



OTAI SPECIAL STEEL is 20MnCr5|1.7147 Carburizing steel, gearing steel stockholders and suppliers from china. more 16 years experience in 20MnCr5 steel supply.

20MnCr5 gearing steel is DIN standard Alloy Carburizing gearing steel, 20MnCr5 gearing steel properties is a chromium, manganese, titanium alloy steel specification. it is equivalent with GB 20CrMn standard Carburizing steel, gearing steel.

Related Specifications ASTM A29/A29M DIN EN 10083/3 JIS G4053 DIN DIN/T
DIN17210

Form of Supply

DIN 20MnCr5|1.7147 Carburizing steel, we can supply the round bar, steel flat bar, plate, hexagonal steel bar and steel square block. DIN 16MnCr5|1.7147 steel Round bar can be sawn to your required lengths as one offs or multiple cut pieces. 16MnCr5|1.7147 gearing steel Rectangular pieces can be sawn from flat bar or plate to your specific sizes. Ground tool steel bar can be supplied, provide a quality precision finished bar to tight tolerances.



Round



sheet



Square



Plate

Chemical composition

C(%)	0.17~ 0.22	Si(%)	≤0.40	Mn(%)	1.10~ 1.40	P(%)	≤0.035
S(%)	≤0.035	Cr(%)	1.00~1.30				

Heat treatment Related

① Annealing of 20MnCr5|1.7147 Carburizing steel

Slowly heated to 790–810 °C and allow enough times, let the steel to be thoroughly heated, Then cool slowly in the furnace. Different annealing ways will get different hardness. The 20MnCr5|1.7147 Carburizing steel will get Hardness MAX 248 HB (Brinell hardness) .

① Quenching and temperature of 20MnCr5|1.7147 Carburizing steel

Heated slowly to 788° C, Then put in salt-bath furnace keep 1191 °C to 1204 °C. quenching by oil get 60 to 66 HRC hardness. **High temperature tempering:** 650–700°C, cool in air, get hardness 22 to 30HRC. **Low temperature tempering:** 150–200 °C, Cool in ari, get 61–66HRC hardness.

② Hot work and cold work of 20MnCr5|1.7147 Carburizing steel

DIN 16MnCr5|1.7131 steel can hot worked at 205 to 538° C, 16MnCr5|1.7131 gearing steel can be cold worked using conventional techniques in the annealed or normalized conditions.

③ Mechanical Properties Of 20MnCr5|1.7147 gearing steel

The mechanical properties of annealed DIN 20MnCr5|1.7131 gearing 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 of 20MnCr5|1.7147 gearing steel

DIN 20MnCr5|1.7147 gearing steel is widely used for a variety of applications in the used to the gearings 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 of 20MnCr5|1.7147 gearing steel

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 20MnCr5|1.7147 gearing steel have not specified size, pls [contact](#) our experienced sales team.

④ [Processing of](#) 20MnCr5|1.7147 gearing steel

DIN 20MnCr5|1.7147 gearing steel round bar and flat sections can be cut to your required sizes. 16MnCr5|1.7131 gearing steel ground bar can also be supplied, providing a high quality tool steel precision

ground tool steel bar to your required tolerances. DIN 16MnCr5|1.7131 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 20MnCr5|1.7131 gearing steel questions and enquiry by [Email](#) or Telephone. The 16MnCr5|1.7131 steel questions will be reply in 24 hours.

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