

M42 High Speed Steel : It is a cobalt alloyed high speed steel, it is widely used in metal manufacturing industries because of its superior red hardness as compared to more conventional high-speed steels. This allows for shorter cycle times in production environments due to its higher cutting speeds and from the increase in time between tool changes.

STANDARDS •

- » USA: AISI M42
- » Japan: JIS SKH59
- » Germany: 1.3247
- » France: AFNOR Z110dkcwv9.8.4.2.1
- » Sweden: SS 2723
- » Europe: HS 2-9-1-8
- » UK: BM42

CHEMICAL COMPOSITION •

	C	Cr	Si	Mn	Mo	W	V	P	S	Ni	Co	Cu
Min	1.05	3.50	0.15	0.15	9.00	1.15	0.95	--	--	--	7.75	--
Typical	1.10	3.85	0.40	0.28	9.50	1.50	1.15				8.25	
Max	1.15	4.25	0.65	0.40	10.00	1.85	1.35	0.035	0.035	0.035	8.75	0.25

APPLICATIONS •

- » Twist Drills
- » End mills
- » Band saws
- » Reamers
- » Milling cutters
- » Broaches

FORM SUPPLIED •

- » Drawn wire
- » Discs
- » Round bars
- » Bi-metal edges
- » Square bars
- » Sheets
- » Flat bars
- » Wire rod

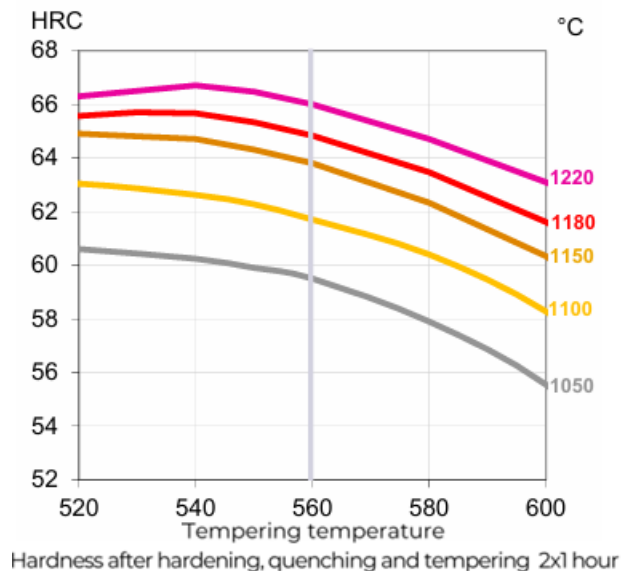
Available surface conditions : drawn, ground, rolled, hot rolled, cold rolled, peeled, turned.

HEAT TREATMENT •

- **Stress-relieving** at 600 °C to 700 °C for approximately 2 hours, slow cooling down to 500 °C.
- **Soft Annealing** in a protective atmosphere at 850-900 °C for 3 hours, followed by slow cooling 10 °C per hour down to 700 °C, then air cooling.
- **Hardening** in a protective atmosphere with pre-heating in 2 steps at 450-500 °C and 850-900 °C and austenitising at a temperature suitable for chosen working hardness.
3 tempers at 560 °C are recommended with at least 1 hour holding time, each time.

Tool	Hardening	Tempering
single edge cutting tools	1190 °C	560 °C
multi edge cutting tools	1150-1180 °C	550-570 °C
cold work tools	1050-1150 °C	550-570 °C

GUIDELINES FOR HARDENING •



PROCESSING •

M42 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.

DELIVERY HARDNESS •

- » Typical soft annealed hardness is 270 HB
- » Cold drawn and cold rolled material is typically 10-40 HB harder

SIZES AVAILABLE •



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

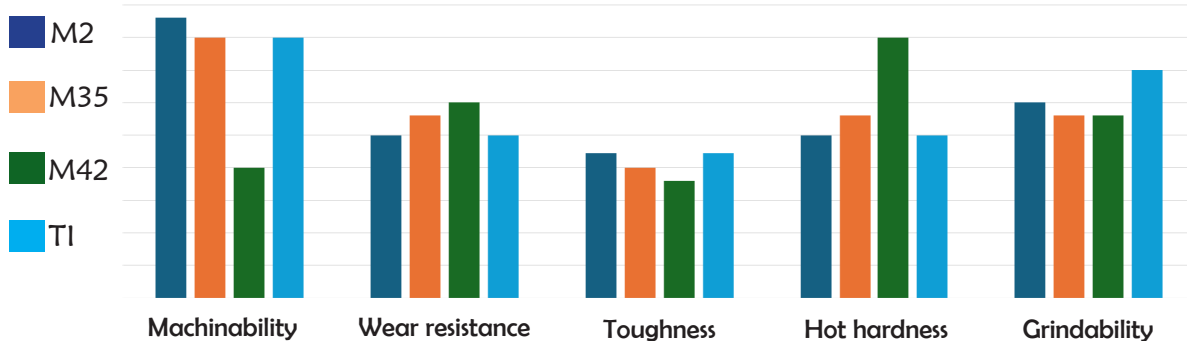


SQUARE BAR	Starting From	Upto
SIZE	8x8 mm	250x250 mm



FLAT	Starting From	Upto
THICKNESS	4 mm	205 mm
WIDTH	20 mm	400 mm

COMPARATIVE PROPERTIES •



Contact us at:

+91-1762-281009

info@sadashivsteel.com

www.sadashivsteel.com



Pandwala Road, Village Mubarikpur, Near Derabassi, District: Mohali, Punjab - 140201