

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

$\left[ \frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	20-100°C	20-200°C	20-300°C	20-400°C
	12,0	12,6	13,1	13,5

Thermal conductivity

$\left[ \frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C	350°C
	33,4	32,1

### Heat treatment

Soft annealing

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

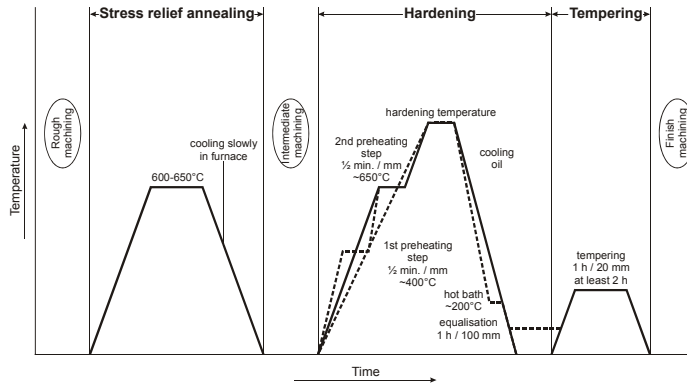
Stress relief annealing

Temperature	Cooling	
600 - 650°C	furnace	

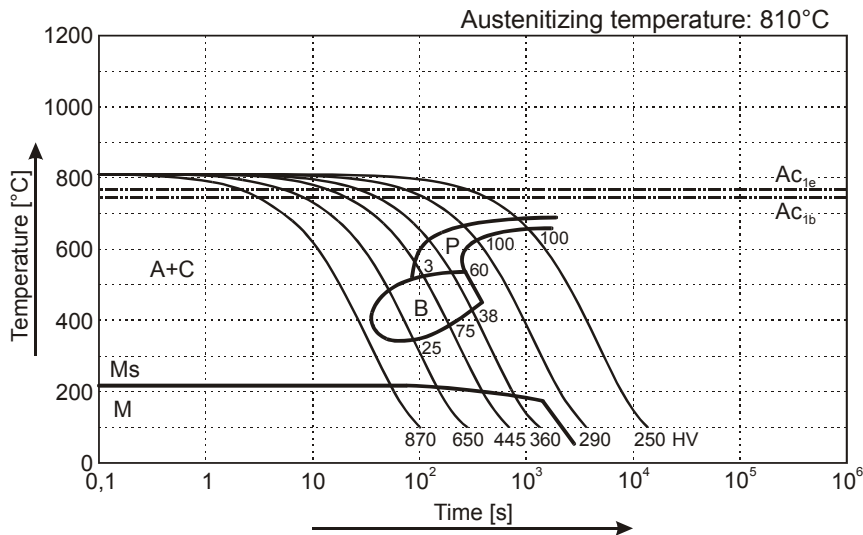
Hardening

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

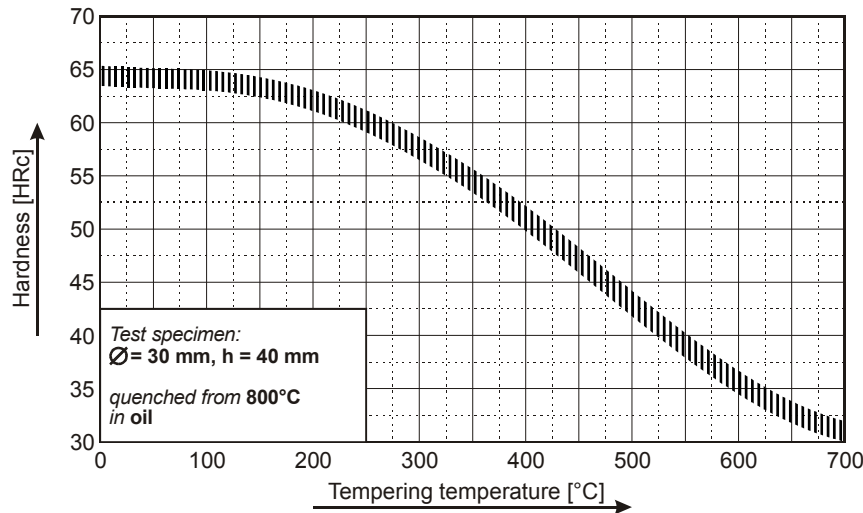
## (1.2510) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.