

Material No.: Code:  
**1.2080 X210Cr12**

DE - Brand:  
**CP10V**

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

C	Cr						
2,10	12,0						

**Steel properties:**

Ledeburitic 12% chrome steel, very high wear resistance against abrasive and adhesive wear due to the high volume of hard carbides in the steel matrix, medium toughness, dimensionally stable, high compressive strength, not secondary hardenable. Similar to AISI D3.

**Applications:**

Highly stressed cutting and punching tools for thin sheets, profile rolls, drawing and deep drawing tools, stone processing tools, knives for paper and plastics, shear knives for thin sheets.

**Condition of delivery:**

Soft annealed to max. 248 HB

**Physical properties:**

Thermal expansion coefficient	$\left[ \frac{10^{-6} \text{ m}}{\text{m K}} \right]$	20-100°C	20-200°C	20-300°C	20-400°C
		10,8	11,6	12,3	12,5
Thermal conductivity	$\left[ \frac{\text{W}}{\text{m K}} \right]$	20°C	350°C	700°C	
		16,7	20,5	24,1	

**Heat treatment:**

Soft annealing

Temperature	Cooling	Hardness
800 - 840°C	furnace	max. 248 HB

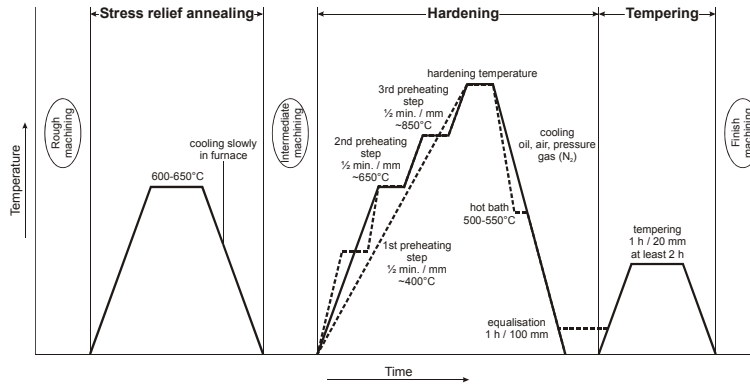
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

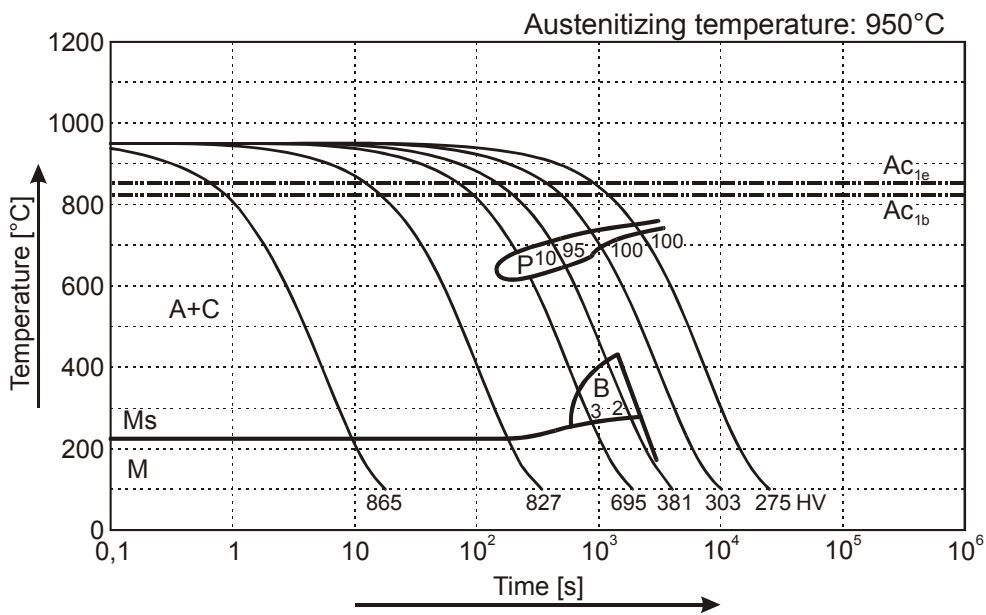
Hardening

Temperature	Cooling	Tempering
950 - 980°C	oil, pressure gas (N <sub>2</sub> ), air or hot bath 500 - 550°C	see tempering diagram

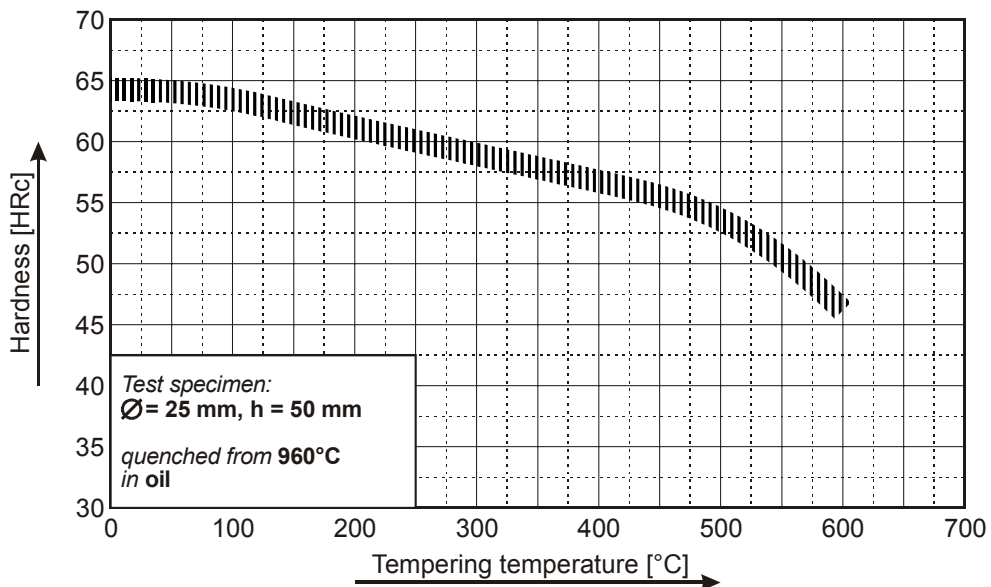
## (1.2080) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.