



Material No.: Code:
1.2842 90MnCrV8

DE - Brand:
Z1B

Chemical composition:
(Typical analysis in %)

C	Mn	Cr	V				
0,90	2,00	0,40	0,10				

Steel properties:

Medium alloyed cold work steel with nearly 1% carbon, high hardening capacity, limited through hardenability, dimensionally stable, good compressive strength. Similar to AISI O2.

Applications:

Guide strips, ejector pins, cutting-, punching-, stamping tools, thread cutting tools, measuring tools, broaches, box grooves.

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	20-200°C	20-300°C	20-400°C
		12,2	13,2	13,8	14,4
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C	350°C	700°C	
		32,8	32,0	31,5	

Heat treatment:

Soft annealing

Temperature	Cooling	Hardness
700 - 730°C	furnace	max. 229 HB

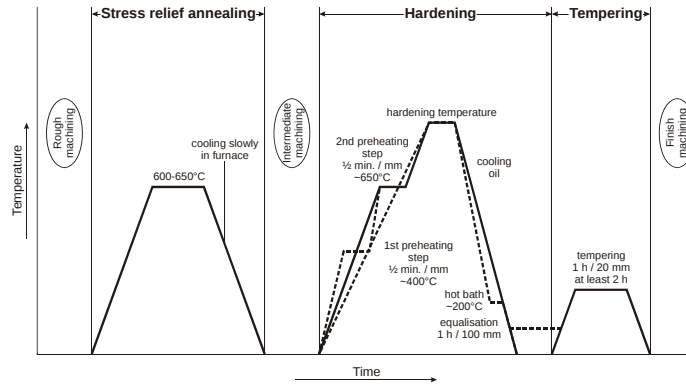
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

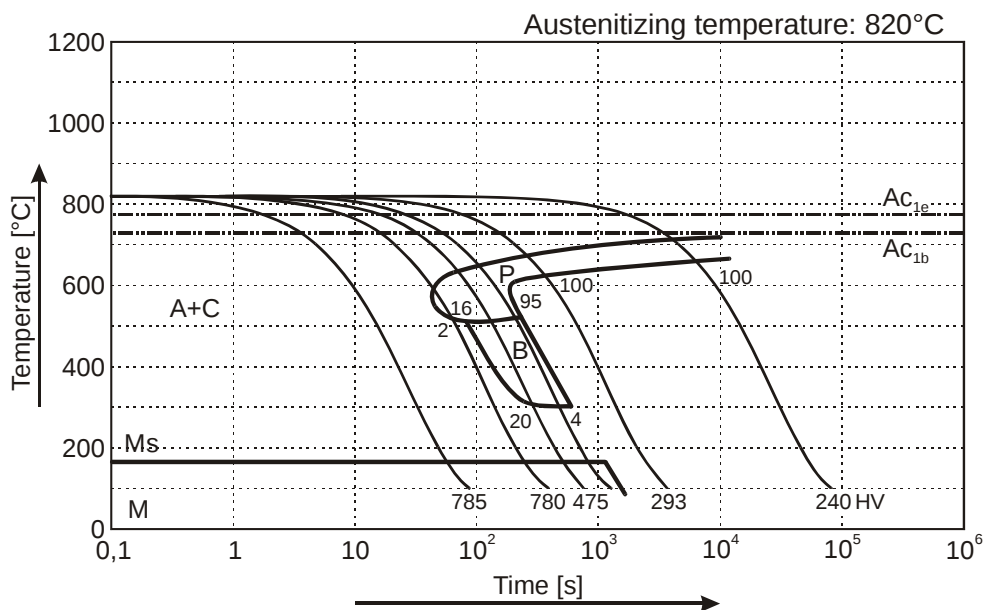
Hardening

Temperature	Cooling	Tempering
780 - 820°C	oil or hot bath 180 - 220°C	see tempering diagram

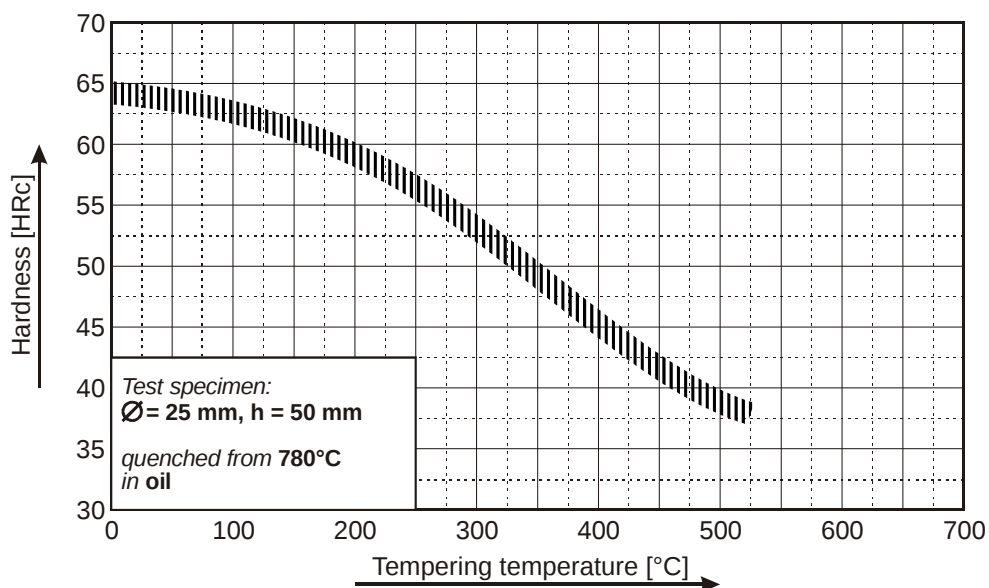
(1.2842) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.