

DIN - Material - No.

1.2311

Code

40CrMnMo7

Comparable standards

AISI: P-20

Chemical composition

(Typical analysis %)

C	Mn	Cr	Mo
0.40	1.50	1.95	0.20

Steel properties

Plastic mould steel supplied in hardened and tempered (280 - 325 BHN) to 880 - 1080 N/mm². Good machinability, better polishability as compared to W. Nr. 1.2312. Suitable for texturing.

Physical properties

Thermal conductivity W/(m.K)

 $\frac{20^{\circ}\text{C}}{33}$

Density g/cm³
 $\frac{20^{\circ}\text{C}}{7.83}$

Coefficient of linear thermal expansion

$10^{-6} \text{ }^{\circ}\text{C}^{-1}$	20-100	20-200	20-300	20-400	20-500	20-600	20-700°C
	11.7	13.1	13.5	14.0	14.4	14.6	14.7

Applications

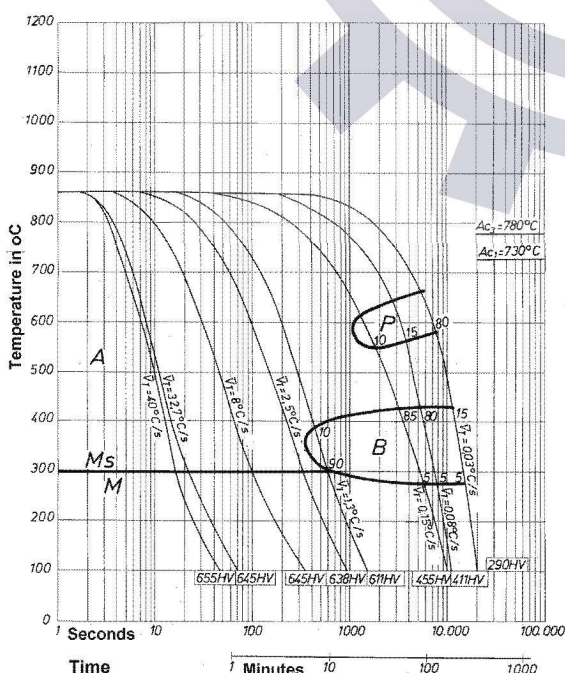
Large & medium size moulds for plastics processing, mould frames for the injection moulding and pressure die casting.

Stress Relieving

Holding at approx 650°C for one - two hours.

Heat treatment

Soft annealing°C	Cooling	Hardness HB						
710 - 740	furnace	max. 230						
Hardening from°C	in	Hardness after quenching HRC						
830 - 840	oil, air, thermal bath 180 - 220°C	51 HRC (1730 N/MM ²)						
Tempering	°C	100	200	300	400	500	600	700
	HRC	51	50	48	46	42	36	28
	N/mm ²	1730	1680	1570	1480	1330	1140	920

Time - Temperature - Transformation - Diagram

Tempering Diagram
