Special Steel

DE - Brand:
WP7V

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	V				
0,50	7,80	1,50	1,50				

Steel properties:

Cr-Mo-V alloyed special steel, secondary hardenable, very high toughness, good compressive strength, high wear resistance also at high temperature.

Applications:

High wear loaded dies with flat impressions, hot and cold shear knives, knives for cutting sheet >7mm, highly stressed punches, profiling rolls, tools for hot stamping of automotive body parts, hot forming of sheet metals.

Condition of delivery:

Soft annealed to max. 250 HB

Physical properties:

Thermal expansion coefficient

$\left[\frac{10^{-6}\cdot m}{m \cdot K}\right]$	68-212°F	68-392°F	68-572°F	68-752°F
	10,5	10,7	11,3	11,6

Thermal conductivity

$\left[\frac{W}{m \cdot K}\right]$	68°F	662°F	1292°F
	26,4	27,8	30,6

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
1570 - 1650°F	furnace	max. 250 HB

Stress relief annealing

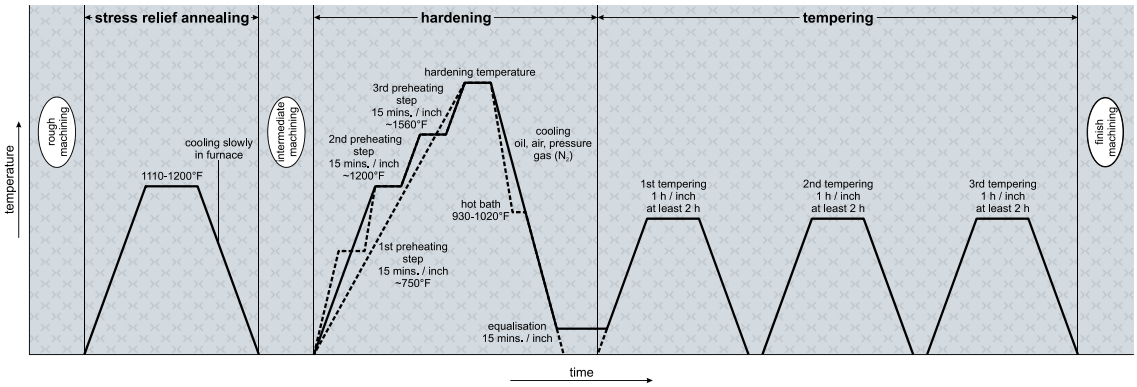
Temperature	Cooling	
1110 - 1200°F	furnace	

Hardening

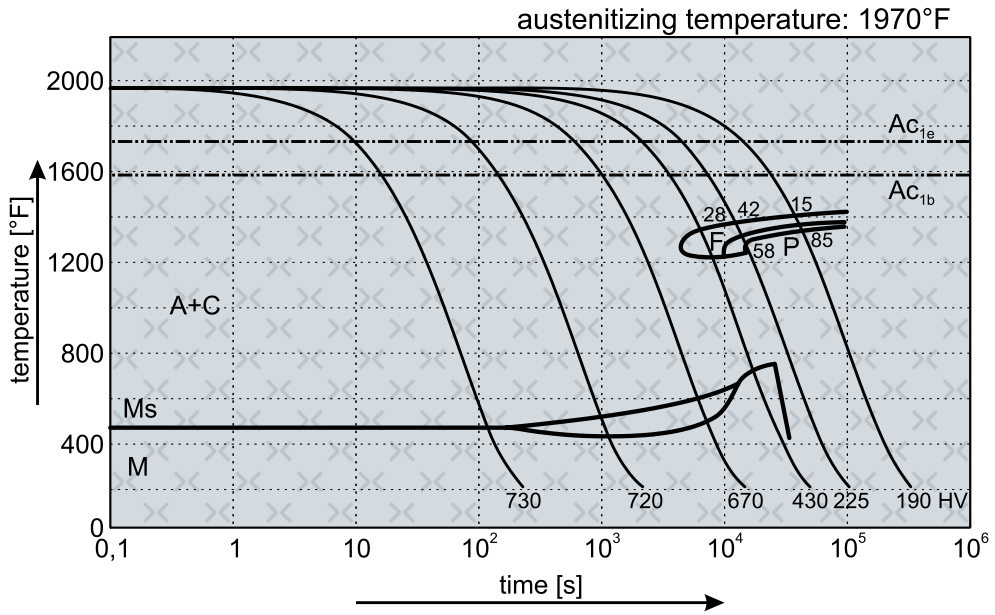
Temperature	Cooling	Tempering
2010 - 2175°F	oil, pressure gas (N_2), air or hot bath 930 - 1020°F	see tempering diagram

Dörrenberg Edelstahl GmbH · Hammerweg 7 · D-51766 Engelskirchen
Tel.: +49 22 63 / 79 1 · Fax: +49 22 63 / 79 20 5 · www.doerrenberg.de

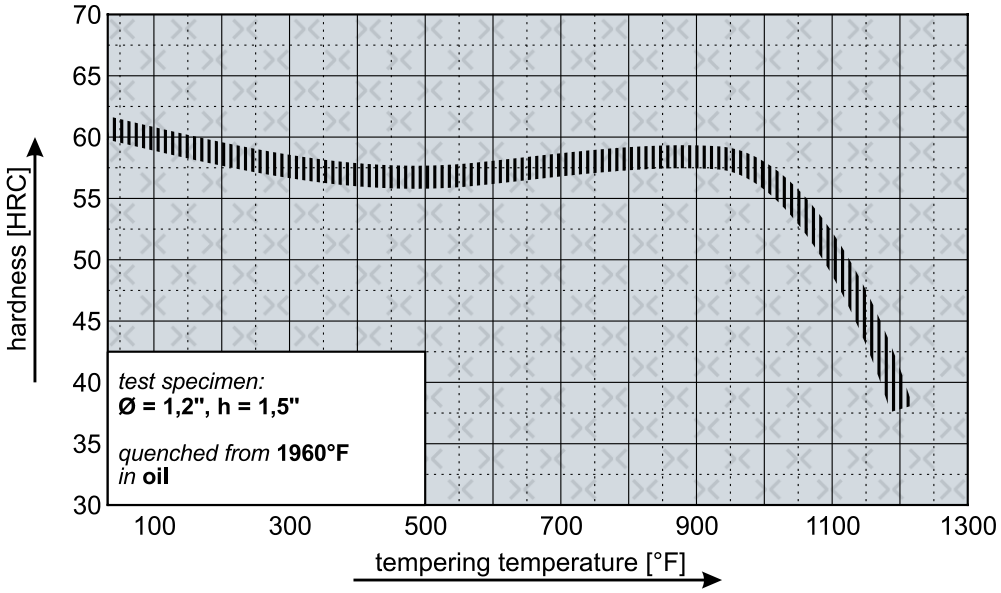
(WP7V) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.