



Hot Work Steel **DIN 2581 AISI H21 H21**

X30WCrV9-3 C 0.26-0.36 Si 0.15-0.50 Cr 3.00-3.75 Mn 0.15-0.40 V 0.30-0.60

Steel properties

Hot work steel with good toughness include tungsten Chromium Carbon Vanadium usually is working hardness is 40.0 to 55.0HRC size available in round, flat and square.

Standards

AISI H21 AFNOR 32CDV12-28

Physical properties

Coefficient of thermal expansion at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
	11.2	11.9	12.2	12.5	12.8	13.0	13.2
Thermal conductivity at °C		100		400		675	
W/(m · K) Quenched and tempered		27.0		29.8		29.1	

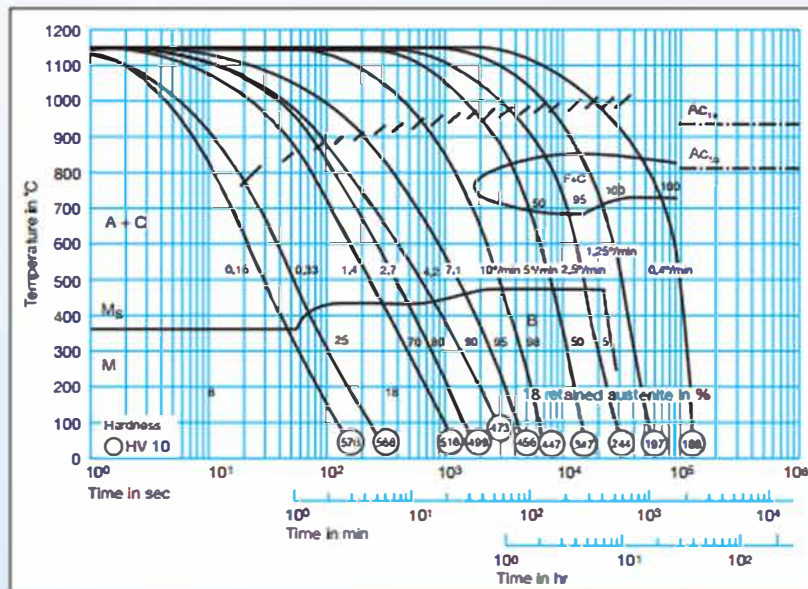
Applications

The H21 tungsten hot-work tool steels are mainly used for hot-working dies and toolings, e.g., die casting, extrusion and hot-forming of parts.

Heat treatment

Soft annealing °C 780– 810	Cooling slowly	Hardness HB max. 240
Stress-relief annealing °C approx. 600 – 650	Cooling Air cooling	
Hardening °C 1000 – 1130	Quenching Air, oil or warmbath , 600 – 650 °C	Hardness after quenching HRC 53
Tempering °C HRC	100 200 300 400 500 550 600 650 700	49 49 49 49 51 51 50 46 36

Time-temperature-transformation diagram



Tempering diagram

