

Special Steel

DE - Brand:

CP2M[®]

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	V	W			
0,65	2,00	+	+	+			

Steel properties:

Cr-Mo-V-W alloyed, secondary hardenable cold work tool steel with enhanced thermal conductivity, good hardenability and good wear resistance. Hardenable in vacuum furnaces with pressure gas quenching. Excellent base material for nitriding. This steel is usually supplied in soft annealed, extra fine structure (EFS) condition.

Applications:

Tools for hot stamping of automotive body parts, hot forming of sheet metals.

Condition of delivery:

Soft annealed to max. 225 HB

Physical properties:

Thermal conductivity
(quenched and tempered to 40-42 HRC)

$\left[\frac{W}{m \cdot K} \right]$	20°C	200°C	500°C
	44	40	37

Thermal conductivity
(quenched and tempered to 50-52 HRC)

$\left[\frac{W}{m \cdot K} \right]$	20°C
	40

Thermal conductivity
(quenched and tempered to 58-60 HRC)

$\left[\frac{W}{m \cdot K} \right]$	20°C
	30

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
820 - 860°C	furnace	max. 225 HB

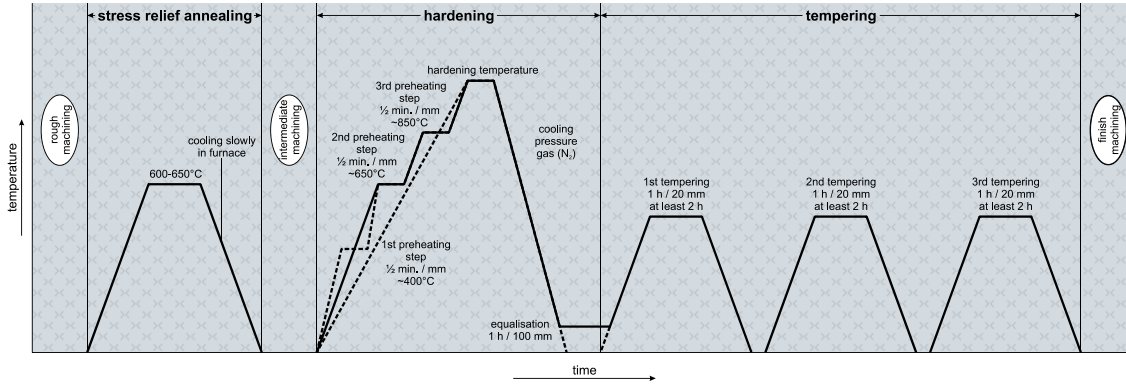
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

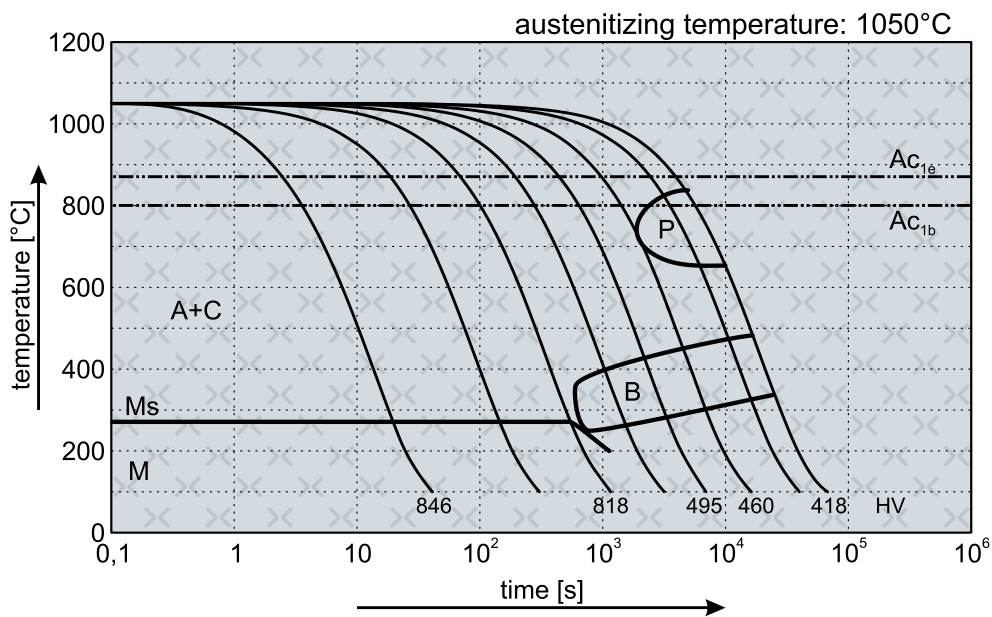
Hardening

Temperature	Cooling	Tempering
1050 - 1120°C	pressure gas (N ₂),	see tempering diagram

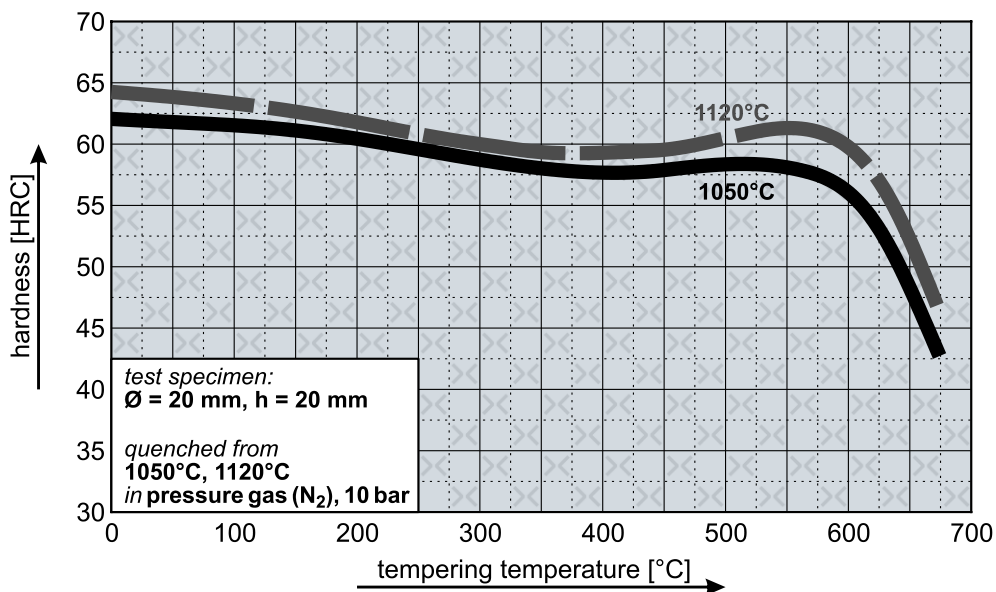
(CP2M®) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.