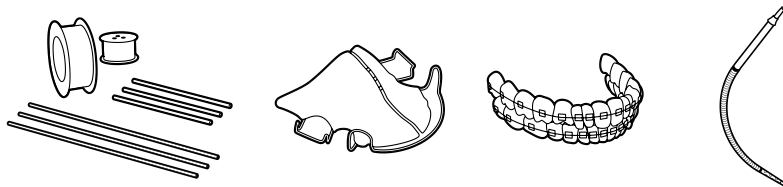


Zapp is Certified to ISO 9001



Material Ergste® 9.9035

Ergste® 9.9035 is a vacuum melted nickel-cobalt-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

Weldability

Ergste® 9.9035 is well weldable (e.g. laser welding).

Magnetism

Ergste® 9.9035 is not magnetizable.

Corrosion Resistance

Ergste® 9.9035 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

Ergste® 9.9035 is polishable.

Corresponding Standards

ASTM F562, DIN ISO 5832-6

Mechanical Properties

| Condition | Rm [ksi] | Rp0.2 [ksi] | A ₅ [%] |
|---------------------------|----------|-------------|--------------------|
| Solution annealed | Min. 116 | Min. 43.5 | Min. 40 |
| Cold-worked medium hard | Min. 145 | Min. 94 | Min. 20 |
| Cold-worked hard | Min. 174 | Min. 145 | Min. 10 |
| Cold worked hard and aged | Min. 260 | Min. 230 | Min. 8 |

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 ± 25 °F

Holding time: 1 to 2 h

Cooling: air, water

Machinability

Machining after heat treatment is difficult.

Hot Working

Forging at 2,138 – 1,598 °F

Typical Chemical Analysis (Mass-%)

| | C | Si | Mn | P | S | Cr | Ni | Mo | Fe | Ti | 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 | Bal. |

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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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