Doerrenberg

Material No.: 1.2316 Code: X38CrMo16 DE - Brand: R65

Chemical composition:
(Typical analysis in %)

C	Cr	Mo					
0,38	16,50	1,20					

Steel properties:

Stainless martensitic steel with increased Cr-content for improved corrosion resistance. This grade is usually supplied in a quenched and tempered condition. Good polishability.

Applications:

Tools and moulds for corrosive plastics and polymers, food industry.

Condition of delivery:

Quenched and tempered, 280 - 325 HB
(950 - 1100 MPa according to DIN EN ISO 18265 Table A.1)

Physical properties:

		68-212°F	68-392°F	68-572°F	68-752°F
Thermal expansion coefficient	$\left[\frac{10^{-6}\cdot m}{m \cdot K}\right]$	10,3	10,8	11,2	11,6

		68°F	662°F
Thermal conductivity	$\left[\frac{W}{m \cdot K}\right]$	19,6	21,1

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
1400 -1470°F	furnace	max. 230 HB

Stress relief annealing
The recommendation 930 - 1020°F is valid for quenched and tempered condition.
In the soft annealed condition stress relieving between 1110 -1200°F is possible.

Temperature	Cooling	
930 - 1020°F	furnace	

Hardening

Temperature	Cooling	Tempering
1870 - 1920°F	oil, pressure gas (N_2), air or hot bath 930 - 1020°F	see tempering diagram

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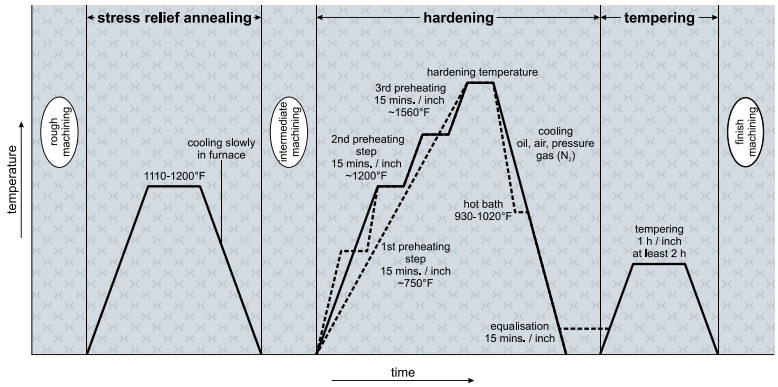
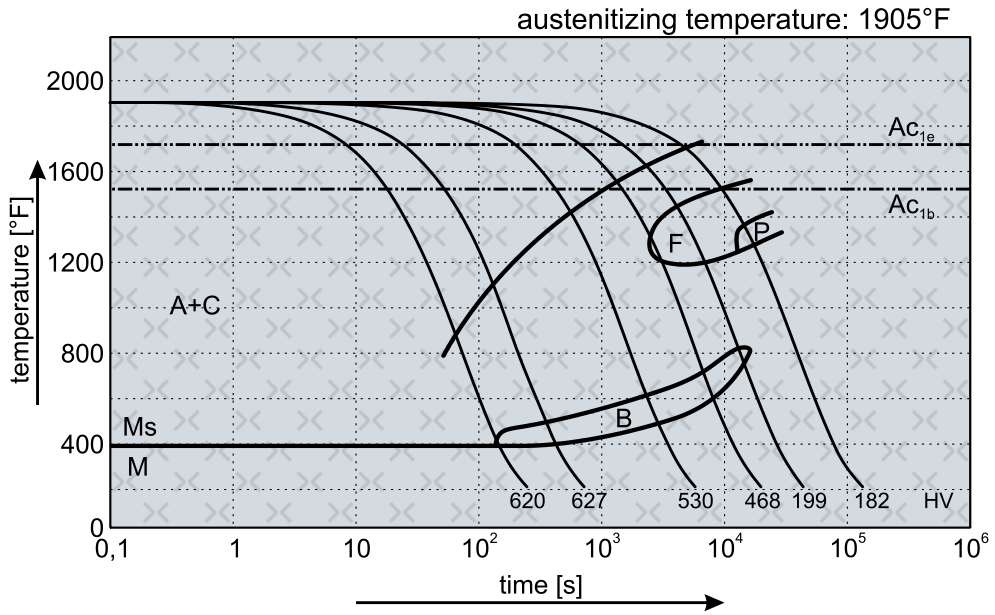
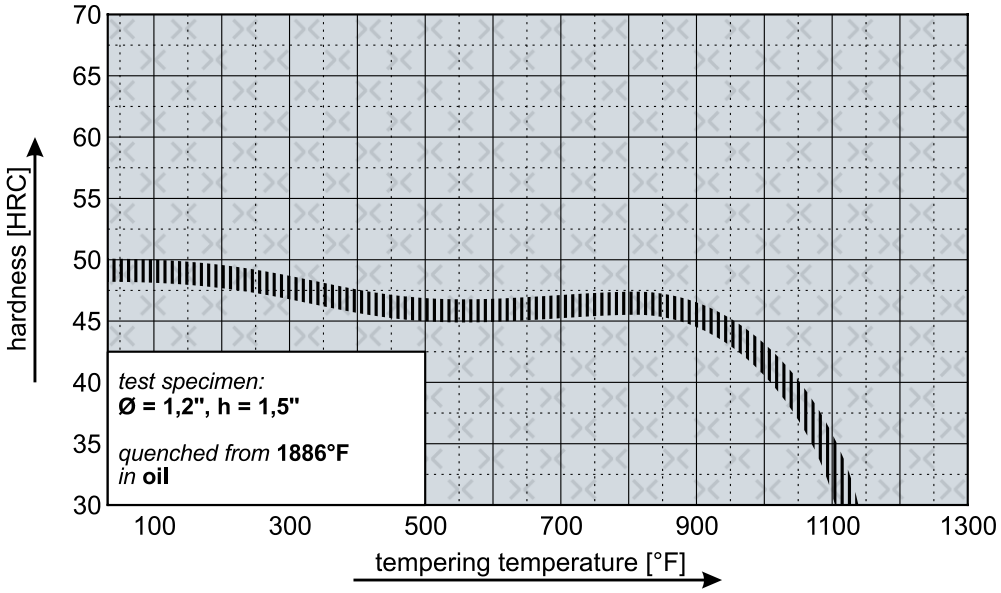
(1.2316) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.