# ALLOY MP35N®

AMS 5844

MP35N® alloy steel bar is a high-performance cobalt-nickel-chromium-molybdenum alloy prized for its exceptional combination of strength, corrosion resistance, and biocompatibility. Through a unique sequence of cold-working and age-hardening, it achieves some of the highest tensile and yield strengths of any alloy in its class while maintaining excellent resistance to stress-corrosion cracking, hydrogen embrittlement, and pitting in harsh environments. Its stability in body fluids and non-magnetic nature make it a trusted choice for medical implants, while its durability under extreme mechanical and chemical stress supports demanding aerospace, energy, and industrial applications. MP35N® stands out as a material engineered for reliability where failure is not an option.

| Products & Sizes |
|---|
| **Bar** |
| 0.270" - 0.900" |

**MP35N® Chemical Composition**

| | Element | Min | Max |
|---|---|---|---|
| C | Carbon | - | 0.02 |
| Mn | Manganese | - | 0.15 |
| P | Phosphorus | - | 0.015 |
| S | Sulfur | - | 0.010 |
| Si | Silicon | - | 0.015 |
| Cr | Chromium | 19.00 | 21.00 |
| Ni | Nickel | 33.00 | 37.00 |
| Mo | Molybdenum | 9.00 | 10.50 |
| Co | Cobalt | - | Balance |
| Ti | Titanium | - | 1.00 |
| B | Boron | - | 0.010 |
| Fe | Iron | - | 1.00 |

## Industry Standards

- SPS-M-663
- GE Aircraft Engine (GT193)
- GE Aviation S-SPEC-35 AeDMS S-400
- RR SABRe Edition 2
- DFARS Compliant

## Industry Applications

- Aerospace fasteners
- Tie rods
- Chemical processing
- Medical devices
- Dental equipment
- Cryogenic equipment
- Marine equipment
- Oil Gas
- Food processing

## Physical Properties

- Density: 0.304 lb/in³

## Mechanical Properties