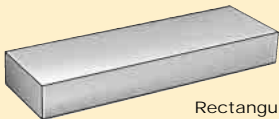


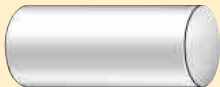
Carbon Steel Information



90° Angle



Rectangular Bar



Cylindrical Rod



Hexagonal Rod

Also known as "mild" or "plain" steel, carbon steel contains only carbon, with residual impurities. Magnetic, malleable metal is ideal for cold-forming, bending, and welding, but as carbon content rises, the metal becomes harder, stronger, less ductile, and more difficult to weld. Can also be cast or wrought. Heat treating allows parts to be fabricated in a softer state, then hardened for increased strength. Carbon content still affects hardness, with greater carbon content ultimately producing a harder finished product.

CARBON STEEL COMPARISON CHART

Material	Tensile Strength (psi)*	Yield Strength (psi)*	Hardness (BHN)*	Toughness	Wear Resistance	Formability	Machinability†	Weldability
Low Carbon Grade								
Low Carbon	58,000-80,000	36,000	137	Fair	Fair	Excellent	Good	Excellent
1018 <i>2772</i>	65,000-85,000	55,000-75,000	167	Fair	Fair	Good	Good	Excellent
Medium Carbon Grade								
1144 <i>2771</i>	100,000	95,500	223	Good	Poor	Fair	Good	Poor
Screw Machine Grade								
12L14 <i>2774</i>	78,000-85,000	60,000-75,000	187	Poor	Poor	Poor	Excellent	Not Recommended
1215 <i>2773</i>	78,000-95,000	60,000-80,000	187	Poor	Fair	Not Recommended	Excellent	Not Recommended

(*) Typical levels @ 1" diameter. (†) Compared to AISI 1212, which has 100% machinability.