

Material No.: Code:  
**1.2510 100MnCrW4**

DE - Brand:  
**Z3C**

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

C	Mn	Cr	W	V			
0,95	1,10	0,60	0,60	0,10			

**Steel properties:**

Medium alloyed cold work steel with good hardening capacity, high wear resistances, dimensionally stable during heat treatment. Similar to AISI O1.

**Applications:**

Cutting and punching tools, shear knives, thread rolling tools, measuring instruments.

**Condition of delivery:**

Soft annealed to max. 230 HB

**Physical properties:**

Thermal expansion coefficient	$\left[ \frac{10^{-6} \text{ m}}{\text{m K}} \right]$	20-100°C	20-200°C	20-300°C	20-400°C
		12,0	12,6	13,1	13,5
Thermal conductivity	$\left[ \frac{\text{W}}{\text{m K}} \right]$	20°C	350°C		
		33,4	32,1		

**Heat treatment:**

Soft annealing

Temperature	Cooling	Hardness
740 - 770°C	furnace	max. 230 HB

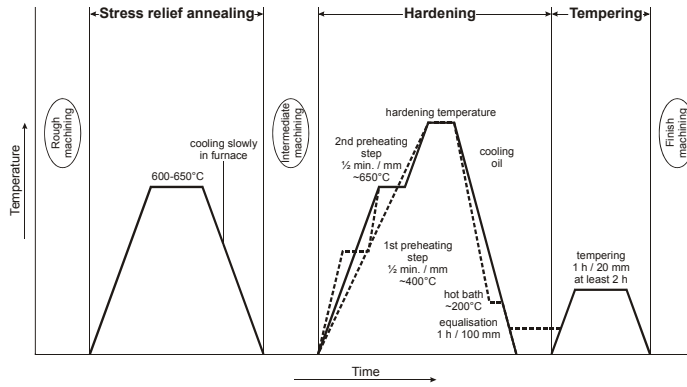
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

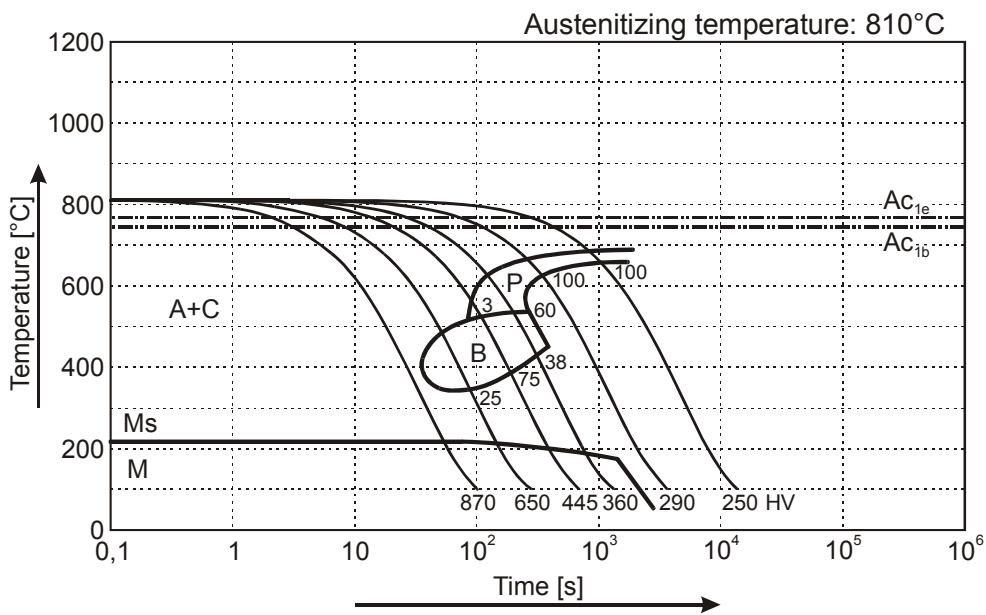
Hardening

Temperature	Cooling	Tempering
790 - 820°C	oil or hot bath 180 - 220°C	see tempering diagram

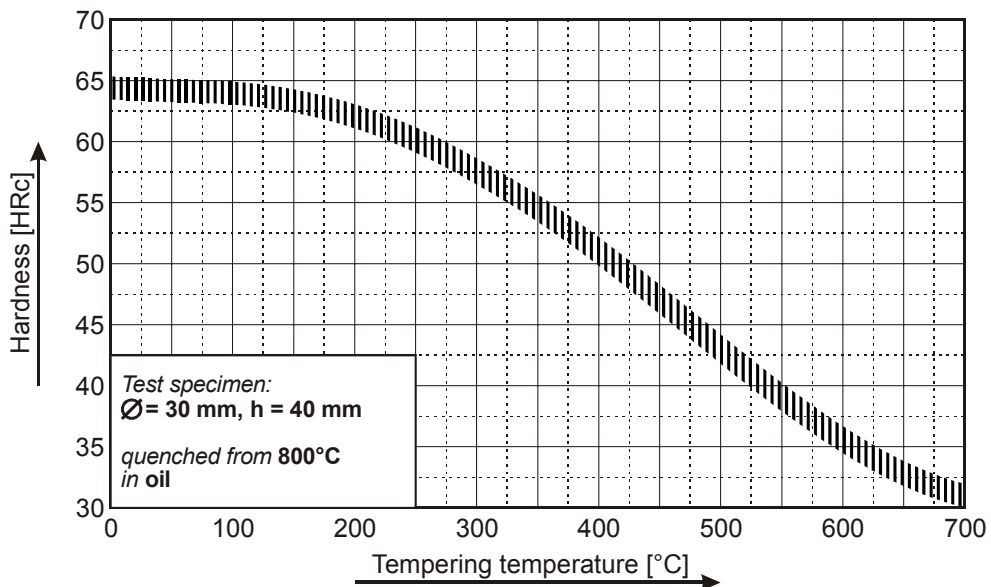
## (1.2510) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.