

Key Features

- Heat treatable
- Good repeated impact resistance
- Good fatigue properties
- POOR weldability

Common Applications

- Round bars
- Forged rings
- Flat bars
- Tubes, sheets, plates, steel wires, strips, coils

Material Description

Steel 4135 is a chromium-molybdenum alloy steel known for its high strength, toughness, and wear resistance. It offers improved hardenability and strength compared to lower alloy steels, making it suitable for more demanding applications. Steel 4135 is commonly used in the manufacturing of heavy-duty components such as gears, shafts, and bolts, as well as in the aerospace and automotive industries. Its good machinability and weldability, combined with its enhanced mechanical properties, make it an ideal choice for parts that must withstand high stress and impact.

Chemical Composition (%)

	C	Cr	Fe	Mn	Mo	P	Si	S			
Min.	0.33	0.80	97.33	0.70	0.15		0.15				
Max.	0.38	1.1	97.87	0.90	0.25	0.035	0.35	0.040			

Mechanical Properties

Ultimate Tensile Strength	144,000 PSI
Tensile Yield Strength	84,000 PSI
Hardness	Rockwell B94
Elongation at Break	15%

Physical Properties

Density	0.284 lb/in ³ (7.85 g/cm ³)
Thermal Conductivity	42.7W/m.K
Modulus of Elasticity	29,700 KSI (205 GPa)
Melting Point	2557°F (1403 °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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InstaVoxel's quality control system is ISO-9001 certified, and all our partners hold relevant certifications.



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