





H13 Steel | 1.2344 | SKD61 | X40CrMoV5-1 Hot Work Tool Steel

AISI H13 steel is a Cr-Mo Alloy tool steel belong to ASTM A681-1999 Steel Grade standard. Otai Special Steel Supply H13 steel in Round bar, Plate, Flat bar, Square, Ring and others any shape.

Supply Form of H13 Steel -ASTM A681 Hot Work Steel

			
Round	Plate	Sheet	Square

Supply Range of SAE H13 Steel

H13 Steel Round Bar: diameter 5mm – 400mm

H13 Steel Plate: thickness 10 –500mm x width 200– 1400mm

H13 Steel Block: 210mm x 500-810mm

Chemical Composition of H13 Tool Steel Material

ASTM A681	C	Si	Mn	P	S	Cr	Mo	V
H13/T20813	0.32 ~ 0.45	0.80 ~ 1.20	0.20 ~ 0.50	0.030 Max	0.030 Max	4.75 ~ 5.50	1.10 ~ 1.75	0.80 ~ 1.20
DIN 17350	C	Si	Mn	P	S	Cr	Mo	V
1.2344/ X40CrMoV5- 1	0.37 ~ 0.42	0.90 ~ 1.20	0.30 ~ 0.50	0.030 Max	0.030 Max	4.80 ~ 5.50	1.20 ~ 1.50	0.90 ~ 1.10
GB/T 1299	C	Si	Mn	P	S	Cr	Mo	V
4Cr5MoSiV1	0.32 ~ 0.42	0.80 ~ 1.20	0.20 ~ 0.50	0.030 Max	0.030 Max	4.75 ~ 5.50	1.10 ~ 1.75	0.80 ~ 1.20
JIS G4404	C	Si	Mn	P	S	Cr	Mo	V
SKD61	0.35 ~ 0.42	0.80 ~ 1.20	0.25 ~ 0.50	0.030 Max	0.030 Max	4.80 ~ 5.50	1.00 ~ 1.50	0.80 ~ 1.15

H13 Steel Material Equivalent and Related Specifications

USA	German	Japan	China	ISO
ASTM A681	DIN 17350	JIS G4404	GB/T 1299	ISO 4957
H13	1.2344	SKD61	4Cr5MoSiV1	40CrMoV5

SAE H13 Tool Steel Material Mechanical Properties

Tensile strength, ultimate (@20°C/68°F, varies with heat treatment): 1590 MPa

Tensile strength, yield (@20°C/68°F, varies with heat treatment): 1380 MPa

Reduction of area (@20°C/68°F): 50%

Modulus of elasticity (@20°C/68°F): 215 GPa

Forged of H13 Steel metal material

Pre-Heating to 750°C. Then heat to forged temperature. Soak at 1050-1100 °C , ensure heat thorough. After forging, cool slowly .

Heat Treatment of SAE H13 Steel

- **H13 Steel Annealing**

Slowly heat to 843°C - 898°C(1550-1650 ° F), then slowly Cool to 538°C(1000°F) in heat treatment furnace. Then cool in air. After annealing hardness HBS: 235 Max

- **H13 tool Steel Hardening**

H13 steel having very high hardenability and should be hardened by cooling in still air. The use of a salt bath or controlled atmosphere furnace is desirable to minimize decarburization, and if not available, pack hardening in spent pitch coke is suggested. The temperature employed is usually 1800°-1850°F, depending on size section

- **Quenching of H13 Steel material**

Quenching temperature / °C | salt bath furnace: 996

Quenching temperature / °C | controlled atmosphere furnace: 1010

The heat preservation time/min: 5 ~ 15

Quenching medium: air cooling

- **Tempering Of H13 Steel**

Tempering temperature / °C : 552

After tempering hardness HRC or higher: 52

Application of Sae H13 tool Steel

1, Application for Hot Extrusion Mold

As Dies, liners, Die holder Backers, Aluminium Extrusion mould, Copper alloy mold, stainless products mold Etc.

2, Application for Plastic Mold Tool

Like Large Injection molds compression, Thick wall plastic molds, Etc.

Quality Assured of Sae H13 Steel

Quality assured by ISO 9001:2008 quality management system. Our all H13 tool steel all had by SEP 1921-84 ultrasonic inspection (UT Test). Quality Grade: E/e, D/d, C/c.

If you have any H13 steel inquiry and question for Price, Application, hot treatment, Please don't hesitate contact us.

Email: Jack@otaisteel.com

Tel: +86-769- 33232622

Fax: +86-769-88705839