

# Material: 1.2312



**Material No.:** 1.2312

**Abbreviated DIN Name:** 40 CrMnMoS 8-6

**Chemical Analysis (%):**

C	Mn	S	Cr	Mo
0,4	1,5	0,07	1,9	0,2

**Hardness:** annealed to max. 280 - 325 HB  
(~950 - 1100 N/mm<sup>2</sup>)

## Characteristics

### **Material Properties:**

This material should be used in its supplied condition. There is consequently no need to harden the finished parts. Good machinability due to the high Sulphur content.

### **Uses:**

Cavity and frame plates for compression moulds and injection moulding tools. Tool components subjected to high pressure. Other uses in mould making where relatively high strength is specified with subsequent heat treatment.

## Physical Properties

### **Thermal expansion coefficient**

(10<sup>-6</sup>·m) / (m·K)

100	200	300	400	500	600	700	°C
12,2	12,9	13,5	13,9	14,2	14,5	14,8	

Thermal conductivity

W / (m·K)

20	350	700	°C
34,5	33,5	32,0	

## Remarks

**Polishing:** Not usual because of the high Sulphur content.

**Graining:** Not usual because of the high Sulphur content.

**Nitriding:** Possible, improves the wear resistance of the surface.

**Hardening:** Not usual because material is used in its supplied condition.

**Soft annealing:** Not usual.

**Stress-relief annealing:** To eliminate residual stress after coarse machining at max 480°C, approx. 4 h with slow furnace cooling.

**Dimensions Available:** W x L : Max 1250 x 2050 mm

H - : 30, 40, 50, 60, 70, 80, 90, 100, 110, 130, 150, 170, 190, 210, 230, 250