

Material No.: Code:
1.2085 X33CrS16

DE - Brand:
HC16S

Chemical composition:
 (Typical analysis in %)

C	Cr	S					
0,33	16,00	0,08					

Steel properties:

Stainless martensitic steel with excellent machinability.

Applications:

Frames for plastic pressure dies and tools for processing of corrosive materials.

Condition of delivery:

Quenched and tempered, 900 - 1100 N/mm²

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	11,0	11,2	11,6
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C			
		17,0			

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
750 - 850°C	furnace	max. 280 HB

Stress relief annealing

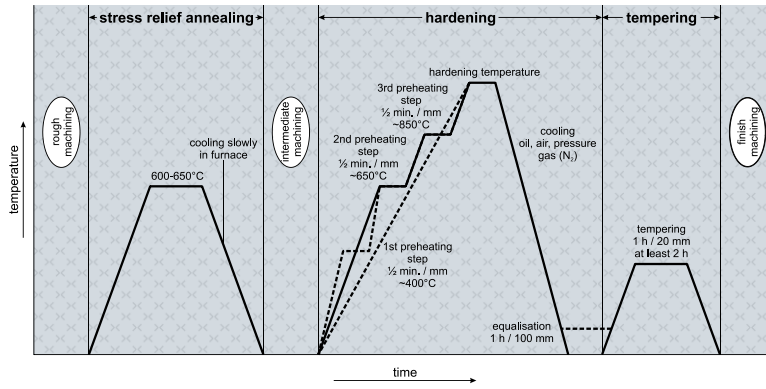
The recommendation 500 - 550°C is valid for quenched and tempered condition. In the soft annealed condition stress relieving between 600 - 650°C is possible.

Temperature	Cooling	
500 - 550°C	furnace	

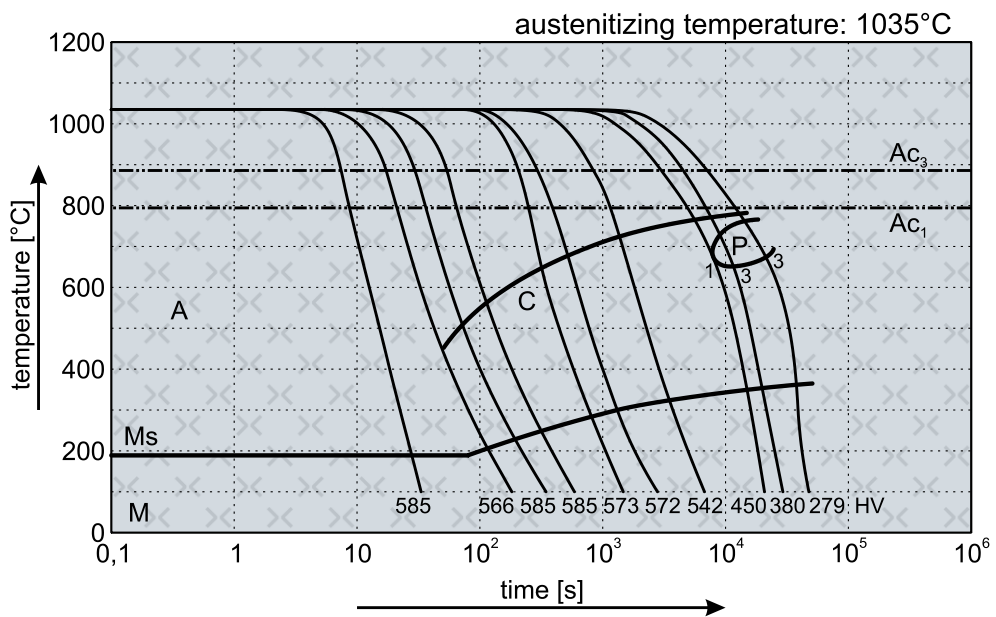
Hardening

Temperature	Cooling	Tempering
1000 - 1030°C	oil, pressure gas (N ₂) or air	see tempering diagram

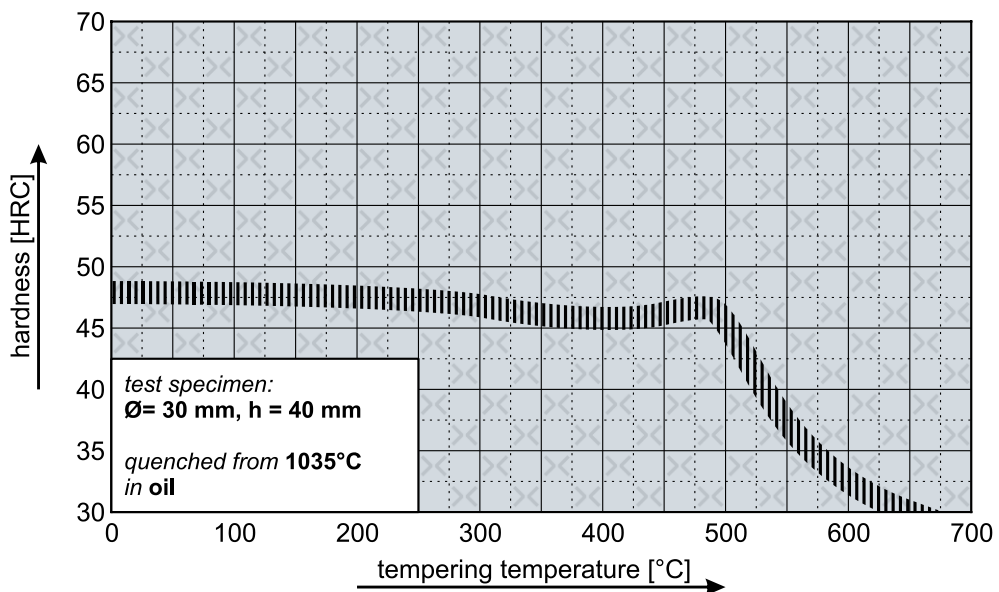
(1.2085) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.