

OTAI SPECIAL STEEL is 1.6511|36CrNiMo4 Alloy steel stockholders and suppliers from china. we have more 16 years experience in 1.6511 | 36CrNiMo4 steel supply.

1.6511|36CrNiMo4 alloy Steel is a high quality Quenched and Tempered Alloy Structural steel, It belong to the high quality medium carbon, Oil Quenched & Tempered Hardenss is 28-34 HRC. 1.6511|36CrNiMo4 Annealing delivery hardenss less than 250HB.

Din W-Nr 1.6511|36CrNiMo4 Alloy structural steel properties is very simliar with GB 40CrNiMo steel, JIS SNCM439 and ASTM 4340 Alloy structural steel. At most work environment, 1.6511|36CrNiMo4 is equivalent with 40CrNiMo steel, 4340 steel, SNCM439 steel.

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

Form of Supply

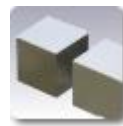
Din W-Nr 1.6511|36CrNiMo4 Alloy structural steel, we can supply the 4340 round bar, steel flat bar, plate, hexagonal steel bar and steel square block. Din W-Nr 1.6511|36CrNiMo4 steel Round bar can be sawn to your required lengths as one offs or multiple cut pieces. Din W-Nr 1.6511|36CrNiMo4 Rectangular 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(%)	0.38~ 0.43	Si(%)	0.15~0.35	Mn(%)	0.60~ 0.80	P(%)	≤0.035
S(%)	≤0.040	Cr(%)	0.70~0.90	Mo(%)	0.20~ 0.30	Ni(%)	1.65~ 2.00

Heat treatment Related

① Annealing of Din W-Nr 1.6511|36CrNiMo4 Alloy structural steel

Slowly heated to 650–700 °C and allow enough times, let the steel to be thoroughly heated, Then cool slowly in the furnace. The 1.6511|36CrNiMo4 steel will get MAX 250 HB (Brinell hardness) .

② Normalizing of Din W-Nr 1.6511|36CrNiMo4 Alloy structural steel

Heated slowly to 850–880° C, Keep about 2 hours. Then cool in air.

③ Hardening of Din W-Nr 1.6511|36CrNiMo4 Alloy structural steel

Heated slowly to 820–860° C, Then after adequate soaking at this temperature quench in oil.

④ Tempering of Din W-Nr 1.6511|36CrNiMo4 Alloy structural steel

Heated to 540–680° C, Keep at the temperature for 2 hours per 25mm of section, then allow to cool in air.

Mechanical Properties in Hardening and Tempering Condition

Diameter (mm)	0.2 % proof stress (N/mm ²)	Tensile strength (N/mm ²)	Elongation (%)	Reduction of area (%)	Notch impact energy (J)
<16	900	1100-1300	10	45	40
17-40	800	1000-1200	11	50	45
41-100	700	900-1100	12	55	50
101-160	600	800-950	13	60	50
161-250	550	750-900	14	60	50

Applications

For permanently stressed components with large cross sections for automotive and mechanical engineering. For economic performance under severe dynamic stress, parts must be designed for optimum strength or toughness. Din W-Nr 1.6511|36CrNiMo4 steel is a quenched and tempered (Q+T) alloy structural steel, is used for engineering structural, Used as require good toughness, high strength, as well as the important conditioning of large size, heavy machinery such as high load of axial, turbine shaft, larger than 250 mm in diameter of helicopter rotor shaft, turbojet engine turbine shaft, blade, high load of transmission parts, fasteners of the crankshaft. Gear, etc.; 1.6511 also be used for operating temperature over 400 °C of rotor

shaft and blade, etc.; And after nitriding processing can also be used to make special performance requirements of the important parts, after low temperature tempering or can be used for ultra-high strength steel after isothermal quenching

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 4340 have not specified size, pls [contact](#) our experienced sales team.

[Processing](#)

Din W-Nr 1.6511|36CrNiMo4 alloy steel round bar and flat sections can be cut to your required sizes. 1.6511 alloy steel ground bar can also be supplied, providing a high quality tool steel precision ground tool steel bar to your required tolerances. 1.6511 alloy 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 1.6511 alloy steel questions and enquiry by [Email](#) or Telephone. The questions will be reply in 24 hours.

OTAI SPECIAL STEEL CO., LTD

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