

Material No.: Code:
1.4034 X46Cr13

DE - Brand:
R45

Chemical composition:
 (Typical analysis in %)

C	Cr						
0,46	13,50						

Steel properties:

Stainless, martensitic steel, good polishability, good hardenability

Applications:

Cutting tools, surgical instruments, pump parts, valves.

Condition of delivery:

Soft annealed to max. 245 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
		10,5	10,9	11,3	11,6
Thermal conductivity	$\left[\frac{\text{W}}{\text{m K}} \right]$	20°C	350°C		
		24,6	25,4		

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
750 - 840°C	furnace	max. 245 HB

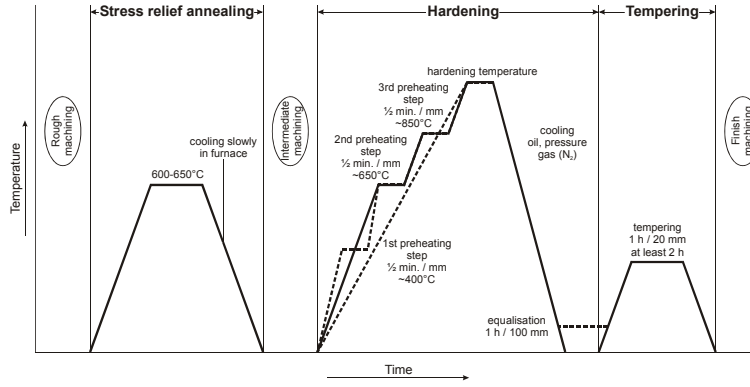
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

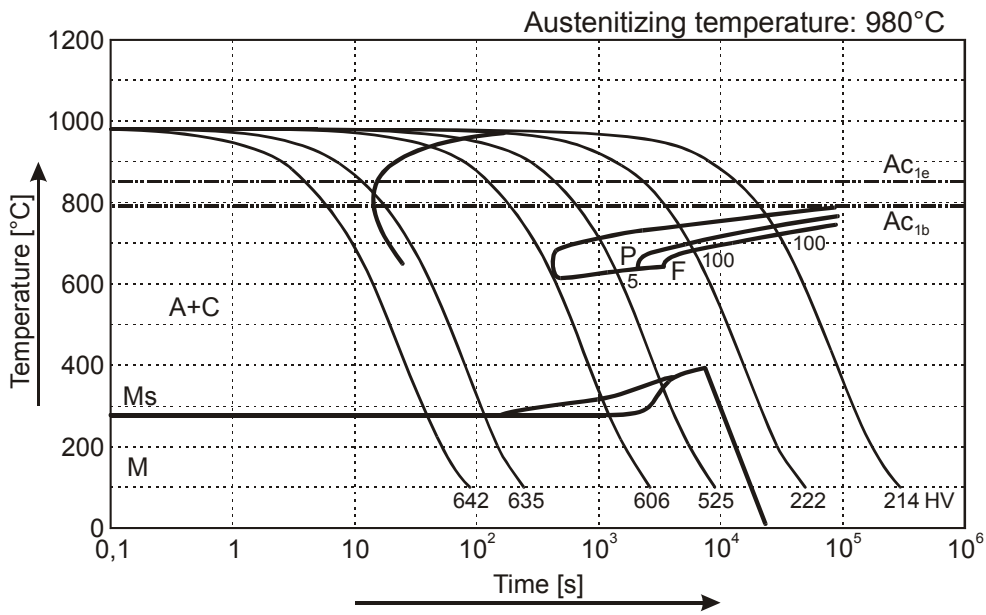
Hardening

Temperature	Cooling	Tempering
980 - 1030°C	oil or pressure gas (N ₂),	see tempering diagram

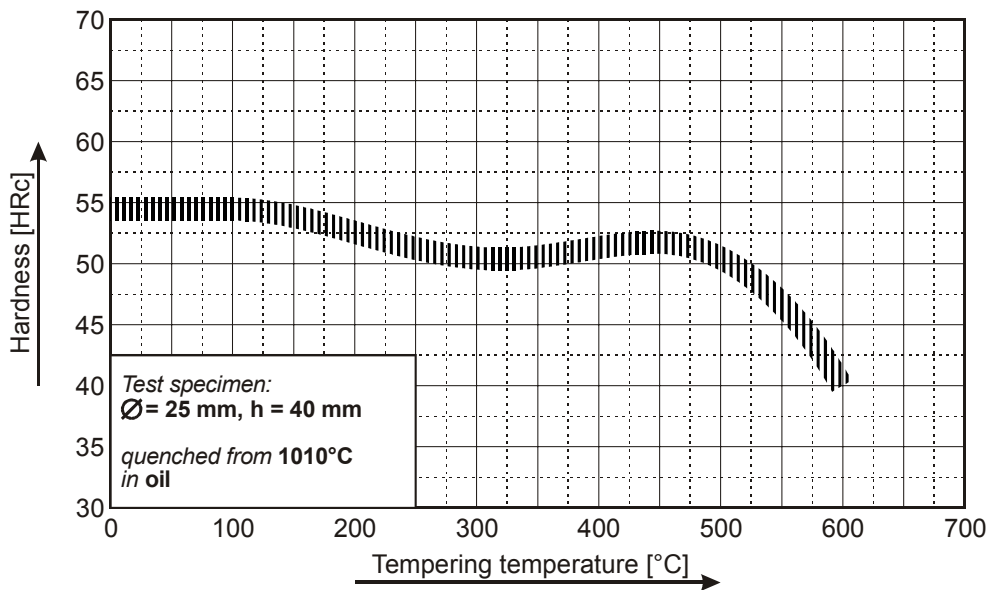
(1.4034) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.