



Material No.: Code:  
**1.2083 X40Cr14**

DE - Brand:  
**HC50**

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

C	Cr						
0,40	13,50						

**Steel properties:**

Tool steel with high dissolved Cr-content in the steel matrix, corrosion resistant in hardened condition, good polishability.

**Applications:**

Mould and pressure tools, tooling and inserts for corrosive plastics and polymers.

**Condition of delivery:**

Soft annealed to max. 241 HB

**Physical properties:**

Thermal expansion coefficient	$\left[ \frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	20-100°C	20-200°C	20-300°C	20-400°C
		10,5	10,9	11,3	11,6
Thermal conductivity	$\left[ \frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C	350°C	700°C	
		24,6	25,3	26,2	

**Heat treatment:**

Soft annealing

Temperature	Cooling	Hardness
760 - 800°C	furnace	max. 241 HB

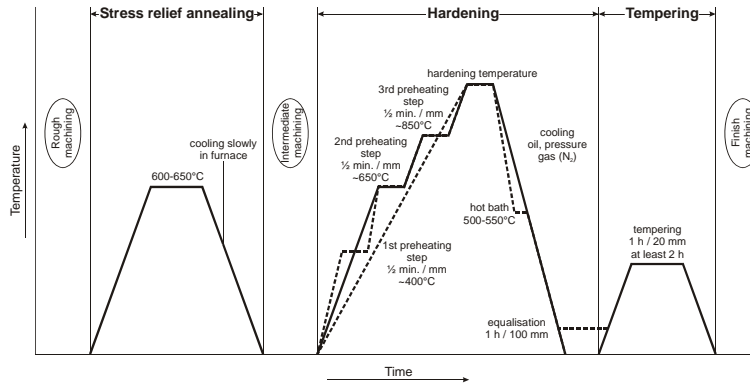
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

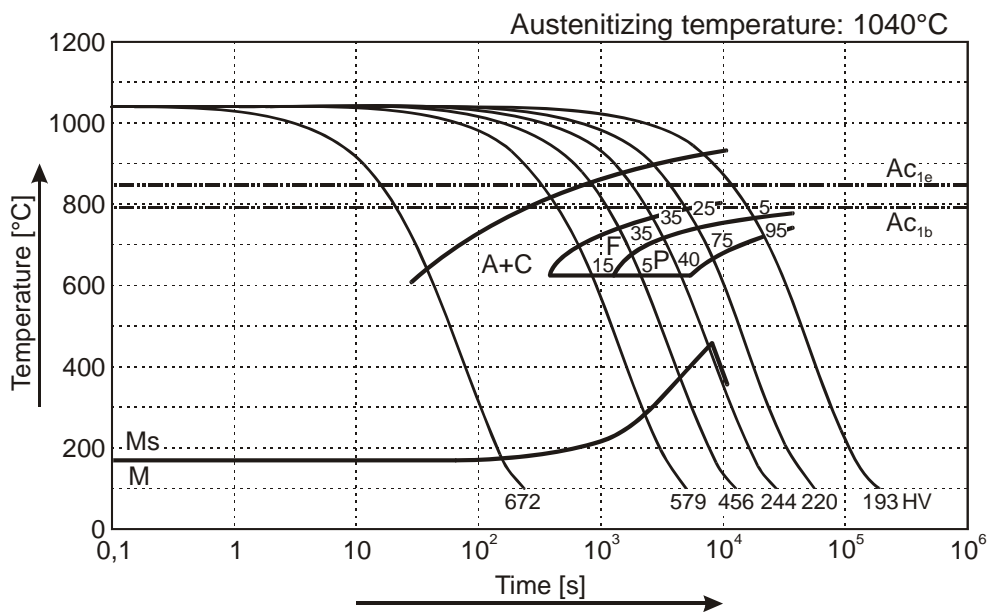
Hardening

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

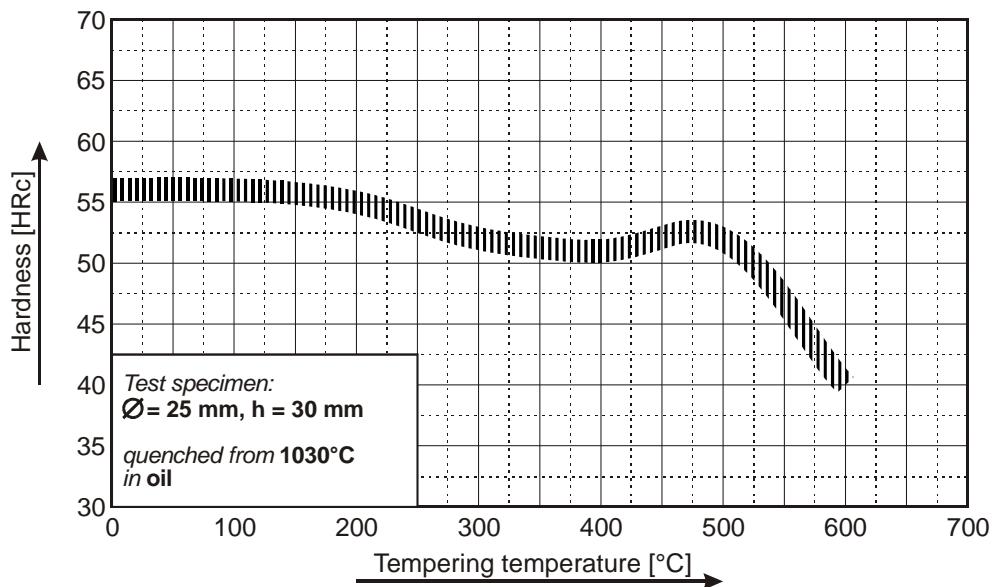
# (1.2083) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.