

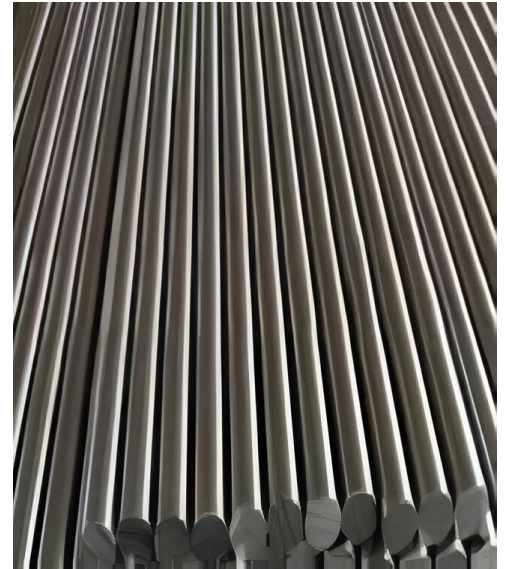
AISI 4145 Alloy Steel

AISI 4145 ALLOY STEEL DATASHEET

AISI 4145 Alloy Steel containing 0.20% molybdenum is widely used particularly throughout oil patch applications. Similar to 4140 which has a lower carbon level it has improved hardenability and is more commonly used at higher strength levels. Larger diameters are often supplied with higher molybdenum level, 0.35% max, this may also be used on higher strength variants at smaller diameters. This grade is used extensively for drill collars.

Suitable for downhole drilling tools such as subs, x-overs, drill collars, pup-joints and fishing tools. General engineering applications include components exposed to heavy strain, such as shafts, gear, bolts etc.

Product forms include bar, seamless tubing, and plate.



Standards

- UNS G41450
- AISI 4145

Physical Properties

- Density: 0.284 LB/in³ (7.85 g/cm³)
- Melting Range: 2580-2650°F (1416-1454°C)
- Modulus of Elasticity: 29.7 x10⁶psi (205 Gpa)
- Magnetic Permeability:

Characteristics

- Good for components exposed to heavy strain
- Poor weldability, can be welded.

Chemical Composition

	C	Mn	S	Si	P	Cr	Mo	Fe
MIN	0.43	0.75	-	0.15	-	0.80	0.15	96.795
MAX	0.48	1.00	0.04	0.35	0.035	1.10	0.25	97.720

Mechanical Properties

Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness (max) HRB (BHN)
100(689)	110 (758)	20	40	94 (208)

WWW.SPECIALTYSTEELSUPPLY.COM



SPECIALTY STEEL SUPPLY
19201 CIRCLE LAKE DR
PINEHURST, TX 77362
Call for a quote (281) 821-7111

