

Short name	40CrMnNiMo8-6-4
No.	1.2738
AISI	P20 + Ni

Typical chemical composition, %	C	0.38
	Si	0.25
	Mn	1.55
	Cr	2.00
	Mo	0.23
	Ni	1.10
	S	< 0.004

PROPERTIES AND USES

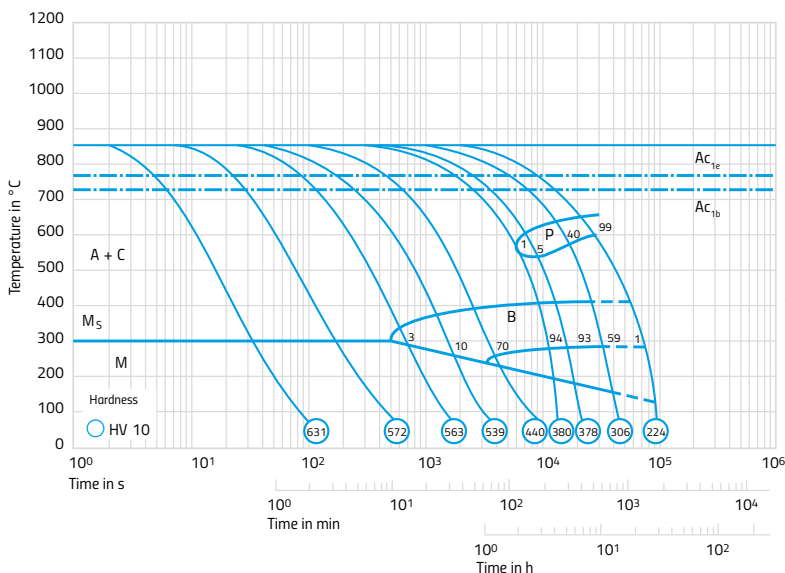
Pre-hardened plastic mold steel, hardness in as-delivered condition 30–34 HRC or 34–38 HRC. Characteristics: Good machinability and polishability, suitable for texturing, improved through hardening properties. The addition-

al nickel content of approx. 1% increases through hardening. Due to these properties the steel is suitable for large plastic molds with deep engravings and intensive impacts on the core.

HOT WORKING AND HEAT TREATMENT

Forging	1150–850 °C (2100–1560 °F)					
Soft annealing	720–740 °C (1330–1360 °F)					
Brinell Hardness in the annealed condition	Max. 235 HB					
Stress relieving	In the quenched and tempered condition: 580 °C (1080 °F) 2 hrs/furnace cooling In the annealed condition: 650 °C (1200 °F) 2 hrs/furnace cooling					
Hardening	860–880 °C (1580–1620 °F)					
Quenching	Air / hot bath / oil					
Tempering	To service hardness 1 hr/25 mm wall thickness					
Reference values for annealing	200 °C (390 °F) = 50 HRC	300 °C (570 °F) = 47 HRC	400 °C (750 °F) = 46 HRC	500 °C (930 °F) = 42 HRC	550 °C (1020 °F) = 39 HRC	600 °C (1110 °F) = 36 HRC

CONTINUOUS TTT CURVE



TEMPERING CURVE (APPROX. VALUES)

