



DE - Brand:

Special Steel

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

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
820 - 860°C	furnace	max. 250 HB

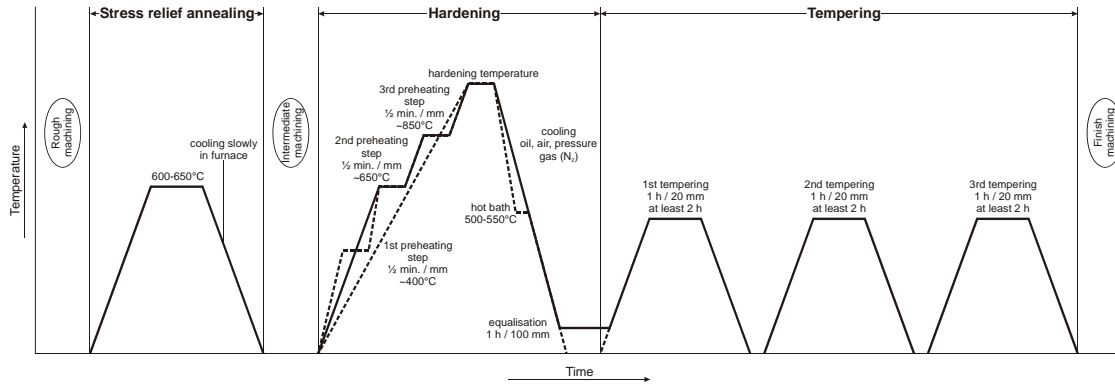
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

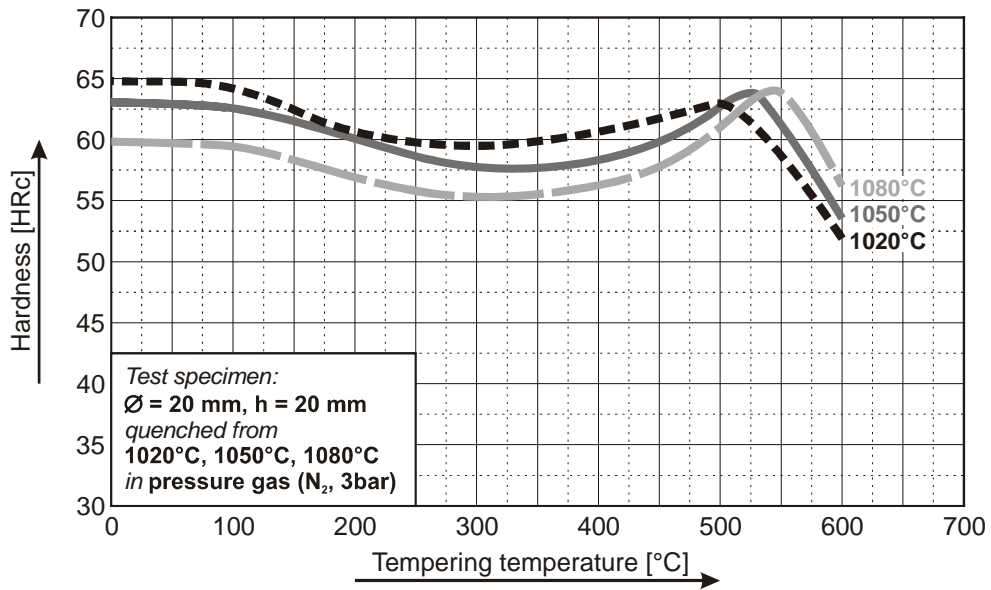
Hardening

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



Tempering Diagram



Remarks: All technical information is for reference only.