



## Carbon & Alloy Steels

Series	Alloying Elements	Properties	Popular Uses
1000	Carbon	High strength, high ductility, low cost, can be hardened	Chain, pipe, screws, axels, wire, tools
2000	Nickel	High strength, high impact resistance, increased toughness, lower corrosion resistance	Structural elements, storage cylinders, forgings, gears, shafts, screws, bolts
3000	Nickel-chromium	High strength, great hardness, reduced impact resistance	Springs, chain pinsm bolts, crankshafts, bearings
4000	Molybdenum	High strength, weldable, increased temperature and corrosion resistance	Structural elements, storage cylinders, marine, drilling, heat exchangers
5000	Chromium	High tensile strength, hardness, toughness, corrosion and wear resistance	Tools, knives, marine, nuts, bolts
6000	Chromium-vanadium	High strength, hardness, impact, corrosion and wear resistance.	Cutting tools, axles, chisels, wrenches, gears, blades
7000	Tungsten	Increased hardness, exceptional heat, corrosion and wear resistance	Micro tools, knives, blades, engine parts
8000	Nickel-chromium	Increased hardening from heat treatment, high toughness, low impact resistance	Large structural elements, coins



### Carbon Steel

Although carbon steels are technically alloy steels, they have their own sub-groups for classification:

- Low Carbon Steels/Mild Steels contain up to 0.3% carbon
- Medium Carbon Steels contain 0.3-0.6% carbon
- High Carbon Steels contain more than 0.6% carbon