

DIN - Material - No. 1.2738
Code 40CrMnNiMo 8-6-4
Comparable standards AISI: P-20+Ni

Chemical composition	C	Mn	Cr	Ni	Mo
(Typical analysis %)	0.40	1.50	1.95	1.05	0.20

Steel properties Plastic Mould steel, hardened and tempered (280-325 BHN) to 950 - 1100 N/mm². Good machinability, excellent polishability, suitable for texturing. Improved through hardenability compared to W. Nr. 1.2311.

Physical properties Thermal conductivity W/(m.K) $\frac{20^{\circ}\text{C}}{35.5}$

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	12.3	13.0	13.3	13.7	13.7	14.0

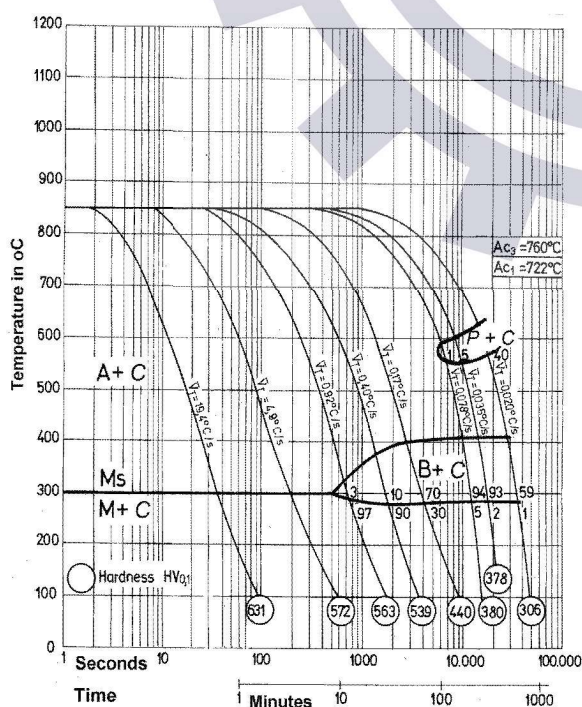
Applications Large and medium size moulds (over 400 mm thickness) for plastic processing, synthetic plastic moulds and dies, mould frames for injection moulding and pressure die casting dies.

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

Heat treatment

Soft annealing°C	Cooling	Hardness HB						
710 - 740	furnace	max. 235						
Hardening from°C	in	Hardness after quenching HRC						
840 - 880	oil, air, thermal bath 180 - 220°C	52 HRC (1790N/mm²)						
Tempering	°C	100	200	300	400	500	600	700
	HRC	52	51	49	46	42	35	28
	N/mm²	1790	1730	1620	1480	1330	1140	920

Time - Temperature - Transformation - Diagram



Tempering Diagram

