

### Key Features

- Excellent cutting speeds
- Machining characteristics
- Smooth, bright surface finish
- High hardness and toughness

### Common Applications

- Bushing, inserts, hydraulic hose fittings
- Couplings, studs
- Pins Automatic screw machining

### Material Description

Steel 1215 is a low-carbon free-machining steel known for its excellent machinability. It contains added sulfur and phosphorus, which improve its machinability and result in smooth finishes and longer tool life. Steel 1215 is commonly used in applications requiring extensive machining, such as fasteners, fittings, and screws. While it offers good machinability, it has lower strength and corrosion resistance compared to higher carbon and alloy steels, making it suitable for applications where these properties are not critical.

### Chemical Composition (%)

	C	Fe	Mn	P	S						
Min.		98.42	0.75	0.040	0.26						
Max.	0.090	98.95	1.05	0.090	0.35						

### Mechanical Properties

Ultimate Tensile Strength	78,300 PSI
Tensile Yield Strength	60,200 PSI
Elongation at Break	Rockwell B85
Hardness	10%

### Physical Properties

Density	0.284 lb/in <sup>3</sup> (7.87 g/cm <sup>3</sup> )
Thermal Conductivity	51.9W/m.K
Modulus of Elasticity	29,000 KSI (200 GPa)
Melting Point	2,498-2,552°F (1,370-1,400 °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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