

**Cr12MoV** is a high-alloy tool steel composed of iron, carbon, chromium, molybdenum, and vanadium. Typically solid with a silver-gray appearance, this steel features high hardness, high wear resistance, and good toughness. It is primarily used for making cold work dies, cutting tools, and measuring tools.

## STANDARDS •

Modified version of:

- » AISI D2
- » X165Cr-MoV12
- » JIS SKD11
- » DIN 1.2379

## CHEMICAL COMPOSITION •

	C	Cr	Si	Mn	Mo	V	P	S
Min	1.45	11.00	0.20	0.20	0.40	0.15	--	--
<b>Typical</b>	<b>1.60</b>	<b>11.70</b>	<b>0.40</b>	<b>0.40</b>	<b>0.55</b>	<b>0.20</b>		
Max	1.70	12.50	0.60	0.60	0.70	0.30	0.035	0.035

## APPLICATIONS •

- » Engine valves
- » Cutting tools
- » Stamping Dies
- » Drill Bits
- » Fasteners
- » Crusher Blades

## FORM SUPPLIED •

- » Round Bars
- » Flat Bars
- » Plates
- » Coil Strips
- » Sheets

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

## HEAT TREATMENT •

### ● Annealing:

Heat to 800-850°C, soak, then cool slowly to 600°C and air cool.

### ● Stress Relieving:

Heat to 600-700°C, hold for 1-2 hours, then cool slowly.

### ● Hardening:

Preheat to 300-400°C and then 750-800°C. Austenitize at 1000-1050°C and hold for 15-30 minutes.

### ● Quenching:

Air cool or oil quench; gas quench in a vacuum furnace.

### ● Tempering:

Heat to 150-300°C, and hold for 1-2 hours. Multiple cycles are recommended.

Tool	Hardening	Tempering
single edge cutting tools	1220 °C	550-570 °C
multi edge cutting tools	1180-1220 °C	550-570 °C
cold work tools	1050-1150 °C	550-570 °C

## DELIVERY HARDNESS . \_\_\_\_\_

- » Typical soft annealed hardness is 250 HB
- » Cold drawn and cold rolled material is typically 10-40 HB harder

## PROCESSING . \_\_\_\_\_

Cr12MoV 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 . \_\_\_\_\_

Grinding and Polishing is done for precision and appearance.

## SURFACE TREATMENT . \_\_\_\_\_

Coating and Electroplating: For wear resistance and hardness.

Heat Treatment: Induction hardening.

Machining: CNC for complex geometries.

## SIZES AVAILABLE . \_\_\_\_\_



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

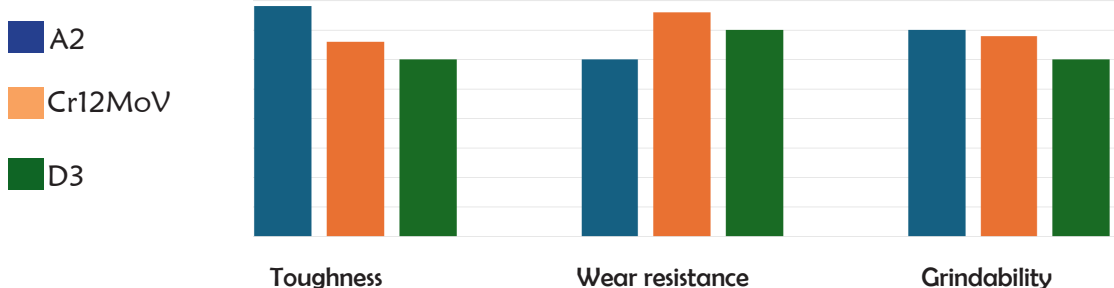


SQUARE BAR	Starting From	Upto
SIZE	8x8 mm	250x250 mm
LENGTH	2000 mm	6000 mm



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

## COMPARATIVE PROPERTIES . \_\_\_\_\_



Contact us at:

+91-1762-281009

info@sadashivsteel.com

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

www.sadashivsteel.com