

OTAI SPECIAL STEEL is 52100 bearing steel stockholders and suppliers from china. more 16 years experience in AISI 52100 steel supply.

AISI 52100 bearing steel is a high quality Alloy Bearing steel, It belong to a high carbon, chromium containing low alloy steel.. 52100 Oil Quenched & Tempered Hardenss is 28-34 HRc. AISI 52100 steel Annealing delivery hardenss less than 250HB.

AISI 52100 Alloy bearing steel properties is a chromium, manganese alloy steel specification. 52100 is equivalent to DIN 100Cr6, GB GCr15. Most applications can replace each others.

Related Specifications ASTM A29/A29M DIN EN 10083/3 JIS G4053 GB GB/T 3077

Form of Supply

AISI 52100 bearing steel, supply the round bar, steel flat bar, plate, hexagonal bar and steel square block. AISI 52100 steel Round bar can be sawn to your required lengths as one offs or multiple cut pieces. 52100 bearing steel Rectangular pieces can be sawn from flat bar or plate to your specific sizes. Ground tool steel bar can be supplied, providing a quality precision finished bar to tight tolerances.



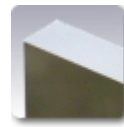
Round



sheet



Square



Plate

Chemical composition

C(%)	0.95~ 1.10	Si(%)	0.15~0.35	Mn(%)	0.25~ 0.45	P(%)	≤0.015
S(%)	≤0.015	Cr(%)	1.35~1.60				

Heat treatment Related

① Forging of 52100 Alloy bearing steel

AISI 52100 is forged at 927 to 1205° C (1700 to 2200° F), then annealing.

② Annealing of 52100 Alloy bearing steel

Slowly heated to 872° C (1600° F), follow by slowly cooling to reduce cold working or machining stress. Different annealing ways will get different hardness. The 52100 bearing steel will get Hardness MAX 248 HB (Brinell hardness) .

③ Quenching and temperature of 52100 Alloy bearing steel

Heated to 816° C (1500° F) slowly, Then quenching in oil get 62 to 66 HRC hardness. **High temperature tempering:** 650–700°C, cool in air, get hardness 22 to 30HRC. **Low temperature tempering:** 150–170 °C, Cool in ari, get 61–66HRC hardness.

④ Hot work and cold work of 52100 Alloy bearing steel

AISI 52100 steel can hot worked at 205 to 538° C (400 to 1000° F), 52100 Bearing steel can be cold worked using conventional techniques in the annealed or normalized conditions.

Mechanical Properties

The mechanical properties of annealed AISI 52100 bearing steel (typical for steel) are outlined in the table below:

Tensile	Yield	Bulk modulus	Shear modulus	Poisson 's ratio	Thermal conductivity
MPa	Mpa	Gpa	Gpa		W/mK
520	415 Min	140	80	0.27– 0.30	46.6

Applications

AISI 52100 steel is widely used for a variety of applications in the used to the bearings in rotating machinery. Typical applications such

as valve bodies, pumps and fittings, the high load of wheel, bolts, double-headed bolts, gears, internal combustion engine. Electric locomotives, machine tools, tractors, steel rolling equipment, boring machine, railway vehicle, and mining machinery transmission shaft on the steel ball, roller and shaft sleeve, etc.

Regular size and Tolerance

1) Hot Rolled round bar

Diameter (mm)	Diameter Tolerance (mm)	Diameter (mm)	Diameter Tolerance (mm)
≤12.70	-0.13 ~0.30	>50.80~63.5	-0.25~0.76
12.7~25.40	-0.13~0.41	>63.50~76.20	-0.25~1.02
>25.4~38.10	-0.15~0.51	>76.20~101.60	-0.30~+1.27
>38.1~50.80	-0.20~0.64	>101.60~ 203.20	-0.38~3.81

2) Hot Rolled steel plate

Thickness (mm)	Thickness Tolerance (mm)	Thickness (mm)	Thickness Tolerance (mm)
≤25.4	-0.41~0.79	>127~152	-1.60~2.39
>25.4~76	-0.79~1.19	>178~254	-1.98~3.18
>76~127	-1.19~1.60	>254~305	-2.39~3.96

Others 52100 have not specified size, pls [contact](#) our experienced sales team.

[Processing](#)

AISI 52100 bearing steel round bar and flat sections can be cut to your required sizes. 52100 bearing steel ground bar can also be supplied, providing a high quality tool steel precision ground tool steel bar to your required tolerances. AISI 52100 steel is also available as Ground Flat Stock / Gauge Plate, in standard and nonstandard sizes.

Contact our experienced sales team to help you with your 52100 bearing steel questions and enquiry by [Email](#) or Telephone. The questions will be reply in 24 hours.

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