



DIN 1.2631 is a medium alloyed cold work steel. It has good thorough hardenability, high wear resistance and very good toughness.

STANDARDS • ——

» DIN 1.2631

X50CrMoW9-1-1

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CHEMICAL COMPOSITION • —

	С	Cr	Si	Mn	Mo	w	P	S	Ni	Cu
Min	0.45	8.00	0.80	0.40	1.10	1.10				
Typical	0.50	8.50	0.90	0.50	1.20	1.20				
Max	0.55	9.00	1.00	0.60	1.30	1.30	0.035	0.035	0.25	0.25

Applications -

- » Wood working knives
- » Straight and round cutting blades
- » Blades used in paper industry

FORM SUPPLIED • -

- » Round Bar
- Plates
- » Square Block
- Flat Bars

Available surface conditions: drawn, ground, hot rolled, cold rolled, peeled, turned.

HEAT TREATMENT . _____

•Annealing:

Annealing temperature/ °C: 750~800; After the annealing, degree of hardness ≤HBS: 230

•Quenching:

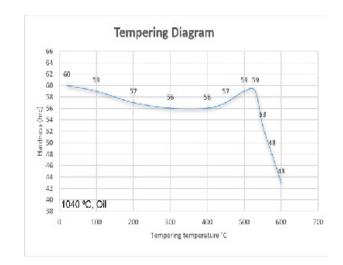
Hardening temperature/ ${}^{\circ}\mathbf{C}$:1020~1050, Quenching in oil

• Tempering:

Commonly used drawing temperature/ °C: 180~250; After tempering hardness HRC | 100 °C: 58; After tempering hardness HRC | 200 °C: 57; After tempering hardness HRC | 300 °C: 56; After tempering hardness HRC | 400 °C: 55

•Normalizing:

at Normalizing temperature, then cool in furnace



Tool	Hardening	Tempering
single edge cutting tools	1220 °C	560 °C
multi edge cutting tools	1180-1220 °C	560 °C
cold work tools	1050-1150 °C	560 °C

DELIVERY HARDNESS • -

Typical soft annealed hardness is 230 HB

PROCESSING . _____

DIN 1.2631 can be worked as follows:

- Machining(grinding,turning,milling)
- Polishing
- » Hot forming
- » Electrical discharge machining
- Welding(special procedure incl. pre-heating & filler materials of base material composition)

GRINDING.

During Grinding, local heating of the surface, which can alter the temper, must be avoided. Grinding wheel manufacturers can provide advise on the choice of grinding wheels.

SURFACE TREATMENT . _____

The Steel Grade is a perfect substrate material for PVD coating. If nitriding is requested, a small diffusion zone is recommended but avoid compound and oxidized layers.

SIZES AVAILABLE . ____



ROUND	Starting From	Upto	
DIAMETER	8 mm	500 mm	
LENGTH	2000 mm	6000 mm	



SQUARE BAR	Starting From	Upto	
SIZE	8x8 mm	250x250 mm	
LENGTH	2000 mm	6000 mm	



FLAT	Starting From	Upto		
THICKNESS	4 mm	205 mm		
WIDTH	20 mm	400 mm		
LENGTH	2000 mm	6000 mm		

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