

DIN - Material - No. 1.2312
Code 40CrMnMoS8-6
Comparable standards AISI: P-20, EU: 55NiCrMoV7

Chemical composition	C	Mn	S	Cr	Mo
(Typical analysis %)	0.40	1.50	0.075	1.90	0.20

Steel properties Plastic Mould steel generally supplied hardened and tempered (280 - 325 BHN) to 880-1080 N/mm². Provides good machinability in comparison to UTOPNEX (1.2311). Possibility of nitriding. Polishable.

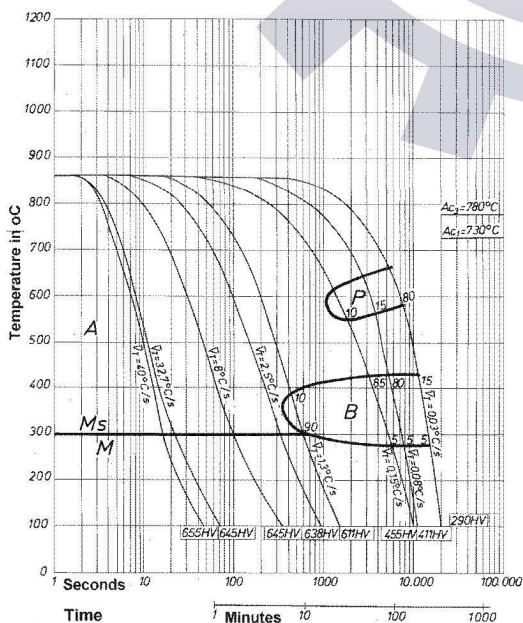
Physical properties	Thermal conductivity W/(m.K)						
	20°C						
	33						
	Density g/cm ³						
	20°C						
	7.83						
Coefficient of linear thermal expansion							
10 ⁻⁶ °C ⁻¹	20-100	20-200	20-300	20-400	20-500	20-600	20-700°C
	11.7	13.1	13.5	14.0	14.4	14.6	14.7

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

