

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

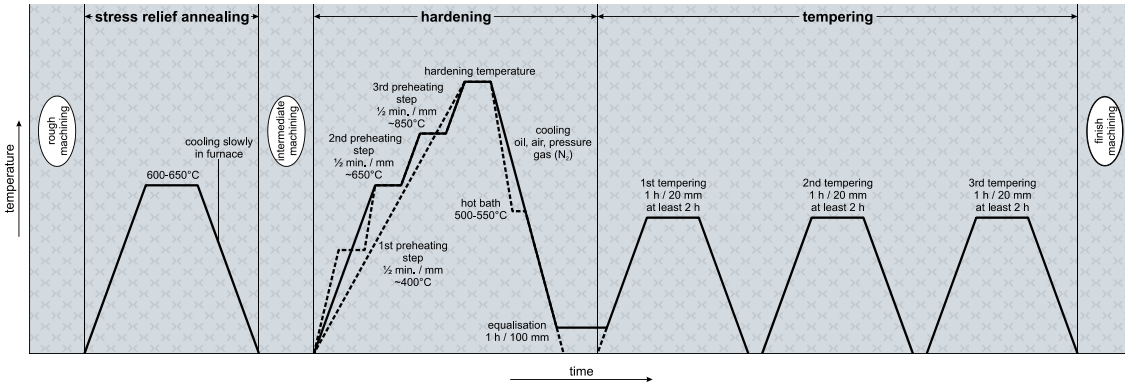
Physical properties:

Thermal expansion coefficient	$\left[\frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	20-100°C	20-200°C	20-300°C	20-400°C
		11,0	11,3	11,9	12,2
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C			
		24,9			

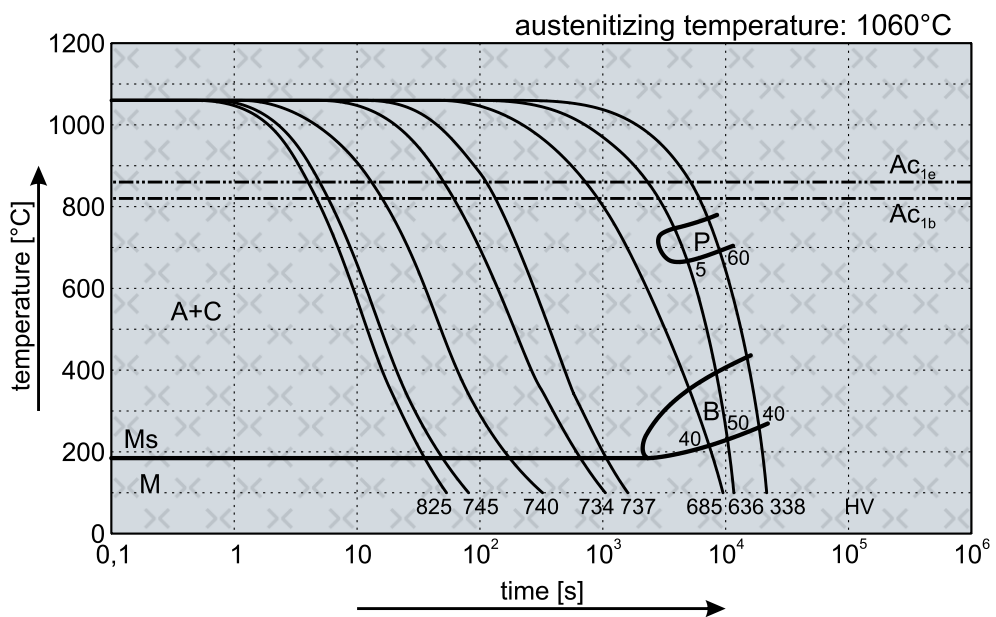
Heat treatment:

Soft annealing	Temperature	Cooling	Hardness
	820 - 860°C	furnace	max. 250 HB
Stress relief annealing	Temperature	Cooling	
	600 - 650°C	furnace	
Hardening	Temperature	Cooling	Tempering
	1020 - 1080°C	oil, pressure gas (N ₂), air or hot bath 500 - 550°C	see tempering diagram

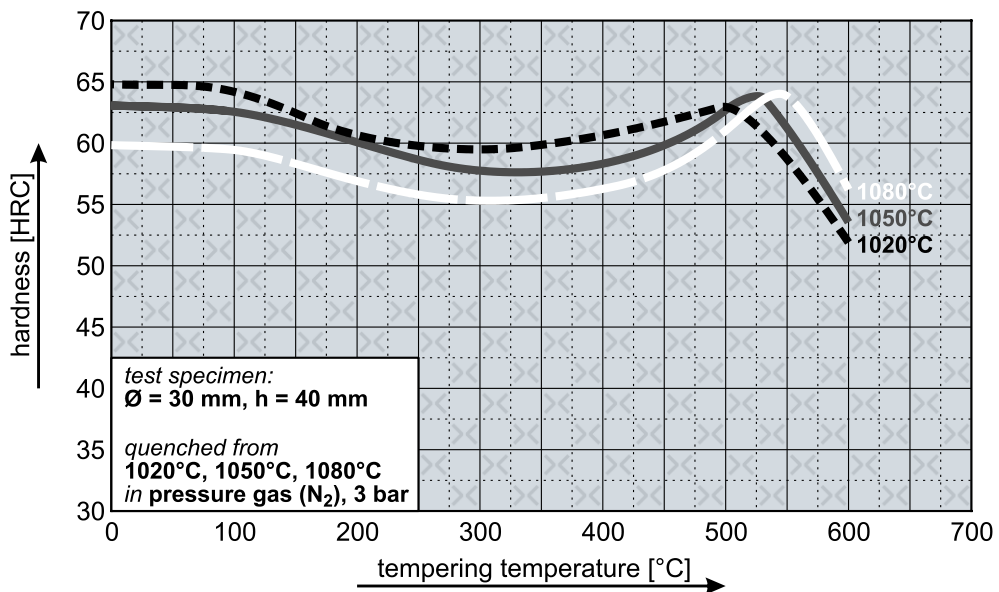
(CPOH^{PLUS}) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.