

Material No.: Code:  
**1.2787 X23CrNi17**

DE - Brand:  
**R18So**

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

C	Cr	Ni					
0,23	16,50	1,80					

**Steel properties:**

Stainless, martensitic tool steel, limited hardness increase. ESR material for glass processing available.

**Applications:**

Pump shafts, mechanical loaded parts in the food industry, moulds and tools for glass processing (ESR material).

**Condition of delivery:**

- a) Quenched and tempered, 800 - 950 N/mm<sup>2</sup>
- b) Quenched and tempered, 950 - 1100 N/mm<sup>2</sup> (ESR material for glass processing)

**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
		10,1	10,5	11,2	11,1
Thermal conductivity	$\left[ \frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	20°C			
		25			

**Heat treatment:**

Soft annealing

Temperature	Cooling	Hardness
650 - 750°C	furnace	max. 245 HB

Stress relief annealing

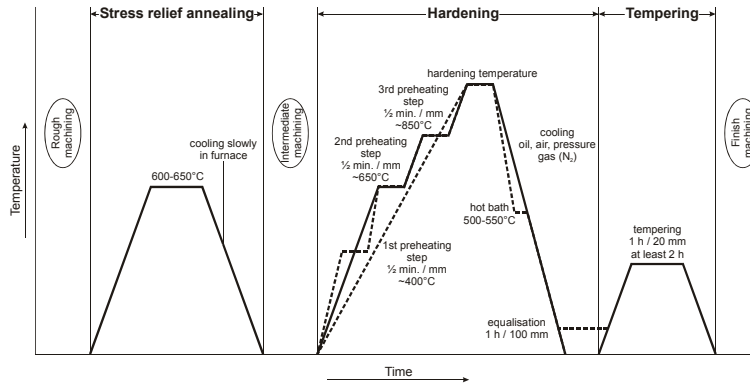
This recommendation is related to the soft annealed condition

Temperature	Cooling	
600 - 650°C	furnace	

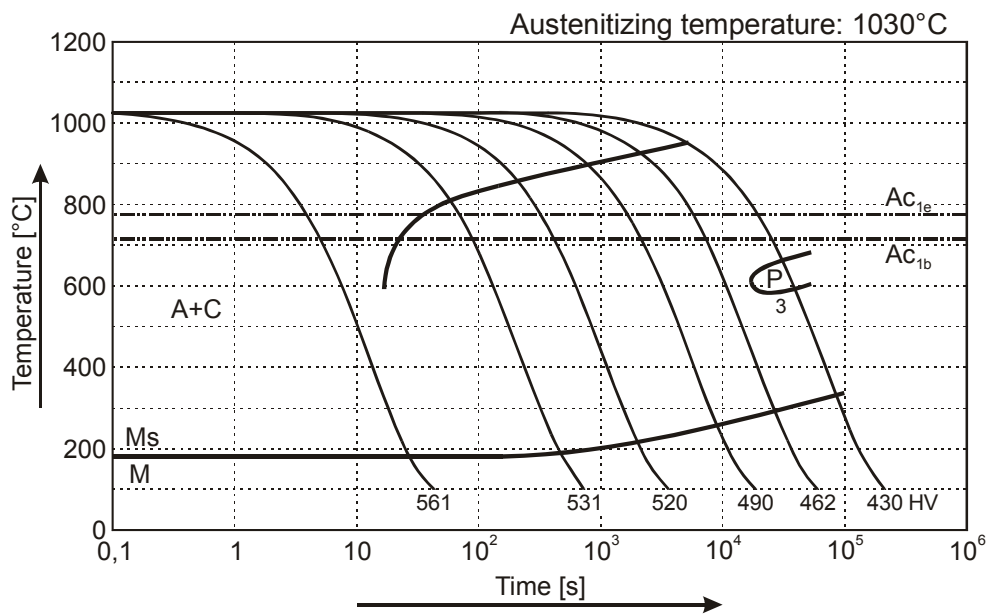
Hardening

Temperature	Cooling	Tempering
1000 - 1050°C	oil, pressure gas (N <sub>2</sub> ), air or hot bath 500 - 550°C	see tempering diagram

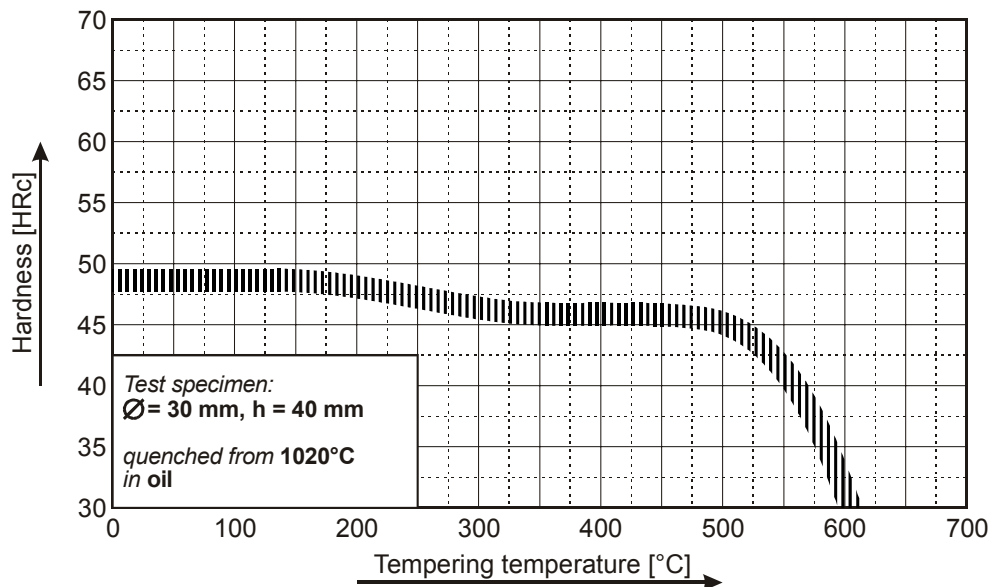
## (1.2787) Thermal Cycle Diagram



## Continuous Cooling Transformation Diagram (CCT)



## Tempering Diagram



Remarks: All technical information is for reference only.