PROTOLABS
Manufacturing. Accelerated.

Steel Alloy 4140

Steel Alloy 4140 is a low alloy steel containing chromium, molybdenum, and manganese. It is widely used across numerous industries and is an excellent material choice for machining due to its toughness, high fatigue strength, and abrasion and impact resistance.

Applications

Common applications include axles, bolts, chain links, crankshafts, drive shafts, gears, and spindles.

Key Product Benefits

- Toughness
- High Tensile and Torsional Strength
- Impact Resistance
- Fatigue Resistance
- Corrosion Resistance

Properties

Property	Value
Density	0.28 lb/in^3
Specific Gravity	7.83
Specific Heat	0.114 BTU/lb/°F - [32-212°F]
Melting Point	2580°F
Mean Coefficient of Thermal Expansion	7×10^{-6}/°F
Modulus of Elasticity (Tension)	33×10^6 psi