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	$\left[\frac{10^{-6}\cdot m}{m \cdot K}\right]$	20-100°C	20-200°C	20-300°C	20-400°C
		10,5	11,0	11,2	11,6

Thermal conductivity	$\left[\frac{W}{m \cdot K}\right]$	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	

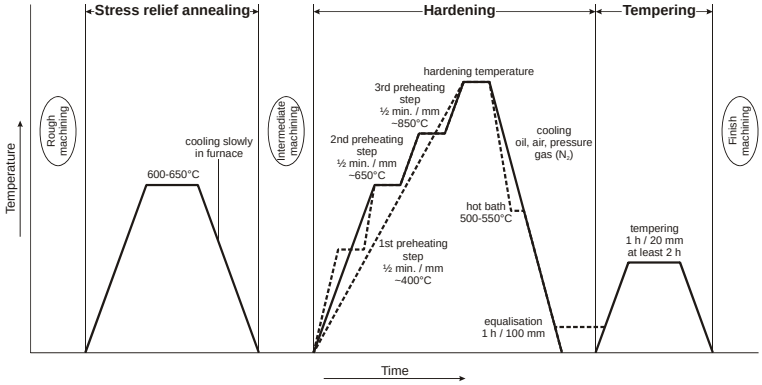
Hardening

Temperature	Cooling	Tempering
1000 - 1030°C	oil, pressure gas (N_2) or air	see tempering diagram

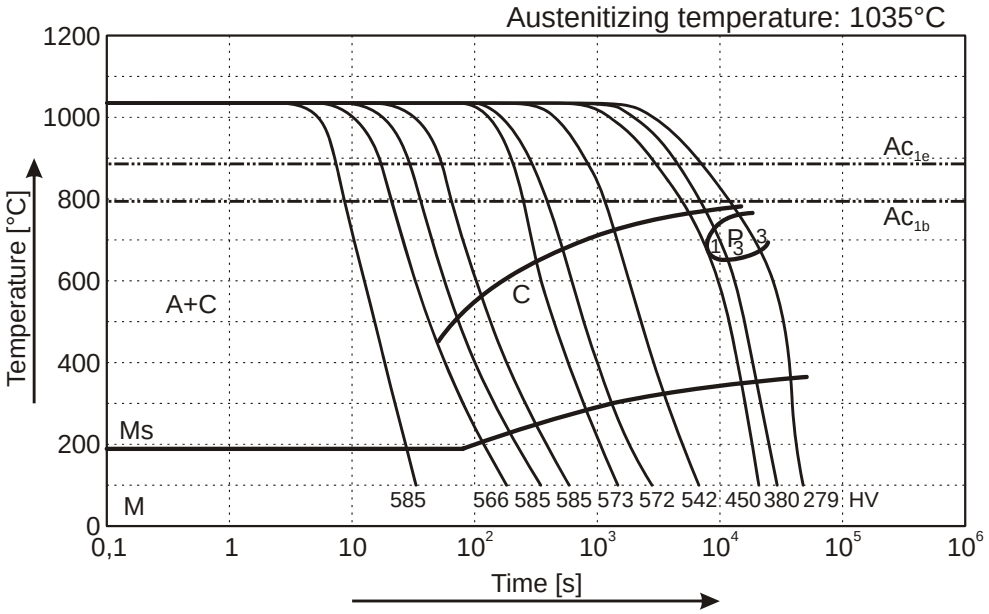
02/17

Dörrenberg Edelstahl GmbH · Hammerweg 7 · D-51766 Engelskirchen
Tel.: +49 22 63 / 79 0 · Fax: +49 22 63 / 79 20 5 · www.doerrenberg.de

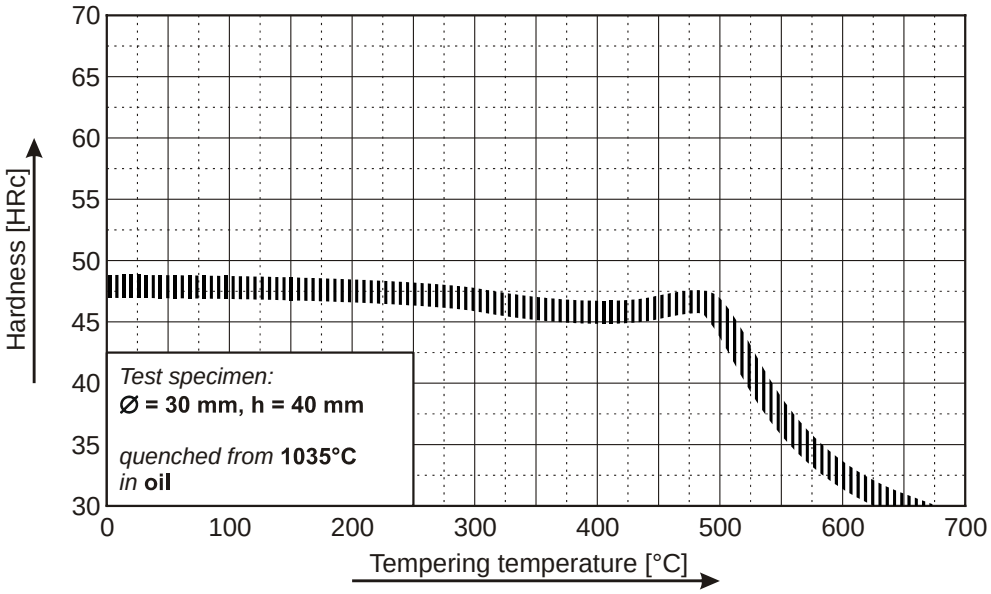
(1.2085) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.