

Key Features

- High strength
- Good workability
- High resistance to corrosion

Common Applications

- High and moderately stressed components
- Shafts, connecting rods, crankshafts, screws

Material Description

Steel 4140 offers excellent strength, toughness, and wear resistance. Its good hardenability allows it to be heat-treated to achieve a wide range of hardness and strength levels. This makes it suitable for a variety of demanding applications, including the manufacture of gears, crankshafts, axles, and tool holders. Steel 4140 also provides good fatigue resistance, machinability, and weldability, making it a versatile choice for parts that need to withstand high stress and heavy loads.

Chemical Composition (%)

	C	Cr	Fe	Mn	Mo	P	Si	S			
Min.	0.38	0.80	96.785	0.75	0.15		0.15				
Max.	0.43	1.1	97.77	1.0	0.25	0.035	0.30	0.040			

Mechanical Properties

Ultimate Tensile Strength	95,000 PSI
Tensile Yield Strength	60,200 PSI
Hardness	Rockwell B92
Elongation at Break	25.7%

Physical Properties

Density	0.284 lb/in ³ (7.85 g/cm ³)
Thermal Conductivity	33W/m.K
Modulus of Elasticity	29,700 KSI (205 GPa)
Melting Point	2580°F (1416 °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

859 Willard Street Suite 400, Quincy MA 02169 USA
+1 (617) 302-1629 | info@instavoxel.com
www.instavoxel.com



InstaVoxel's quality control system is ISO-9001 certified, and all our partners hold relevant certifications.



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