

Special Steel

DE - Brand:
CP72^{PLUS}

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	V	W			
1,10	7,50	1,50	2,10	1,10			

Steel properties:

Cold work tool steel of powder-metallurgical production with high contents of vanadium and tungsten, same analysis like CP72 but homogenous microstructure within whole cross-section, fine distributed carbide structure, better machinability, grindability and polishability, Excellent secondary hardening, good toughness and compressive strength, dimensionally stable.

Applications:

Cutting tools, bending tools, pressure and profile rolls, thread rolling dies, stamping tools.

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 11,4	20-200°C 11,7	20-300°C 12,1	20-400°C 12,3
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C 24,8			

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
800 - 840°C	furnace	max. 250 HB

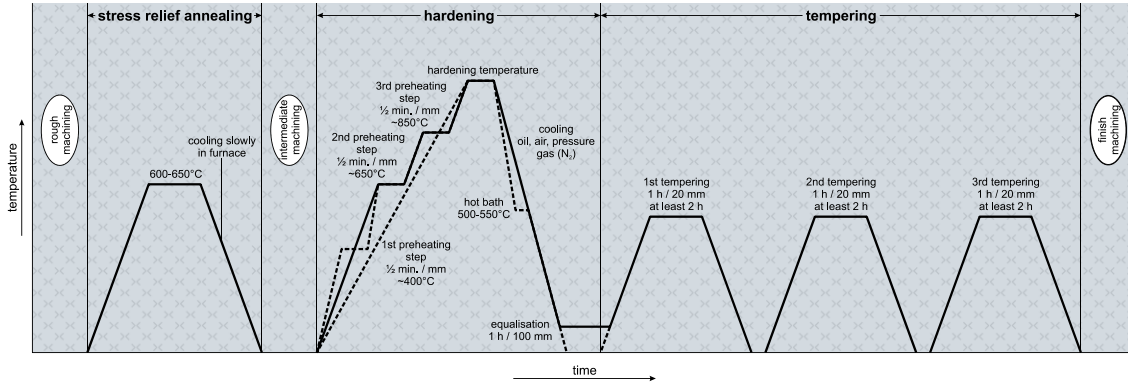
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

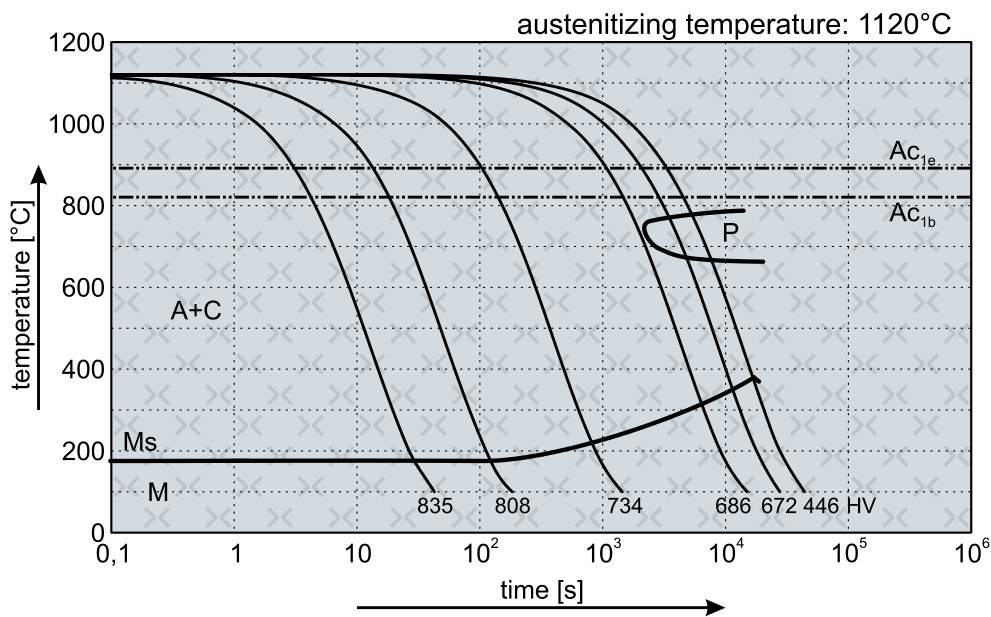
Hardening

Temperature	Cooling	Tempering
1020 - 1110°C	oil, pressure gas (N ₂), air or hot bath 500 - 550°C	see tempering diagram

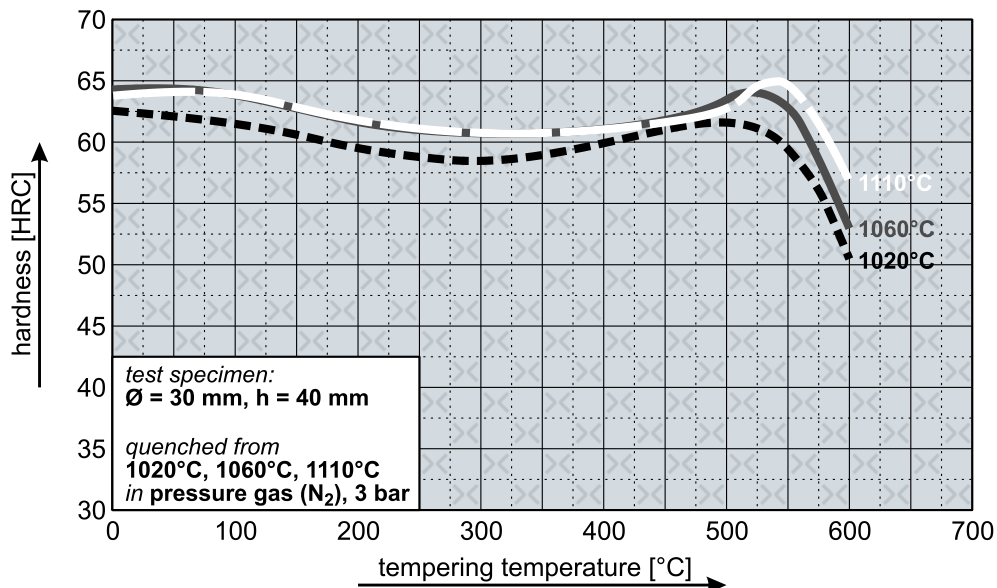
(CP72^{PLUS}) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.