

Material No.: Code:
1.2721 50NiCr13

DE - Brand:
NC50E

Chemical composition:
 (Typical analysis in %)

C	Cr	Ni					
0,50	1,10	3,20					

Steel properties:

Very tough cold work tool steel, very good through hardenability, good machinability.

Applications:

Tools for heavy cold forming, cutlery stamping dies, punches, jig tools.

Condition of delivery:

Soft annealed to max. 250 HB

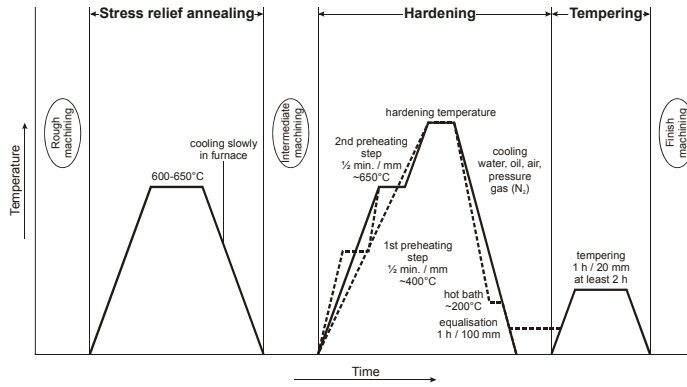
Physical properties:

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
		11,5	12,0	12,4	12,8
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C	350°C		
		32,9	33,8		

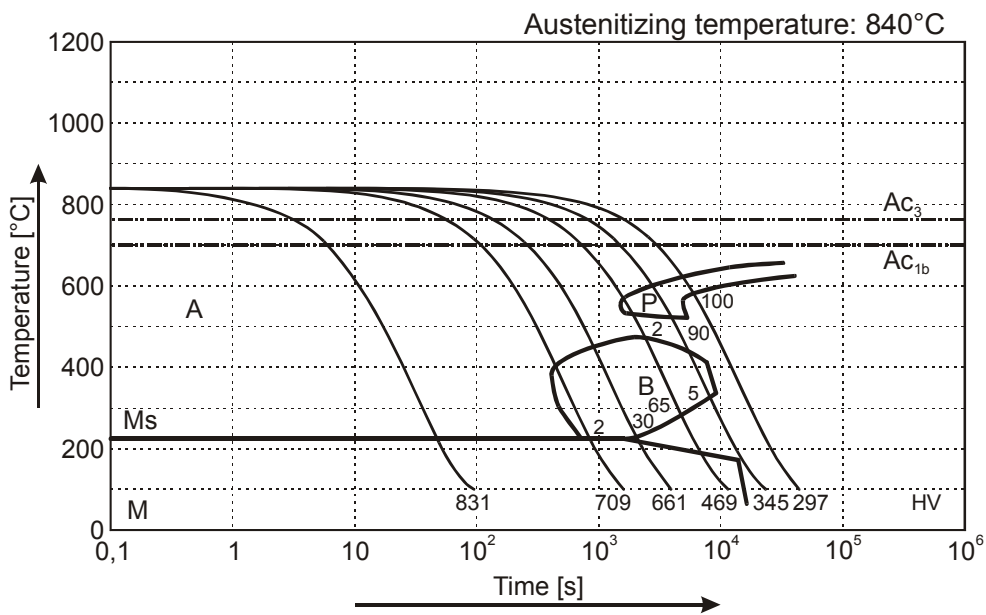
Heat treatment:

Soft annealing	Temperature	Cooling	Hardness
	610 - 650°C	furnace	max. 250 HB
Stress relief annealing	Temperature	Cooling	
	600 - 650°C	furnace	
Hardening	Temperature	Cooling	Tempering
	840 - 870°C	oil, pressure gas (N ₂), air or hot bath 180 - 220°C	see tempering diagram

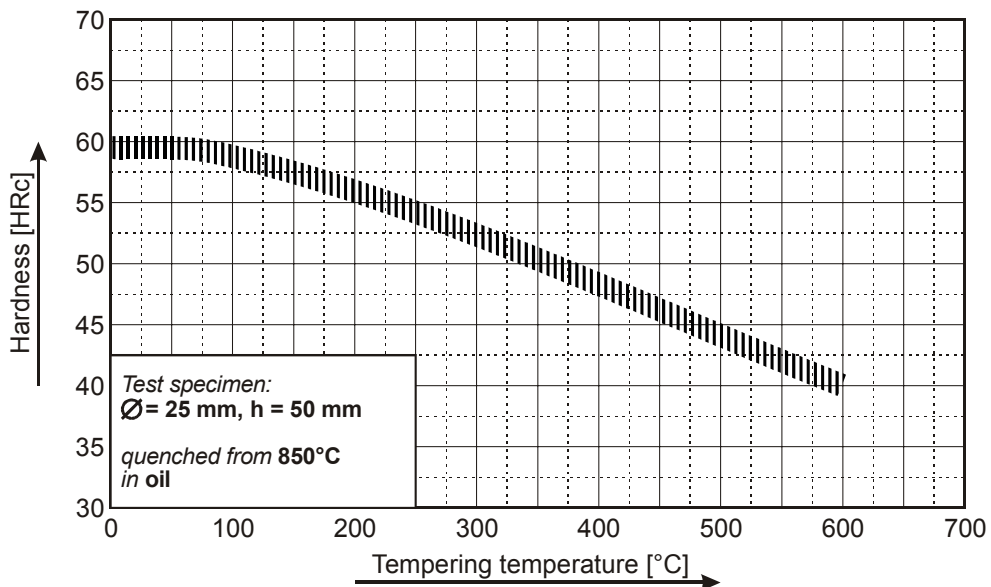
(1.2721) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.