Special Steel

DE - Brand:
CPOH^{PLUS}

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	V	others		
1,00	8,00	2,50	0,30	+		

Steel properties:

Cold work tool steel of powder-metallurgical production, same analysis like CPOH, but homogenous micro-structure within whole cross-section; fine distributed carbide structure, better machinability, polishability, grindability. High molybdenum content, very good secondary hardening, good toughness, high compressive strength, dimensionally stable.

Applications:

Thread rolling dies and rolls, cutting tools, forming rolls, shear knives, coining punches, deep-drawing dies.

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
		11,0	11,3	11,9	12,2
Thermal conductivity	$\left[\frac{W}{m \cdot K}\right]$	68°F			
		24,9			

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
1510 - 1580°F	furnace	max. 250 HB

Stress relief annealing

Temperature	Cooling	
1110 - 1200°F	furnace	

Hardening

Temperature	Cooling	Tempering
1870 - 1975°F	oil, pressure gas (N_2), air or hot bath 930 - 1020°F	see tempering diagram

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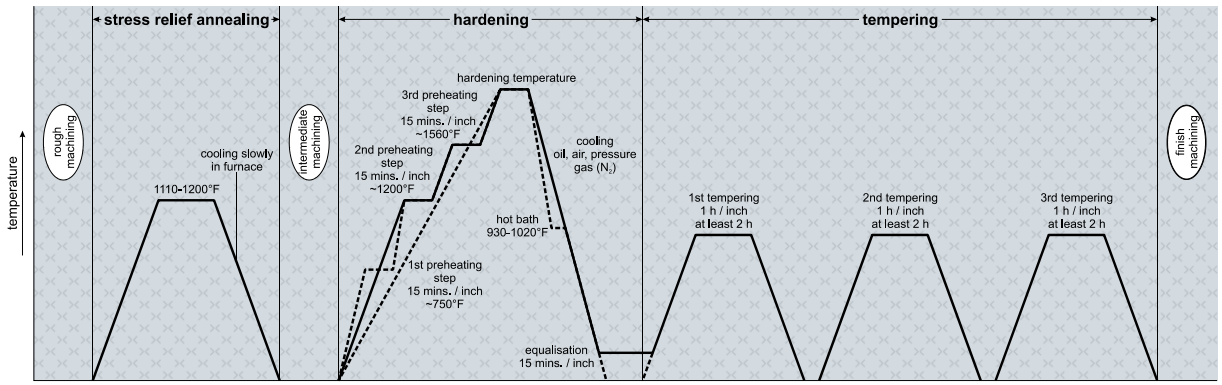
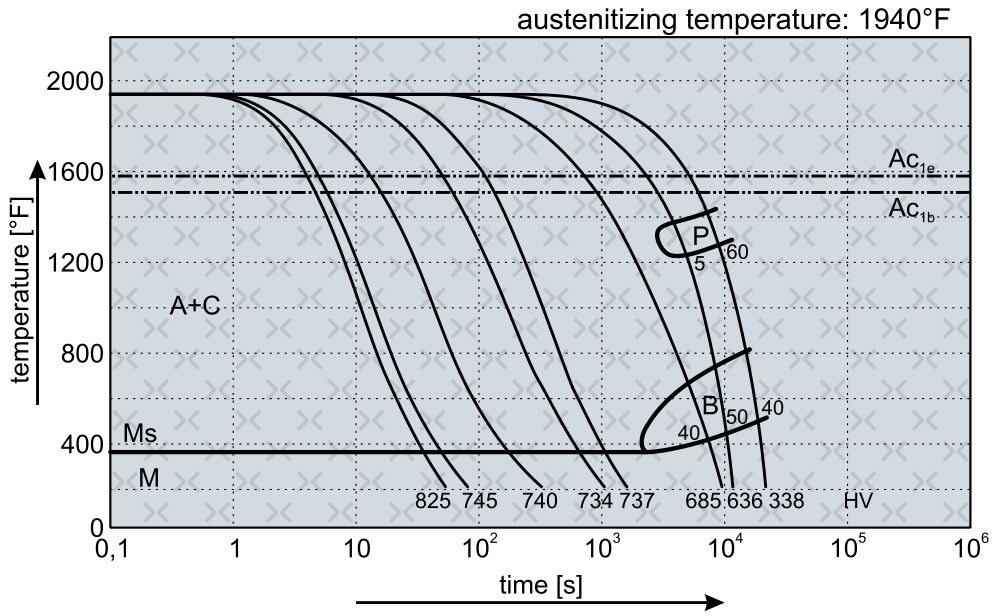
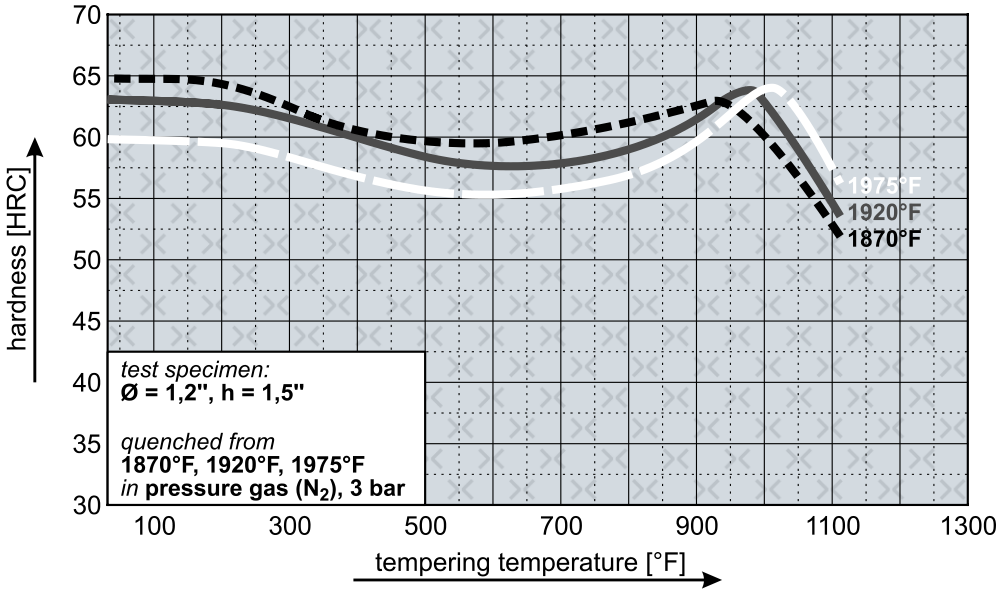
(CPOH^{PLUS}) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.