

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

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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