

OTAI SPECIAL STEEL is A3 steel stockholders and suppliers from china. more 16 years experience in AISI A3 tool steel round bar, flat bar and plate supply.

AISI A3 Steel is a high quality Cold work tool steel, It belong to the high quality high carbon alloy tool steel. Oil Quenched & Tempered Hardenss is 28-34 HRC. AISI A3 steel Annealing delivery hardenss less than 250HB. A3 steel equivalent with ASTM A681, FED QQ-T-570, UNS T30103.

A3 tool steel properties as below:

**Related Specifications ASTM A39/A39M DIN EN 10083/3 JIS G4053 GB/T 3077**

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### Form of Supply

AISI A3 tool steel, we can supply the round bar, steel flat bar, plate, hexagonal steel bar and steel square block. AISI A3 steel Round bar can be sawn to your required lengths as one offs or multiple cut pieces. A3 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.



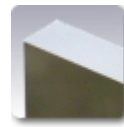
Round



sheet



Square



Plate

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### Chemical composition

C(%)	0.95~ 1.05	Si(%)	0.10~0.50	Mn(%)	0.40~ 1.00	P(%)	≤0.030
S(%)	≤0.040	Cr(%)	4.75~5.50	Mo (%)	0.90~ 1.40	V(%)	0.15~ 0.50

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## Heat treatment Related

### ① Forged of A3 Tool steel

Slowly heated the A3 steel material to 650–680° C (1202–1256° F) before raising the temperature to 1050–1100° C (1922–2120° F) and soak A3 tool steel material until uniformly heated. Initial hammer blows should be light due to the comparatively high hot strength of this steel.

The A3 steel forged temperature should be maintained above 1000° C (1832°F) until the A3 steel metal begins to yield. Final forged should not be done below 900° C (1652°F). Slowly cool after forged is essential to avoid the possibility of cracking.

### ② Annealing of A3 Tool steel

Slowly heated A3 steel to 850–870 °C (1562–1598°F) and allow enough times, let the steel to be thoroughly heated, Then cool slowly in the furnace at a rate of 4° C (40° F) per hour or less.. The A3 tool steel will get MAX 250 HB (Brinell hardness) .

### ③ Hardening of A3 tool steel

A3 steels should be heated uniformly to 790–820° C (1436–1508° F) until completely heated through. Then heated to the hardening temperature of 950–980° C (1742–1796°F), soak at the temperature enough time, let A3 steel to be thoroughly heated .

Then withdraw A3 steel tools from the furnace, either air cool or oil quench.

### Tempering of A3 tool steel

Tempering of A3 steels is performed at 150–400° C (302–752° F), Soak well at the selected temperature and soak for at least one hour per 25mm of total thickness. Get Rockwell C hardness of 57 to 62. Others different Heat treatment temperature will get different hardness. Below only for reference.

Temperature [°C]	150	200	250	300	350	400
Hardness [HRc]	62–61	61–60	60–59	59–58	58–57	58–57

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## Applications

A3 steels are mainly used for slitters, die shapes.

A3 tool steel typical applications include cold forging dies, coining dies, cold heading dies, shear blades, knurling tools and as cutting knives for paper, wood, fibre and resin-bonded material, etc.

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## 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 A3 have not specified size, pls [contact](#) our experienced sales team.

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## Processing

AISI A3 tool steel round bar and flat sections can be cut to your required sizes. A3 tool steel ground bar can also be supplied, providing a high quality tool steel precision ground tool steel bar to your required tolerances. AISI A3 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 A3 tool steel questions and enquiry by [Email](#) or Telephone. The questions will be reply in 24 hours.

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**OTAI SPECIAL STEEL CO., LTD**

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