



Material No.: Code:  
**1.2888 X20CoCrMo-10-9**

DE - Brand:  
**DM45**

**Chemical composition:**  
(Typical analysis in %)

C	Si	Mn	Cr	Mo	W	Co	
0,20	0,25	0,50	9,50	2,00	5,50	10,00	

**Steel properties:**

Hot work tool steel, with good wear resistance at high temperatures, high tempering resistance.

**Applications:**

For dies, molds and other tools which are exposed to high service temperature.

**Condition of delivery:**

Soft annealed to max. 295 HB

**Physical properties:**

Thermal expansion coefficient	$\left[ \frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	20-100°C	20-200°C	20-400°C	20-600°C
		11,3	12,2	13,0	13,0

**Heat treatment:**

Soft annealing

Temperature	Cooling	Hardness
850 - 900°C	furnace	max. 295 HB

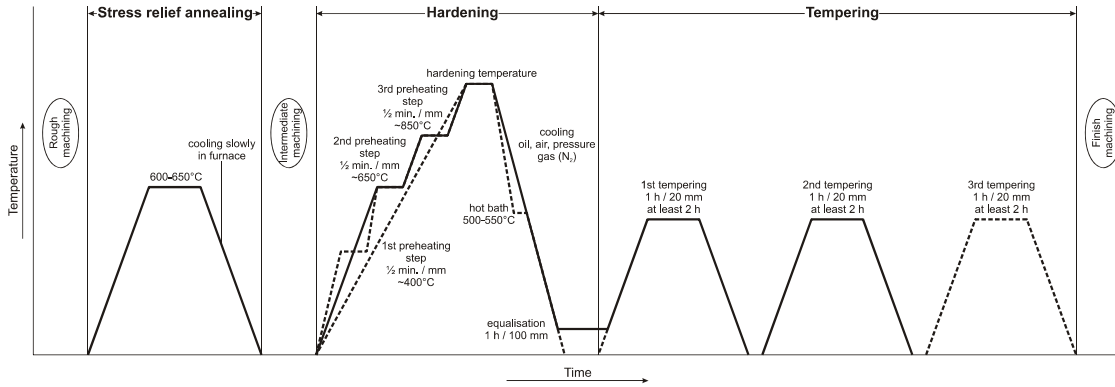
Stress relief annealing

Temperature	Cooling	
650 - 700°C	furnace	

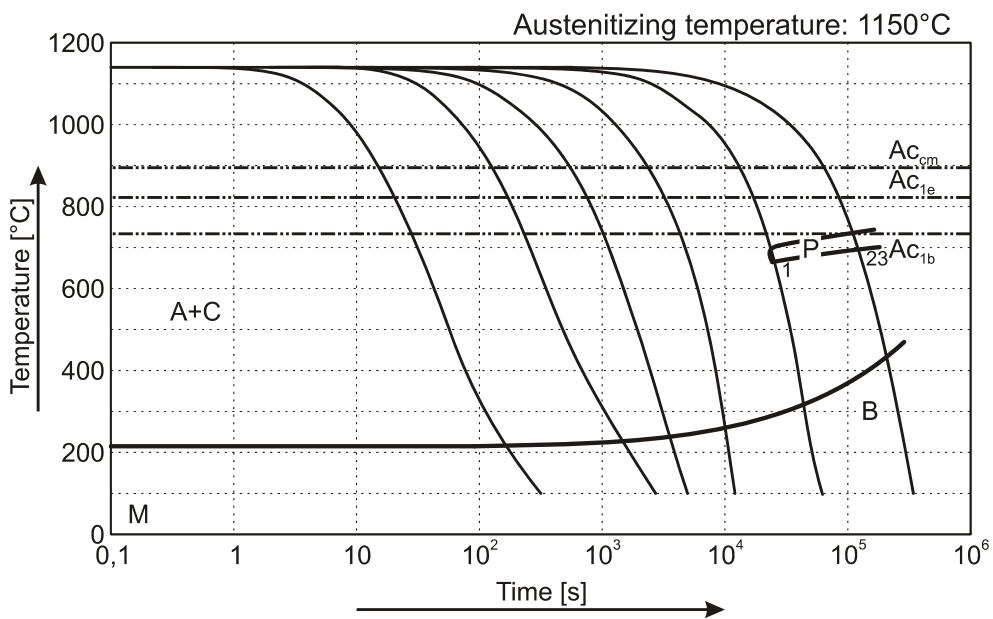
Hardening

Temperature	Cooling	Tempering
1130 - 1160°C	oil, pressure gas (N <sub>2</sub> ), air or hot bath 500 - 550°C	see tempering diagram

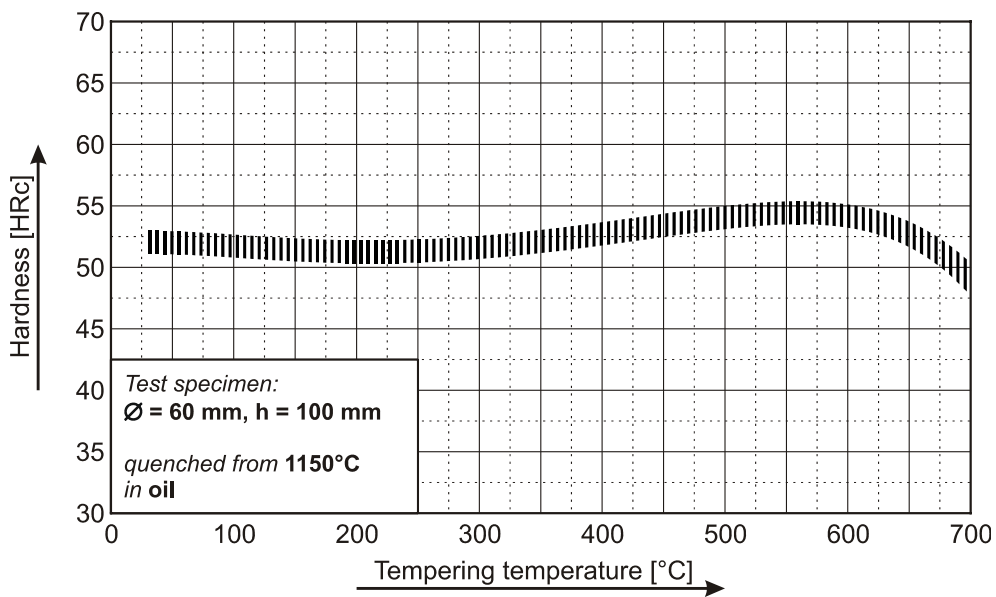
# (1.2888) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.