

**Material no.:** 1.2842 (1.2510)

**Abbreviated DIN name:** 90 MnCrV 8

**Chemical analysis (%):** **1.2842**

C	Si	Mn	Cr	V	Mo
0,90	0,25	2,00	0,35	0,10	

**HASCO colour code:** black / blue

Flat steel: blue

**Hardness when supplied:** annealed to approx. 229 HB (~ 770 N/mm<sup>2</sup>)

## Characteristics

### Material properties:

High hardness and compressive strength. Outstanding machining properties and good dimensional stability.

### Uses:

Pressure and guide strips in injection moulding tools, applications in punching, cutting and thermoforming tools, ejectors and cutting stamps where high compressive strength and adequate toughness are specified.

## Physical properties

### Thermal expansion coefficient

(10<sup>-6</sup>·m)/(m·K)

100	200	300	400	500	600	700	°C
12,2	13,2	13,8	14,3	14,7	15,0	15,3	

### Thermal conductivity

W/(m·K)

20	350	700	°C
33,3	32,0	31,3	

## Remarks

**Polishing:** Technical polishing is possible.

**Graining:** Not usual.

**Nitriding:** Not usual.

**Hardening:** At 790°C – 820°C.

Details can be taken from the time-temperature conversion and tempering charts. The most suitable heat treatment for the relevant workpiece should be fixed by the hardening shop.

The hardness should be specified by the hardening shop and checked on delivery.

**Soft annealing:** 680°C – 720°C, approx. 4 h

**Stress-relief annealing:** To eliminate residual stress after coarse machining at approx. 600°C – 650°C, approx. 4 h with slow heating and furnace cooling.

**Normal working hardness:** 57 - 62 HRC

## Time-temperature conversion chart

1.2842

## Tempering chart

