Dörrenberg Edelstahl

Material No.: Code:

1.2764 X19NiCrMo4

DE - Brand:

ECN4M

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	Ni				
0,19	1,30	0,20	4,10				

Steel properties:

Case hardening steel, when hardened high core strength, good polishability in hardened condition.

Applications:

Press tools, highly stressed plastic moulds, profiling rolls.

Condition of delivery:

Soft annealed to max. 250 HB

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
		11,5	12,0	12,4	12,8

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

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
620 - 660°C	furnace	max. 250 HB

Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

Hardening

Carburizing	Intermediate annealing	Austenitizing temperature	Cooling	Tempering
860 - 890°C	600 - 630°C	780 - 810°C	oil or hot bath 180 - 220°C	see tempering diagram
		800 - 830°C	air	

05/06

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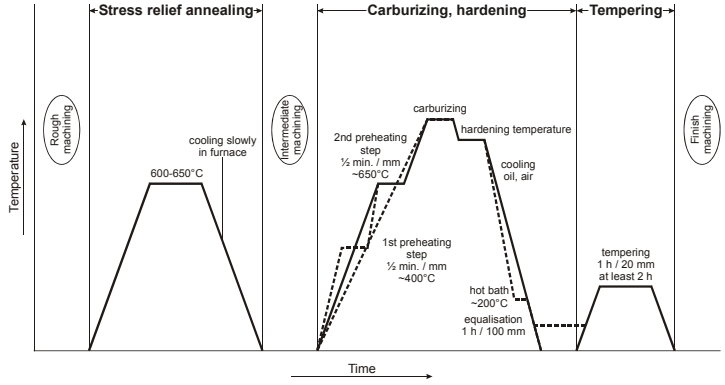
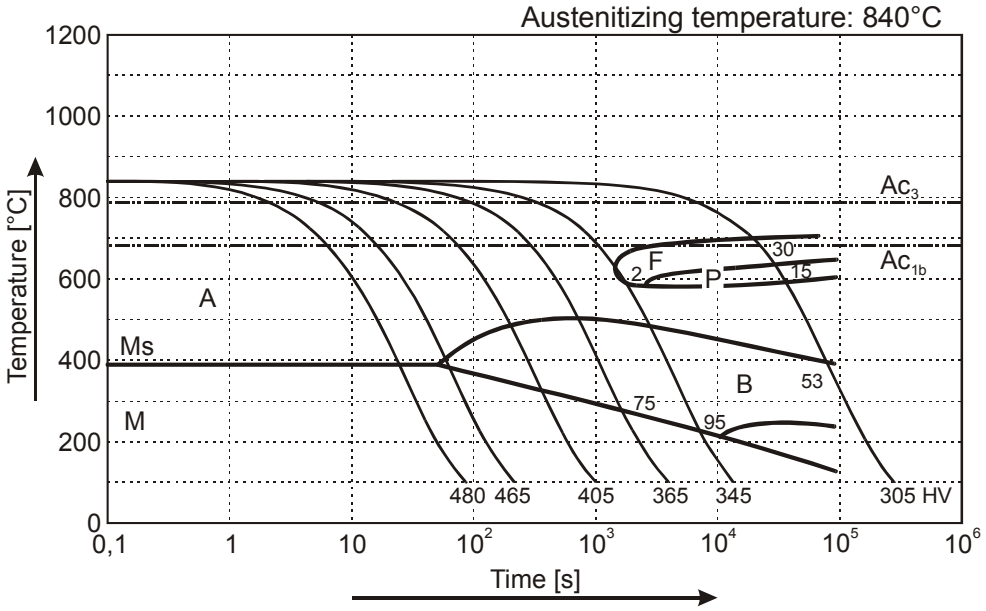
(1.2764) Thermal Cycle Diagram

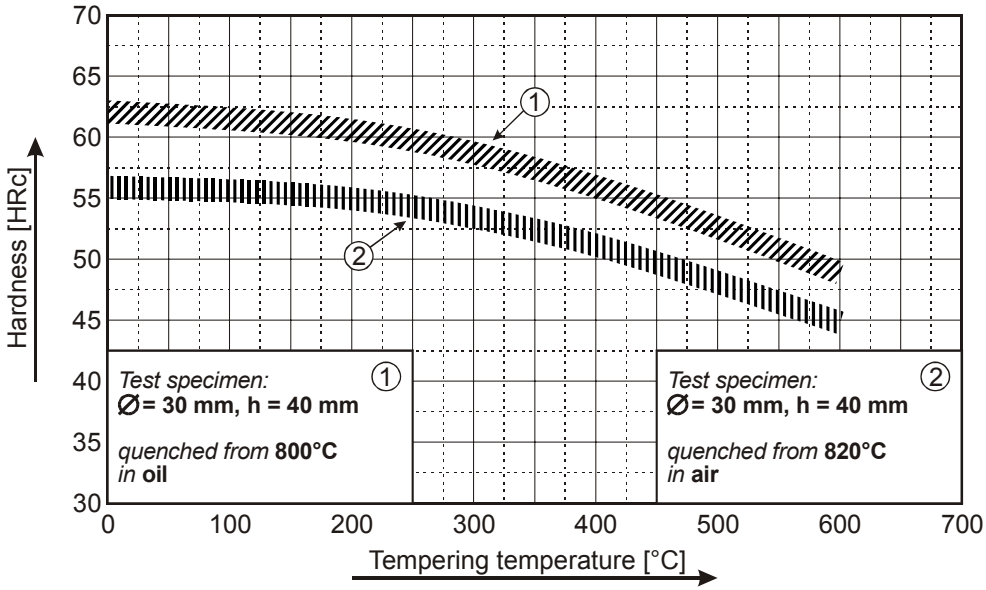
In certain cases intermediate annealing or isotherm transformation may be useful depending on the tool or component. Please contact us.



Continuous Cooling Transformation Diagram (CCT) (core area)



Tempering Diagram (for carborized surface)



Remarks: All technical information is for reference only.