



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

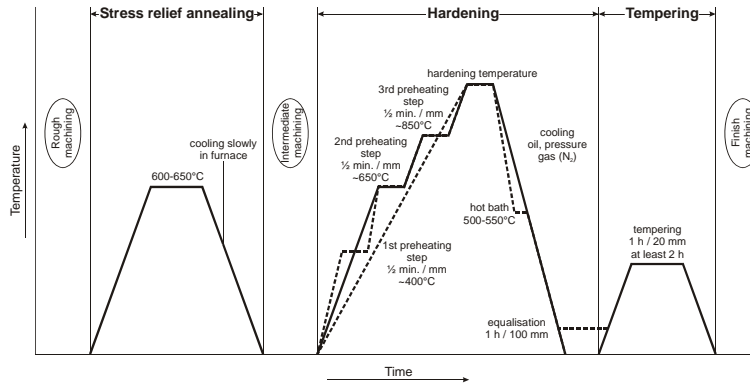
Physical properties:

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	

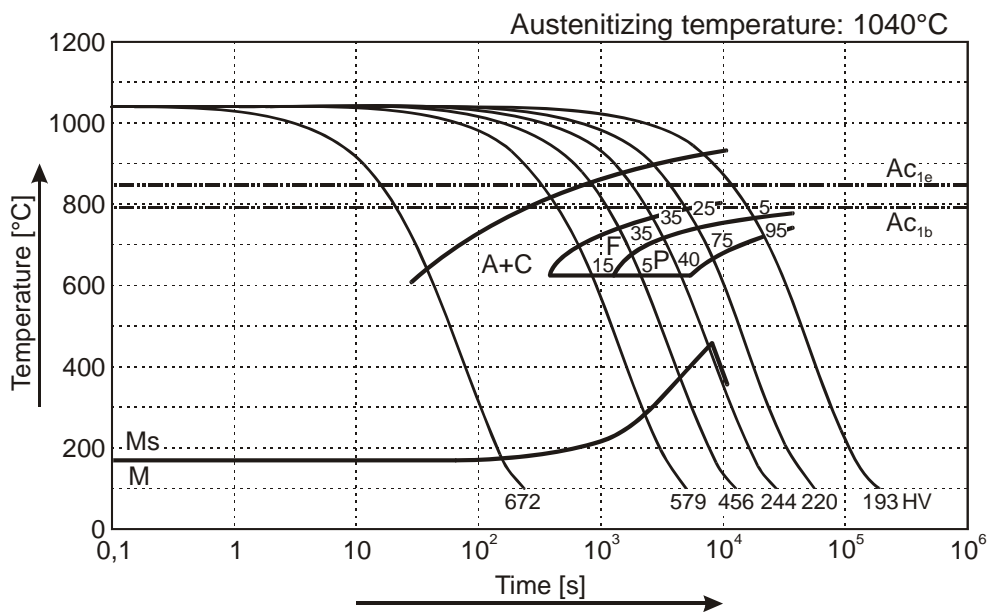
Heat treatment:

Soft annealing	<table border="1"><tr><th>Temperature</th><th>Cooling</th><th>Hardness</th></tr><tr><td>760 - 800°C</td><td>furnace</td><td>max. 241 HB</td></tr></table>	Temperature	Cooling	Hardness	760 - 800°C	furnace	max. 241 HB
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Stress relief annealing	<table border="1"><tr><th>Temperature</th><th>Cooling</th><th></th></tr><tr><td>600 - 650°C</td><td>furnace</td><td></td></tr></table>	Temperature	Cooling		600 - 650°C	furnace	
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Hardening	<table border="1"><tr><th>Temperature</th><th>Cooling</th><th>Tempering</th></tr><tr><td>1000 - 1050°C</td><td>oil, pressure gas (N₂), air or hot bath 500 - 550°C</td><td>see tempering diagram</td></tr></table>	Temperature	Cooling	Tempering	1000 - 1050°C	oil, pressure gas (N ₂), air or hot bath 500 - 550°C	see tempering diagram
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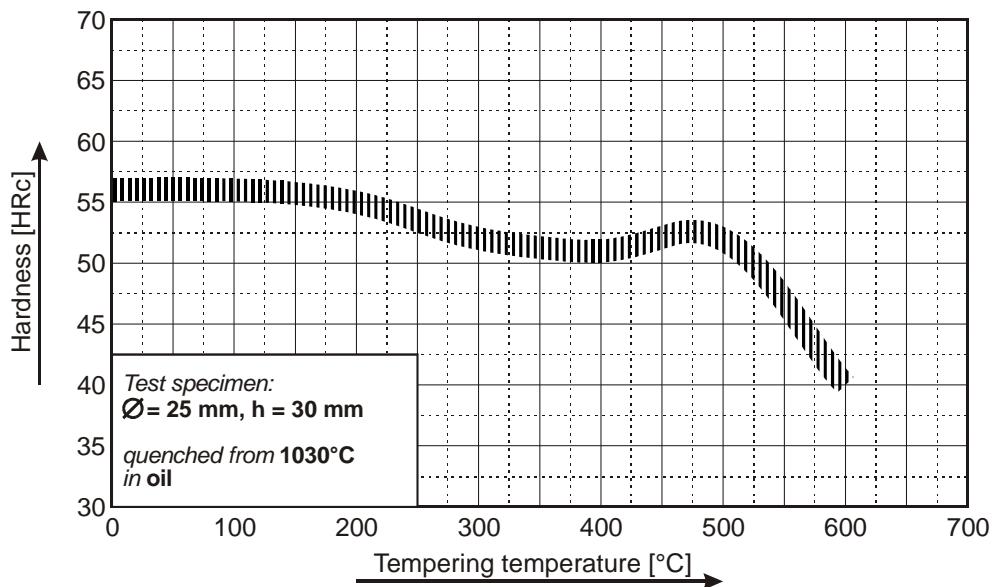
(1.2083) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.