

Material: 1.2311



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Abbreviated DIN Name: 40 CrMnMo 7

Chemical Analysis (%):	C	Mn	Cr	Mo
	0,4	1,5	1,9	0,2

Hardness: annealed to max. 280 - 325 HB
(~950 - 1100 N/mm²)

Characteristics

Material Properties:

This material should be used in its supplied condition. High mechanical properties, toughness and compressive strength.

Uses:

Cavity plates and inserts in plastics processing. Tool components subjected to high pressures. Other uses in mould making where high strength is needed without subsequent heat treatment.

Physical Properties

Thermal expansion coefficient

(10⁻⁶·m) / (m·K)

100	200	300	400	500	600	700	°C
11,1	12,9	13,4	13,8	14,2	14,6	14,9	

Thermal conductivity

W / (m·K)

20	350	700	°C
34,5	33,5	32,0	

Remarks

Polishing: Technical polishing possible because the Sulphur content is very low.

Graining: Possible.

Nitriding: Possible.

Hardening: Not usual because material should be used in its supplied condition.

Soft annealing: Not usual.

Stress-relief annealing: To eliminate residual stress after coarse machining at approx. 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, 270, 300, 330, 360