

# Special Steel

DE - Brand:

**CP4M®**

**Chemical composition:**  
(Typical analysis in %)

C	Cr	Mo	V				
0,60	5,00	+	+				

**Steel properties:**

Cr-Mo-V alloyed, secondary hardenable cold work tool steel with high toughness, dimensionally stable, better weldability and through-hardenability (compared to the carbide rich cold work tool steel 1.2379). Excellent base material for nitriding or coating (CVD, PVD).

**Applications:**

Deep drawing, punching and cutting tools, tools for hot and cold forming of higher tensile sheet material.

**Condition of delivery:**

- a) Soft annealed to max. 250 HB
- b) Quenched and tempered, 280 - 325 HB (950 - 1100 N/mm<sup>2</sup> according to DIN EN ISO 18265 Table A.1)

**Heat treatment:**

Soft annealing

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

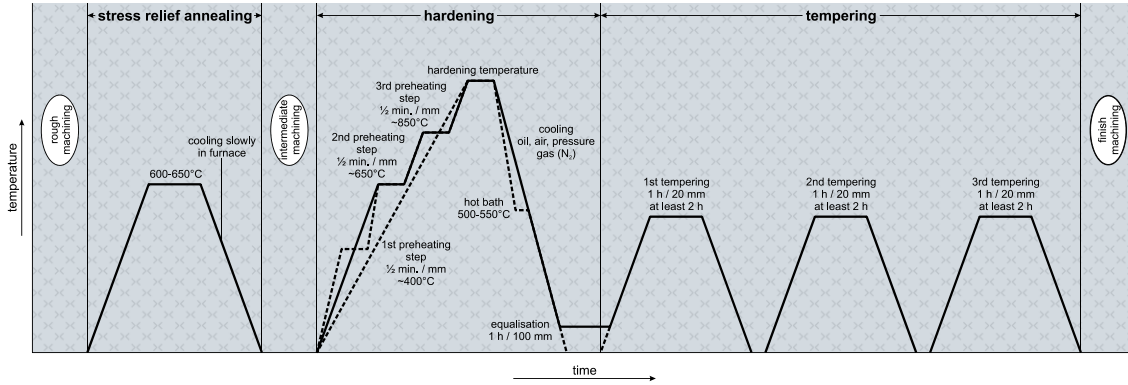
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

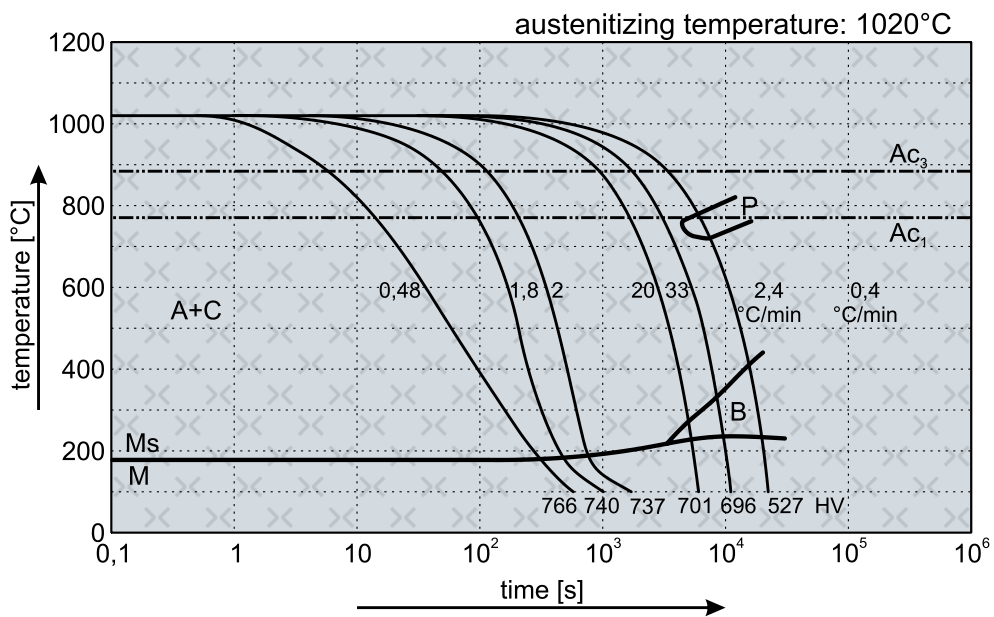
Hardening

Temperature	Cooling	Tempering
1000 - 1050°C	oil, pressure gas (N <sub>2</sub> ), air or hot bath 500 - 550°C	see tempering diagram

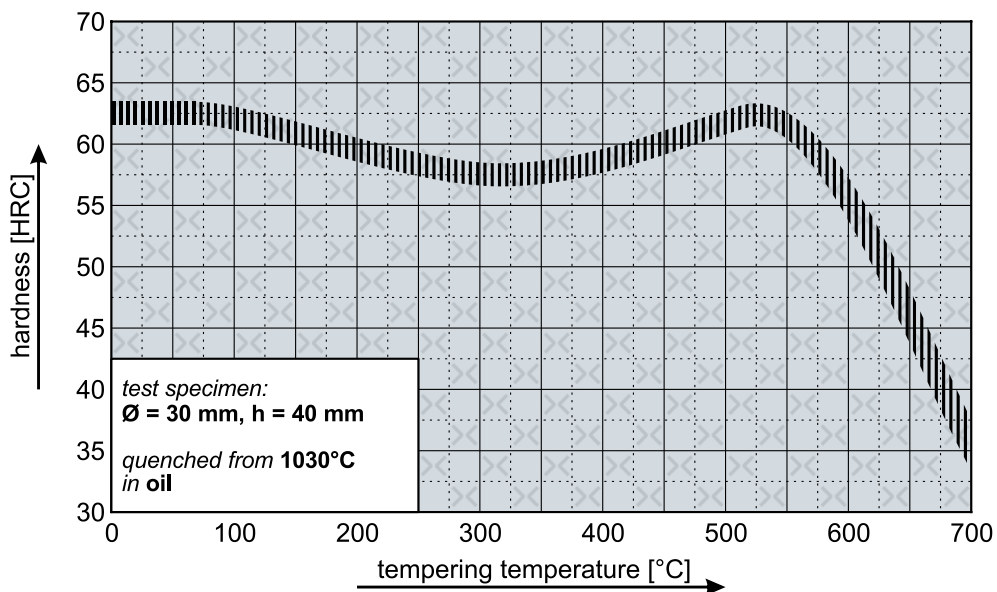
## (CP4M®) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.