

# Maraging 300 Datasheet

Maraging 300 delivers higher strength than 250 grade with excellent fracture toughness for demanding aerospace applications.

<b>Alloy / Grade</b>	Maraging 300
<b>Common Forms</b>	Round Bar , Forged Billet, Plate.
<b>Key Feature</b>	Ideal balance of extreme strength and functional ductility.
<b>Service Focus</b>	Achieves tensile strengths exceeding 300 ksi, significantly higher than conventional high-strength steels like 4340 or 300M.

## 1. Product Overview

Maraging 300 is the most widely used grade in the maraging family. It provides an exceptional nominal yield strength of 300,000 psi (2068 MPa) while maintaining sufficient ductility for complex aerospace applications. It is an 18% nickel, cobalt-molybdenum steel.

Grade	Core Description	Typical Service Focus
Maraging 300	Maraging 300 is the most widely used grade in the maraging family. It provides an exceptional nominal yield...	Maraging 300 is the "Gold Standard" for ultra-high-strength applications. While harder than Maraging 250 ,...
Supply Capability	Round Bar , Forged Billet, Plate.	Standard mill forms, cut-to-size material and project supply
Technical Review	Confirm final values by product form, heat treatment and material certificate	Achieves tensile strengths exceeding 300 ksi, significantly higher than conventional high-strength steels...

## 2. Key Features

- Maraging 300 is the "Gold Standard" for ultra-high-strength applications. While harder than Maraging 250 , it retains enough fracture toughness to...
- Achieves tensile strengths exceeding 300 ksi, significantly higher than conventional high-strength steels like 4340 or 300M.
- The aging process (900 deg F) causes negligible size change, allowing parts to be finished to tolerance before heat treatment.
- Can be nitrided to achieving high surface hardness for wear resistance, useful in gear and transmission applications.

<b>Further information under:</b>	<a href="https://www.nickelcasting.com/nickel-alloys/vascomax-maraging-steel/maraging-300/">https://www.nickelcasting.com/nickel-alloys/vascomax-maraging-steel/maraging-300/</a>
<b>Home page:</b>	<a href="http://www.nickelcasting.com">www.nickelcasting.com</a>
<b>Email:</b>	<a href="mailto:ni@Nickelcasting.com">ni@Nickelcasting.com</a>

## 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)	18.0 - 19.0
Cobalt (Co)	8.5 - 9.5
Molybdenum (Mo)	4.6 - 5.2
Titanium (Ti)	0.5 - 0.8
Aluminum (Al)	0.05 - 0.15
Iron (Fe)	Balance

### 4. Standard Specifications

Product Form	Standards (AMS / ASTM / MIL)
Bar, Forgings	AMS 6514
Plate, Sheet, Strip	AMS 6521
Military Spec	MIL-S-46850 Type IV
Chemical Comp	ASTM A538 (Grade B)

### 5. Mechanical Properties - Typical at Room Temperature

Property	Typical Values (Room Temp)
Yield Strength (0.2% Offset)	290 - 300 ksi (2000 - 2068 MPa)
Ultimate Tensile Strength	300 - 315 ksi (2068 - 2172 MPa)
Elongation	7 - 10 %
Reduction of Area	40 - 50 %
Hardness (Rockwell C)	53 - 55 HRC
Fracture Toughness (KIC)	~60 ksi√in

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 Maraging 300 products.

## 6. Typical Applications

Industry / Area	Typical Components
Industrial Service	Landing gear components, flexure shafts, and structural members requiring high strength-to-weight ratios.
Chemical / Process Equipment	High-performance racing crankshafts, gears, and connecting rods subjected to extreme cyclic loading.
Oil, Gas & Marine	Industrial gas centrifuges and flywheel energy storage systems requiring dimensional integrity at high RPMs.
High-Temperature / Power	Pressure vessels and casings for solid-fuel propulsion systems.
Precision Components	We supply premium quality Maraging 300 (VIM-VAR) in a wide range of bar sizes and plates. Material is fully certified to AMS and MIL...

## 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: Maraging 300, 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	<a href="https://www.nickelcasting.com/nickel-alloys/vascomax-maraging-steel/maraging-300/">https://www.nickelcasting.com/nickel-alloys/vascomax-maraging-steel/maraging-300/</a>

## 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.