

### Key Features

- Excellent machining properties
- POOR formability and weldability
- LIMITED corrosion resistance

### Common Applications

- Automotive components
- General engineering
- Washing machine parts
- Motor shafts
- Gears
- Valves & pumps

### Material Description

Stainless Steel 416 is a martensitic stainless steel alloy known for its excellent machinability and corrosion resistance. It contains sulfur, which enhances its machinability but may slightly reduce its corrosion resistance compared to other stainless steel grades. Stainless Steel 416 is commonly used in applications requiring high machinability, such as bolts, nuts, screws, and pump shafts, where intricate machining operations are necessary.

### Chemical Composition (%)

	C	Cr	Fe	Mn	Mo	P	Si	S			
Min.								0.15			
Max.	0.15	13	84	1.25	0.60	0.060	1.0				

### Mechanical Properties

Ultimate Tensile Strength	107,000 - 190,000 PSI
Tensile Yield Strength	87,000 - 143,000 PSI
Hardness	Rockwell B80
Elongation at Break	9-20%

### Physical Properties

Density	0.282 lb/in <sup>3</sup> (7.80 g/cm <sup>3</sup> )
Thermal Conductivity	24.9W/m.K
Modulus of elasticity	29,000 KSI (200 GPa)
Melting Point	2,700-2,790°F (1,480-1,530 °C)

### Technical Assistance

Our knowledgeable staff, supported by our in-house team of expert metallurgists and engineers, is ready to assist you with any technical inquiries.

### InstaVoxel™ - On-Demand Manufacturing Expert

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