



DE - Brand:

## Special Steel

**CPOH<sup>PLUS</sup>**

### 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 11,0	20-200°C 11,3	20-300°C 11,9	20-400°C 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

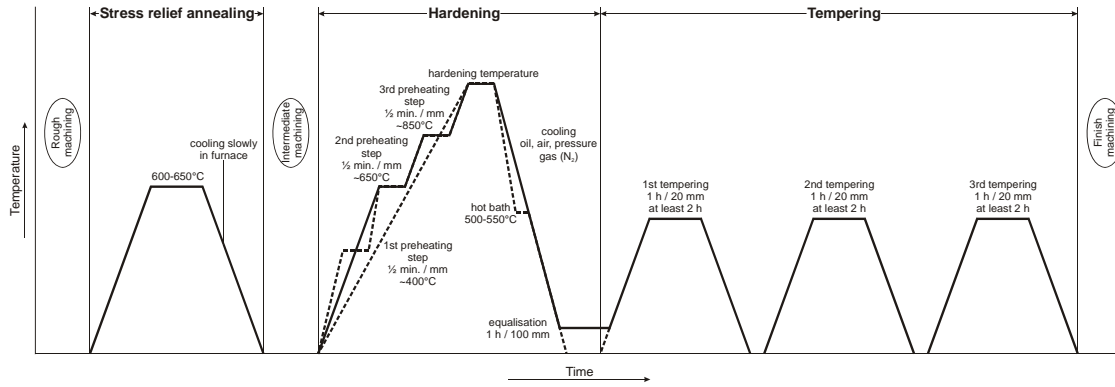
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

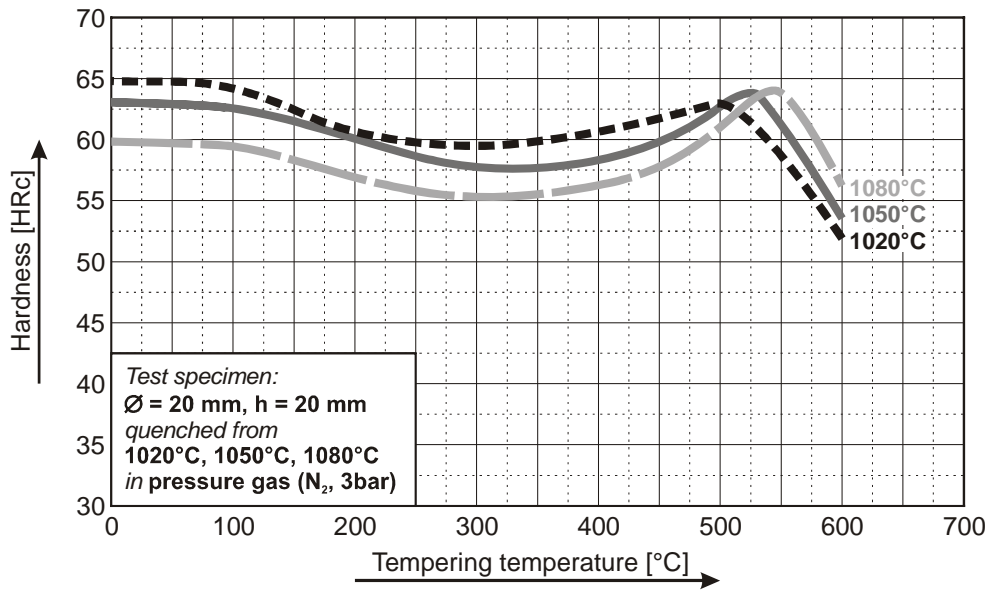
Hardening

Temperature	Cooling	Tempering
1020 - 1080°C	oil, pressure gas (N <sub>2</sub> ), air or hot bath 500 - 550°C	see tempering diagram

## (CPOH<sup>PLUS</sup>) Thermal Cycle Diagram



## Tempering Diagram



Remarks: All technical information is for reference only.