

Thermodur

2342 EFS

X35CrMoV5-1-1

C 0.35 Si 0.80 Cr 5.00 Mo 1.00 V 0.85

Steel properties

Excellent high-temperature toughness, thermal conductivity, low susceptibility to hot cracking, may be water-cooled to a limited extent.

Physical properties

Coefficient of thermal expansion

at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
$10^{-6} \text{ m}/(\text{m} \cdot \text{K})$	10.9	11.9	12.3	12.7	13.0	13.3	13.5

Thermal conductivity

at °C			
$\text{W}/(\text{m} \cdot \text{K})$	20	350	700
	24.5	26.8	28.8

Applications

Mandrel bars, pressure casting dies, and extrusion tools.

Heat treatment

Soft annealing °C
750 – 800

Cooling
Furnace

Hardness HB
max. 230

Hardening °C
1000 – 1040

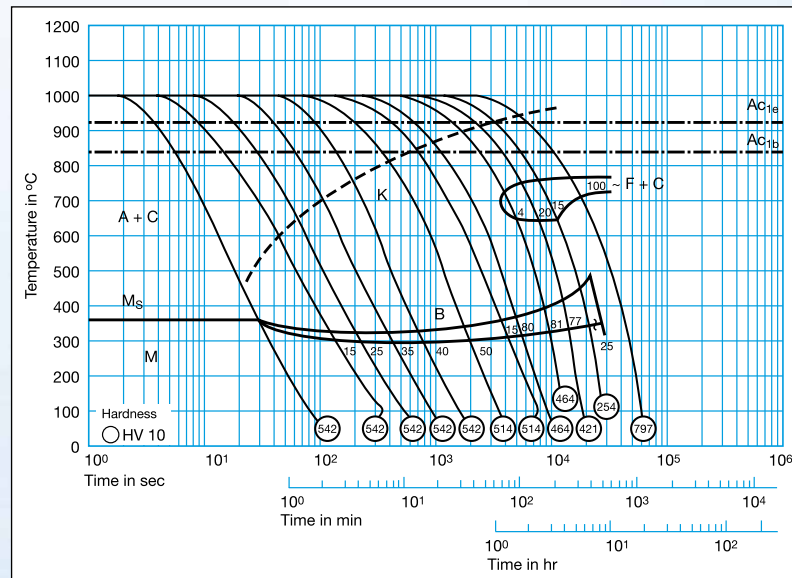
Quenching
Air, oil or
hot bath, 500 – 550 °C

Hardness after quenching HRC
53

Tempering °C
HRC

100	200	300	400	500	550	600	650	700
52	50	49	49	50	49	46	36	26

Time-temperature-transformation diagram



Tempering diagram/High-temperature strength diagram

