

Thermodur 2343

X37CrMoV5-1

C 0.38 Si 1.00 Cr 5.30 Mo 1.30 V 0.40

Steel properties

High hot tensile strength and toughness. Good thermal conductivity and insusceptibility to hot cracking. Can be water-cooled to a limited extent.

Standards

AISI H11 AFNOR Z38CDV5

Physical properties

Coefficient of thermal expansion

at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
$10^{-6} \text{ m}/(\text{m} \cdot \text{K})$	11.8	12.4	12.6	12.7	12.8	12.9	12.9

Thermal conductivity

at °C		20	350	700
$\text{W}/(\text{m} \cdot \text{K})$ Annealed		29.8	30.0	33.4
$\text{W}/(\text{m} \cdot \text{K})$ Quenched and tempered		26.8	27.3	30.3

Applications

Besides applications typical for the area of hot-work steels, this grade is mainly used for ejector pins, tool holders and shrink fit chucks.

Heat treatment

Soft annealing °C
750 – 800

Cooling
Furnace

Hardness HB
max. 230

Stress-relief annealing °C
approx. 600 – 650

Cooling
Furnace

Hardening °C
1000 – 1030

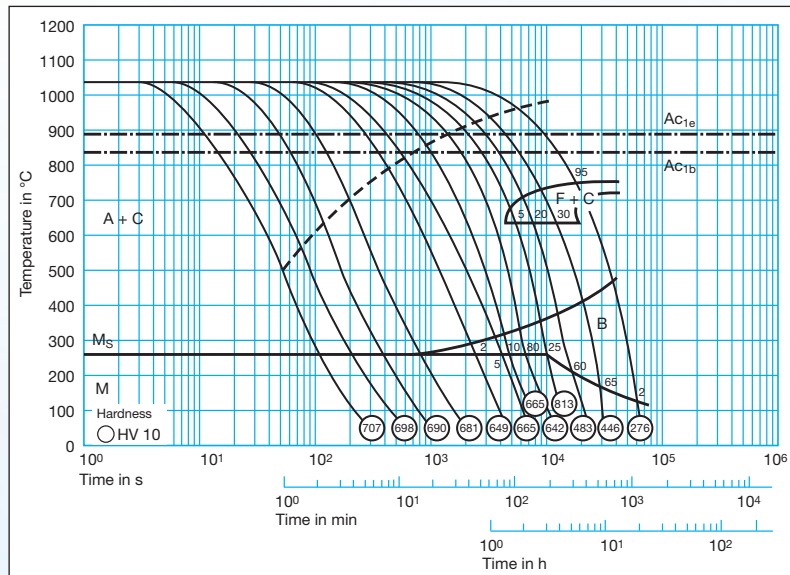
Quenching
Air, oil or
saltbath, 500 – 550 °C

Hardness after quenching HRC
54

Tempering °C
HRC

100	200	300	400	500	550	600	650	700
52	52	52	52	54	52	48	38	31

Time-temperature-transformation diagram



Tempering diagram

