

AISI D2 HCHCR-D2 DIN 2379

X153CrMoV12

C 1.54 Si 0.32 Mn 0.34 Cr 12.00 Mo 0.76 V 0.91

Steel properties

HCHCR - D2 steel is Cold Work Steel with High Carbon High Chromium contents. The Quality with high wear resistant and toughness properties due to Vanadium addition of 0.90% . Normally it supply condition is an Annealed and will offer hardness to reach 57-59 HRC. It can be machinable in the annealed condition. D2 is the superior steels than D3 due to high alloys properties.

Standards

AISI D2

AFNOR Z160CDV12

Physical properties

Coefficient of thermal expansion
at °C
 $10^{-6} \text{ m}/(\text{m} \cdot \text{K})$

20 – 100	20 – 200	20 – 300	20 – 400
10.6	11.5	11.8	12.3

Thermal conductivity
at °C
 $\text{W}/(\text{m} \cdot \text{K})$

20	350	700
16.6	20.6	24.3

Applications

HCHCR D2 tool steel applicable for cold stamping or forming dies, cold forming rolls, Chipper knives, Punches, slitters, shear blades, tools, tyre shredders, trimming, cutting Threading Dies , stamping tools Etc.

Heat treatment

Soft annealing °C
840 – 870

Cooling
Furnace

Hardness HB
max. 250

Stress-relief annealing °C
660 – 710

Cooling
Furnace

Hardening °C
1000 – 1060

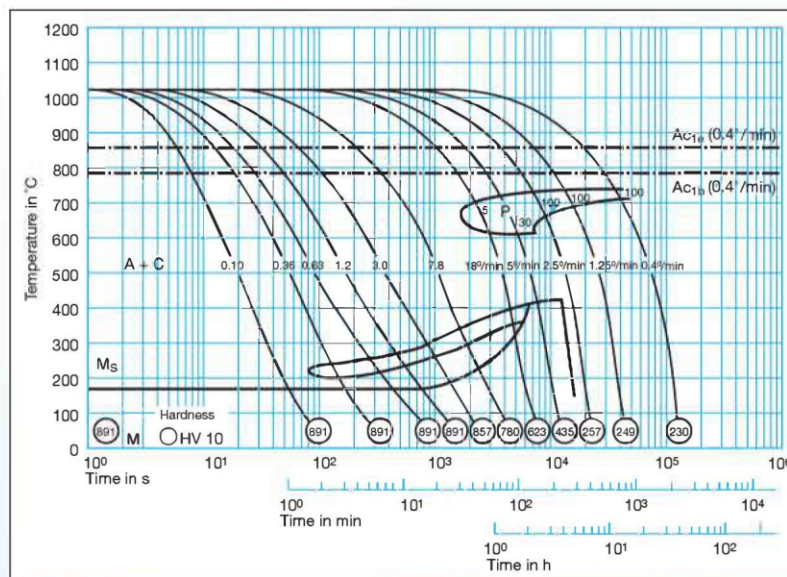
Quenching
Air, oil or
saltbath, 500 – 550 °C

Hardness after quenching HRC
64

Tempering °C (three times)
HRC

100	200	300	400	500	525	550	600
64	61.5	58.5	58.5	59	60	57	50

**Time-temperature-
transformation
diagram**
Hardening
temperature: 1030 °C



Tempering diagram

