



Material No.

Code:

DE - Brand:

R13X

Chemical composition:

(Standard analysis in %)

C	Cr	S	V	N			
0,05	12,80	0,10	0,50	+			

Steel properties:

Corrosion resistant steel with good dimensional stability and machinability. R13X can be repaired by welding.

Applications:

Plastic moulds, mould bases

Condition of delivery:

Quenched and tempered to approx. 320HB

Physical properties:

Thermal expansion coefficient

$\left[\frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	$\frac{20 - 100^\circ\text{C}}{11.0}$	$\frac{20 - 300^\circ\text{C}}{11.2}$	$\frac{20 - 500^\circ\text{C}}{12.0}$
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Thermal conductivity

$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	$\frac{20^\circ\text{C}}{28}$
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Heat Treatment:

Soft annealing

Temperature	Cooling	Hardness
760-800°C	Furnace	max. 229 HB

Stress relief annealing

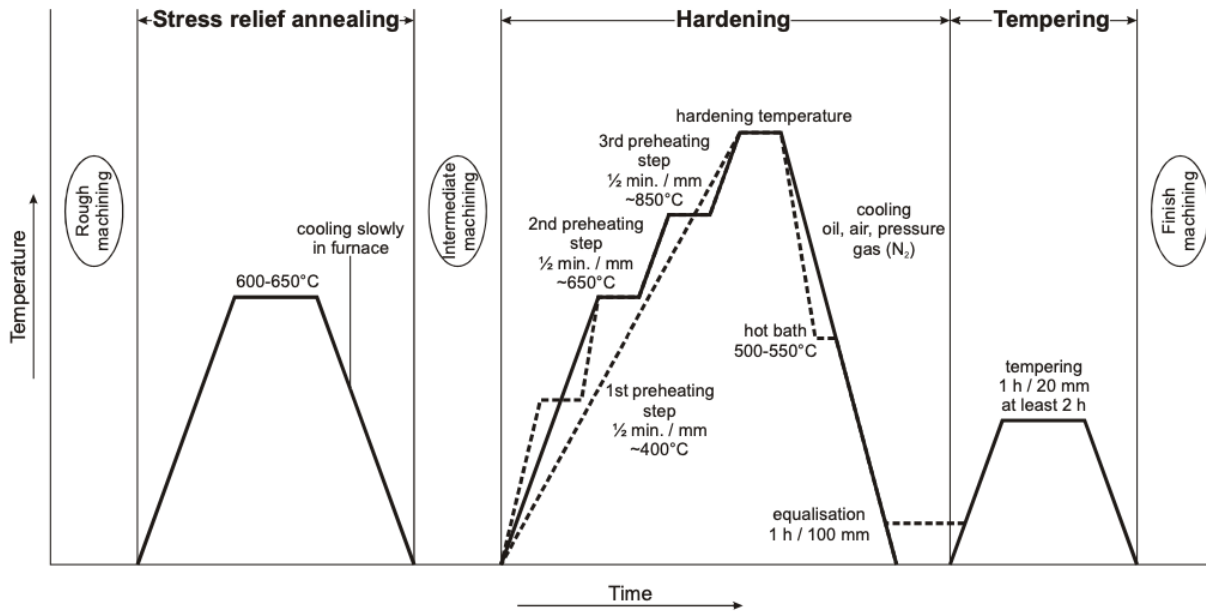
Temperature	Cooling	
420-480°C	Furnace	

Hardening

Temperature	Cooling	Tempering
1000-1050°C	Oil or polymer cooling bath	500-600°C



(R13X) Thermal Cycle Diagram



R13X is supplied in a quenched and tempered condition with 290-330HB surface hardness. Careful control of all heat treatment parameters important to ensure consistency in through hardness.

Hardness of each block is checked individually, no further heat treatment needed after machining.