

STEEL GRADES		
GRADE	TRAITS	USES
12L14	Free machining. Lead added to enhance machinability. Addition of lead does, however, reduce tensile strength, although it's still generally stronger than 1018. Magnetic in all conditions.	Brake hose ends, pulleys, gear box components, wheel nuts and inserts, disc brake pistons, padlock shackles, control linkages, garbage bin axles, concrete anchors, hydraulic fittings, vice jaws
8620	Hard outer surface, combined with a ductile interior for higher strength.	Gears, crankshafts, gear rings
A36	Chemically similar to 1018 but has inferior properties and rougher finish. Most commonly available of the hot-rolled steels. Yield strength also significantly less than 1018	Automotive components, cams, fixtures, tanks, forgings and structural applications such as buildings or bridges
A513 (alloy 1020-1026)	Its higher carbon content means higher strength, but lower weldability and machinability.	Drawn over mandrel tubing
1008	Highest thermal conductivity among wrought plain carbon steels. Can have the lowest tensile strength and moderately high ductility. Excellent weldability.	Machinery parts, tie rods, relatively low-strength structural applications, mounting plates and brackets
C1010	Relatively low strength, but can be quenched and tempered to increase strength at a high cost. Fairly good machinability; good formability and ductility.	Machinery parts, tie rods, relatively low-strength structural applications, mounting plates and brackets

C1018	Most commonly available cold-rolled steel. Has strength, some ductility, and comparative ease of machining.	Machinery parts, tie rods, relatively low strength structural applications, mounting plates and brackets
C1045	For applications in which more strength or higher hardness than that of 1008 or 1010 is required.	Bolts, gears, crank shafts, cylinder shafts, die forges
C1141	For applications similar to those of 1045, but machinability is very important.	Pins, studs, bolts, shafts, tie rods
C1144	Higher strength than 1018 or A36, but in addition has improved ductility. Very low distortion or warping after machining due to a combination of its chemistry, method of manufacture, and heat treatment. Relatively easy to machine.	Pins, studs, bolts, shafts, tie rods, applications similar to those of 1045 when machinability is very important