

40Cr steel is Chinese GB standard alloy steel for engineering and machinery purpose, and one of the most widely used steel grades. It has good comprehensive mechanical properties. It is suitable for surface hardening treatment such as high frequency quenching and flame quenching.

Advantages

It has good comprehensive mechanical properties. The hardenability of the steel is high which make it suitable for surface hardening treatment such as high frequency quenching and flame quenching. Good cuttability.

Disadvantage

Tolerance

0.025/0.05/0.1mm

Recommendation

40 CR steel comes with reasonable price and easy to process. After proper heat treatment, it can obtain certain toughness, plasticity and wear resistance. It has good comprehensive mechanical properties. The hardenability of the steel is higher than 45 steel, which make it suitable for surface hardening treatment such as high frequency quenching and flame quenching.

Attention

If there is included angle in model structure, we will make it an R angle by default. Please communicate with account manager if you need the included angle in your model.

Attributes

Tensile strength: ≥ 810

Yield Strength: ≥ 785

Elongation $\delta 5$ (%): ≥ 9

Hardness: (100/3000HBW) (annealed or tempered at high temperature) : ≤ 207

Shrinkage Rate: ≥ 45

Density: 7.85g/cm³

Modulus of Elasticity: 211GPa

Poisson's ratio: 0.30

Applications

Machinery manufacturing, precision machine tools, mold production etc.

After quenching and tempering, this steel is used to manufacture mechanical parts that can withstand medium loads and moderate speeds, such as steering knuckles, rear axles, and gears, shafts, worms, spline shafts, and top sleeves on machine tools. After tempering at medium temperature, it is used to manufacture parts that are subjected to high load, impact and medium speed work, such as gears, spindles, oil pump rotors, sliders, collars, etc.