

Material No.: Code: **1.2365 32CrMoV12-28**

DE - Brand: **DM3**

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	V				
0,32	3,00	2,80	0,50				

Steel properties:

Hot work steel with high thermal stability and good thermal conductivity, water cooling possible. For toughest application also available in EFS and ESR. Similar to AISI H10.

Applications:

Die casting tools for heavy metals, forging dies, extrusion tools, mandrels.

Condition of delivery:

Soft annealed to max. 229 HB

Physical properties:

Thermal expansion coefficient	$\left[\frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	20-100°C	20-300°C	20-500°C	20-700°C
		11,6	12,5	13,3	13,7
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C	350°C	700°C	
		32,1	33,2	31,3	

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
750 - 800°C	furnace	max. 229 HB

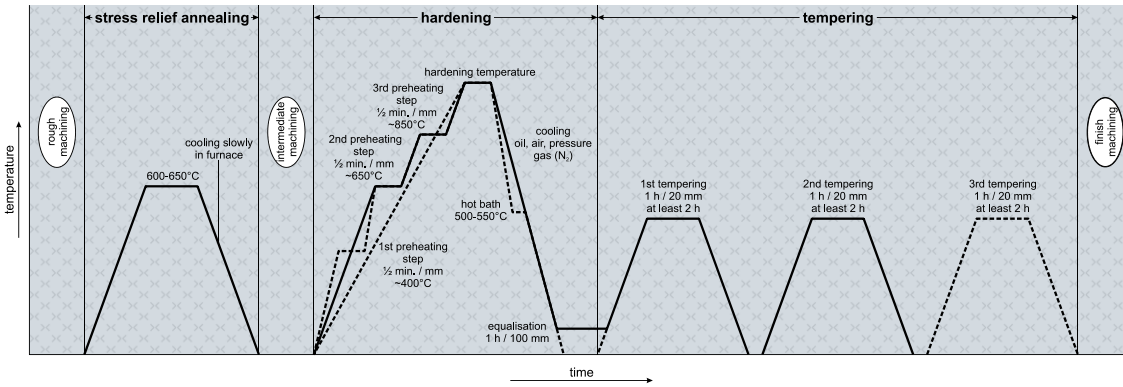
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

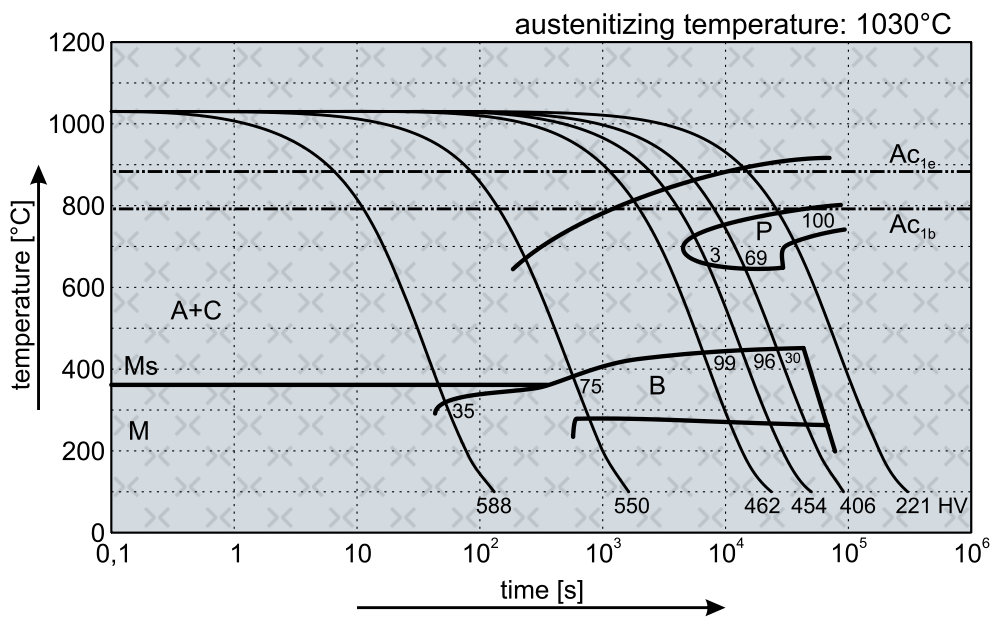
Hardening

Temperature	Cooling	Tempering
1020 - 1050°C	oil, pressure gas (N ₂), air or hot bath 500 - 550°C	see tempering diagram

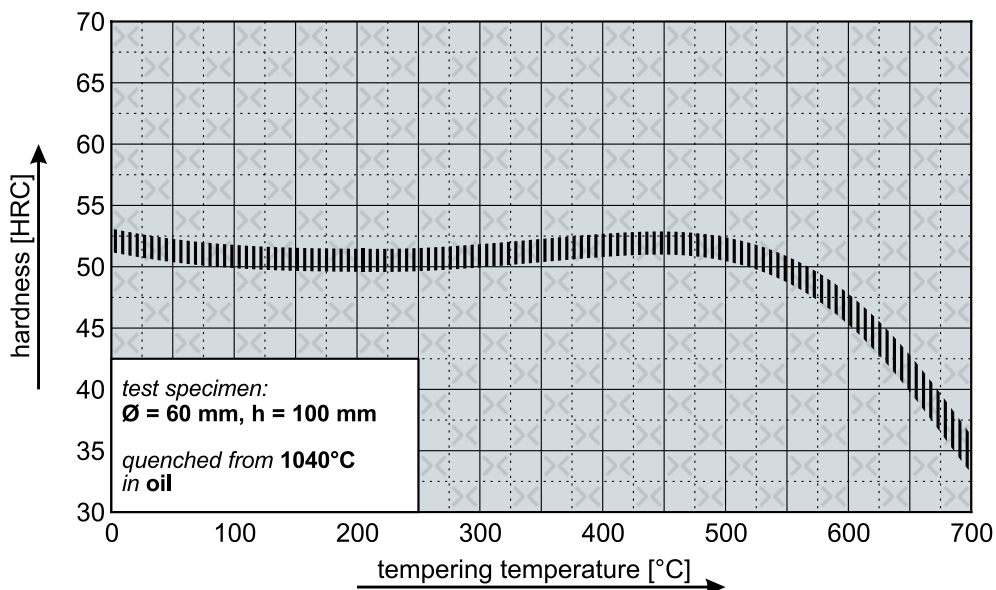
(1.2365) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.