CNC Steel Alloys

SUITABLE FOR CNC MACHINING

MATERIAL NAME
CNC Steel Alloys

COLOR
Silver, Grey, Black

PROCESS
CNC

PRODUCT DESCRIPTION

CNC Steel Alloys refers to the steel alloy used for CNC processing, that is, on the basis of carbon steel to add other alloying elements (such as chromium Cr, nickel Ni, molybdenum Mo, vanadium V, manganese Mn, etc.) to improve its strength, hardness, wear resistance and corrosion resistance. Steel alloys are widely used in aerospace, automotive manufacturing, industrial equipment, medical devices and tool manufacturing.

TYPICAL APPLICATIONS

- Aerospace (landing gear, structural parts)
- Ship (deck, support beam)
- Mechanical parts (shafts, pins, gears)
- Automotive parts (connectors, chassis parts)

PRODUCT SAFETY

- Metal dust generated during CNC machining should be controlled through appropriate ventilation and protective measures to avoid inhalation.
- Use safety goggles, gloves and a dust mask during processing to prevent fine metal particles and sharp edges.

PRODUCT DELIVERY & WAREHOUSING

- **STORAGE**

  Store in a dry, ventilated environment, avoiding moisture and exposure to corrosive chemicals.
  Apply protective coatings to prevent oxidation or corrosion of metal surfaces.

- **USAGE AND HANDLING**

  Remove burrs and residual materials from the product. Use protective equipment like gloves when handling.
  Avoid using the product in extreme environments or high-load scenarios; regularly inspect for mechanical performance.

- **CHEMICAL COMPATIBILITY**

  Avoid contact with strong acids, alkalis, or corrosive solvents. Use appropriate cleaning and maintenance solutions.
  Assess risks of oxidation, corrosion, or magnetic effects based on specific application environments.

MATERIALS WE SUPPORT:

ASTM	DIN	GB	Density (g/cm^3)	Hardness	Tensile Strength, Yield(Mpa)	Fatigue Strength (Mpa)	Elongation at Break(%)
1045	C45E/CK45	45	7.85	170 HB	310~470	310	16
1050	C50E/CK50	50	7.85	95~220 HB	690~790	300~450	10~20
1055	C55/CK55	55	7.85	140~190 HB	600~800	300~500	10
4118	20CrMo	20CrMo	7.85	197 HB	885	450~650	12
4135	35CrMo	35CrMo	7.85	187~229 HB	985	450~650	12
4140	42CrMo	42CrMo	7.78	302 HB	675	80	17.8
4340	34CrNiMo6	40CrNiMo6	7.85	217 HB	470	74	22
1115	15S20	Y15	7.85	179 HB	410	180~300	22
1140	35S20	Y35	7.85	160~190 HB	620	310	20
D3	X210Cr12	Cr12	7.8	269~271 HBW	1900	1000	6~10
D6	X165CrMoV12	Cr12MoV	7.75	255~207 HBW	1800	950	6~8
D2	/	Cr12Mo1V1/Cr8Mo2SiV	7.7	200~250 HB	1550	800	8
O1	100MnCrW4	9CrWMn	7.83	195 HB	400	72	20
O2	90MnCrV8	9Mn2V	7.66	240 HB	1000~1200	600~800	9~15
A2	X100CrMoV5-1	Cr5Mo1V	7.86	201~229 HB	1275~1585	78	1~5
M2	S6-5-2	W6Mo5Cr4V2	8.1	225 HB	1350~2100	1000	4

Tips: Want to explore a wider range of materials? Check out *https://www.unionfab.com/materials*