

Formadur 2311

40CrMnMo7

C 0.40 Mn 1.50 Cr 1.90 Mo 0.20

Steel properties

Pre-hardened plastic mould steel, hardness in as-delivered condition 280 to 325 HB. Good machinability, suitable for texturing, better polishability than Formadur 2312.

Standards

AISI P20

Physical properties

Coefficient of thermal expansion

at °C	20 – 100	20 – 150	20 – 200	20 – 250	20 – 300	20 – 350	20 – 400	20 – 450	20 – 500
$10^{-6} \text{ m/(m} \cdot \text{K)}$	12.6	12.8	13.0	13.3	13.5	13.7	13.9	14.1	14.3

Quenched and tempered

Thermal conductivity

at °C	23	150	300	350	400	500
$\text{W/(m} \cdot \text{K)}$	32.5	32.9	31.3	30.2	29.5	27.4

Quenched and tempered

Applications

Plastic moulds, mould frames for plastic moulds and pressure casting moulds and recipient sleeves.

Heat treatment

Soft annealing °C

710 – 740

Cooling

Furnace

Hardness HB

max. 325

Hardening °C

840 – 870

Quenching

Oil or
saltbath, 180 – 220 °C

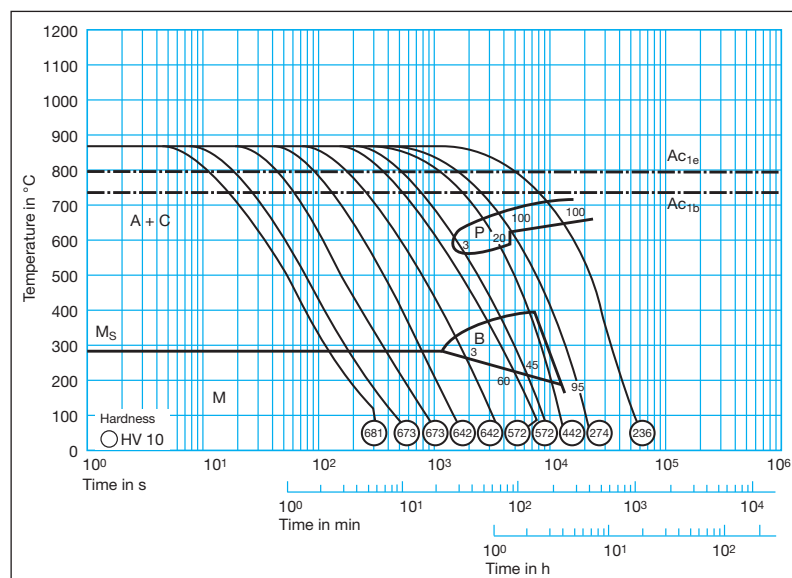
Hardness after quenching HRC

51

Tempering °C HRC

100	200	300	400	500	600	700
51	50	48	46	42	36	28

Time-temperature-transformation diagram



Tempering diagram

