

MP35N Datasheet

MP35N delivers exceptional strength, corrosion resistance, and high fatigue properties for demanding applications.

Alloy / Grade	MP35N
Common Forms	Round Bar, Wire, Tubing, Sheet.
Key Feature	Ultra-high strength + Biocompatibility.
Service Focus	Through cold working and aging, it can achieve tensile strengths up to 300,000 psi (2068 MPa), making it ideal for fasteners and springs.

1. Product Overview

MP35N is a non-magnetic, nickel-cobalt-chromium-molybdenum alloy possessing a unique combination of ultra-high tensile strength (up to 300 ksi), good toughness, and excellent corrosion resistance. It stands out for its resistance to sulfidation, high-temperature oxidation, and hydrogen embrittlement.

Grade	Core Description	Typical Service Focus
MP35N	MP35N is a non-magnetic, nickel-cobalt-chromium-molybdenum alloy possessing a unique combination of ultra-high...	MP35N is chosen when "compromise" is not an option. Usually, metals are either strong but prone to...
Supply Capability	Round Bar, Wire, Tubing, Sheet.	Standard mill forms, cut-to-size material and project supply
Technical Review	Confirm final values by product form, heat treatment and material certificate	Through cold working and aging, it can achieve tensile strengths up to 300,000 psi (2068 MPa), making it...

2. Key Features

- MP35N is chosen when "compromise" is not an option. Usually, metals are either strong but prone to corrosion (like carbon steel) or corrosion-...
- Through cold working and aging, it can achieve tensile strengths up to 300,000 psi (2068 MPa), making it ideal for fasteners and springs.
- Highly resistant to bodily fluids and proven to be biocompatible, making it a standard for long-term medical implants and leads.
- Resistant to sulfide stress cracking and hydrogen embrittlement, meeting NACE MR0175 standards for sour gas oilfield environments.

Further information under:	https://www.nickelcasting.com/nickel-alloys/mp35n/
Home page:	www.nickelcasting.com
Email:	ni@Nickelcasting.com

Technical Data

The following values are provided as general reference data for engineering review and procurement planning. Confirm final values against the applicable specification, product form, heat treatment condition and material certificate.

3. Chemical Composition (%)

Element	Content (%)
Nickel (Ni)	33.0 - 37.0
Cobalt (Co)	33.0 - 37.0
Chromium (Cr)	19.0 - 21.0
Molybdenum (Mo)	9.0 - 10.5
Titanium (Ti)	1.0 max
Iron (Fe)	1.0 max

4. Standard Specifications

Product Form	Standards (AMS / ASTM)
Surgical Implants	ASTM F562
Oil & Gas	NACE MR0175 (Sour Service)

5. Mechanical Properties - Typical at Room Temperature

Condition	Tensile Strength (ksi)	Yield Strength (ksi)	Elongation (%)
Annealed	130 - 150	50 - 80	40 - 60%
Cold Drawn (45-55%)	200 - 230	190 - 220	10 - 15%
Cold Drawn & Aged	260 - 300	250 - 290	8 - 12%

Note: Values are typical or specification reference values. Purchase requirements should be confirmed against the required standard, drawing and material test report.

Applications and Ordering Information

Use this section to define inquiry requirements and accelerate technical confirmation for MP35N products.

6. Typical Applications

Industry / Area	Typical Components
Industrial Service	Pacing leads, stylets, catheters, and orthopedic implants requiring high fatigue life and bio-inertness.
Chemical / Process Equipment	High-strength bolts and screws (Multiphase) used in critical airframe assemblies.
Oil, Gas & Marine	Deep-hole drilling components, valve springs, and logging cables exposed to H2S environments.
High-Temperature / Power	Components submerged in seawater under high stress where crevice corrosion must be zero.
Precision Components	We stock MP35N wire, bar, and rod in various tempers (Annealed to Spring Temper). Medical grade certification (ASTM F562) available.

7. Available Supply Forms

Pipe & Tube	Plate & Sheet	Bar & Rod
Pipe Fittings	Flanges	Wire & Strip
Forgings	Custom Cutting	Project Supply

8. Information to Include When Requesting a Quote

- Required grade: MP35N, with ASTM / ASME / AMS specification if applicable.
- Product form: pipe, tube, plate, sheet, bar, fittings, flanges, forgings or machined parts.
- Dimensions: outside diameter, wall thickness, length, width, thickness or drawing number.
- Quantity, delivery destination and required delivery schedule.
- Special requirements: cutting, machining, heat treatment, NDT, PMI, test report or material certificate.

Company Information	
Address	Shanghai, China
Email	ni@Nickelcasting.com
Home Page	www.nickelcasting.com
Product Page	https://www.nickelcasting.com/nickel-alloys/mp35n/

Disclaimer

This datasheet is provided for general reference only. Actual values may vary by product form, heat treatment, manufacturing condition and applicable specification. Please contact us for confirmed specifications, test reports and material certificates before ordering.