

AISI H13 H13 DIN 2344

X40CrMoV5-1

C 0.39 Si 1.00 Cr 5.40 Mo 1.35 V 1.00

Steel properties

High hot-wear resistance and hot durability further pretty much as good toughness, thermal fatigue resistance, in status to hot cracking, hot wear and plastic deformation. will be cool to a restricted extent.

Standards

AISI H13

AFNOR Z40CDV5

Physical properties

Coefficient of thermal expansion

at °C

10⁻⁶ m/(m · K)

20 – 100

10.8

20 – 200

12.0

20 – 300

12.4

20 – 400

12.7

20 – 500

13.1

20 – 600

13.3

20 – 700

13.5

Thermal conductivity

at °C

W/(m · K) Annealed

20

27.1

350

30.4

700

33.2

W/(m · K) Quenched and tempered

25.4

27.7

30.4

Applications

This grade is especially used for ejector pins, tool holders and shrink work chucks. It is wide used for manufacture of casting dies, extrusion dies and forging dies.

Heat treatment

Soft annealing °C

760-810

Cooling

Furnace

Hardness HB

max. 240

Stress-relief annealing °C

approx. 610 – 660

Cooling

Furnace

Hardening °C

1030 – 1060

Quenching

Air, oil or saltbath, 500 – 550 °C

Hardness after quenching HRC

55

Tempering °C

HRC

100

54

200

53

300

53

400

55

500

56

550

54

600

51

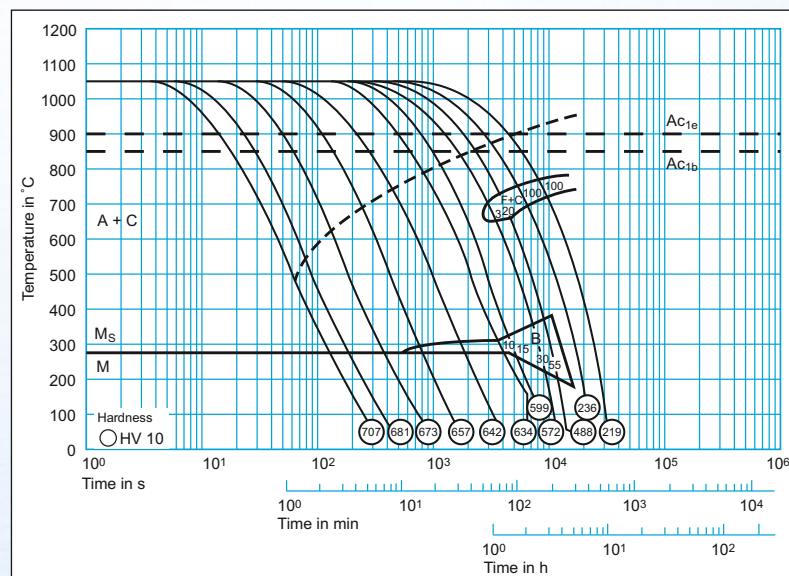
650

43

700

34

Time-temperature-transformation diagram



Tempering diagram

