THYROPLAST® 2311

Chemical composition Typical analysis in %

C	Mn	Cr	Mo
0.40	1.5	1.9	0.2

Steel properties

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

Physical properties

Coefficient of thermal expansion 10^{-6} m/(m · K)	20 – 100 °C	20 – 200 °C	20 – 300 °C
Annealed	12.8	13.2	13.8
Quenched and tempered	12.4	13.0	13.4

Thermal conductivity W/(m · K)	100 °C	150 °C	200 °C	250 °C	300 °C
Annealed	39.7	40.6	41.5	41.8	42.0
Quenched and tempered	34.0	34.0	33.6	32.9	31.9

Applications

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

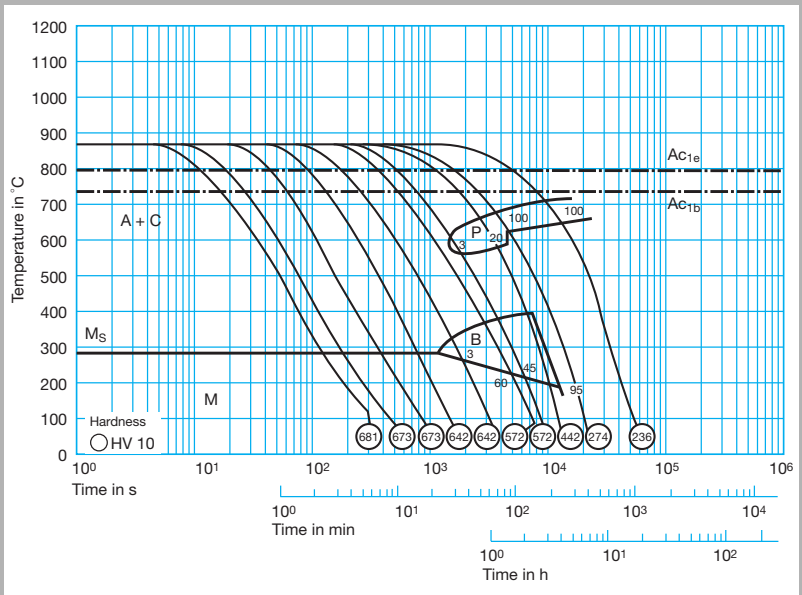
Heat treatment

Soft annealing °C	Cooling	Hardness HB
710 – 740	Furnace	max. 235

Hardening °C	Quenching	Hardness after quenching HRC

Tempering °C	100	200	300	400	500	600	700
HRC	51	50	48	46	42	36	28

Time-temperature-transformation diagram



Tempering diagram