



Material No.: Code:
1.1730 C45U

DE - Brand:
Extra Nr.45

Chemical composition:
(Typical analysis in %)

C	Si	Mn					
0,45	0,30	0,70					

Steel properties:

Surface hardenable tool steel with hard surface and tough core.

Applications:

Cold heading dies, top and bottom plates for plastic die casting, die casting tools, hand tools, tongs, agricultural tools, blanking tools, leather knives.

Condition of delivery:

Soft annealed to max. 207 HB

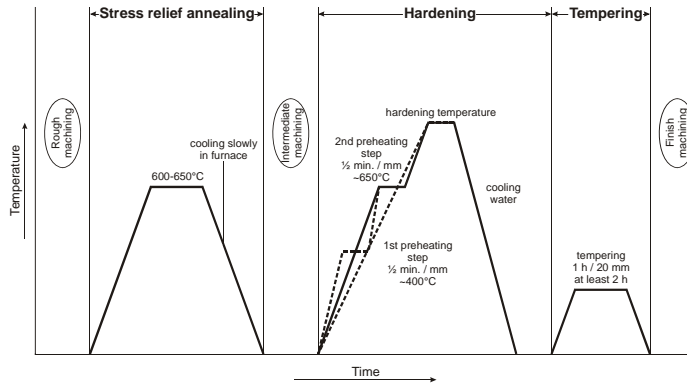
Physical properties:

Thermal expansion coefficient	$\left[\frac{10^{-6} \cdot \text{m}}{\text{m} \cdot \text{K}} \right]$	$\frac{20-100^{\circ}\text{C}}{12,5}$	$\frac{20-200^{\circ}\text{C}}{13,0}$	$\frac{20-300^{\circ}\text{C}}{13,6}$	$\frac{20-400^{\circ}\text{C}}{14,1}$
Thermal conductivity	$\left[\frac{\text{W}}{\text{m} \cdot \text{K}} \right]$	$\frac{20^{\circ}\text{C}}{44,9}$	$\frac{350^{\circ}\text{C}}{41,6}$		

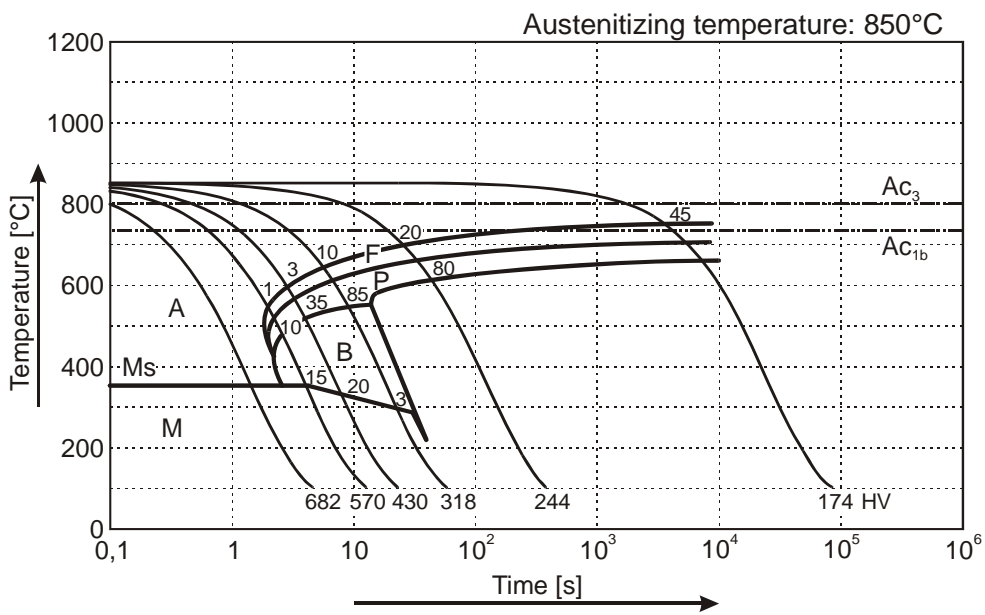
Heat treatment:

Soft annealing	Temperature	Cooling	Hardness
	680 - 710°C	furnace	max. 207 HB
Stress relief annealing	Temperature	Cooling	
	600 - 650°C	furnace	
Hardening	Temperature	Cooling	Tempering
	800 - 850°C	water	see tempering diagram

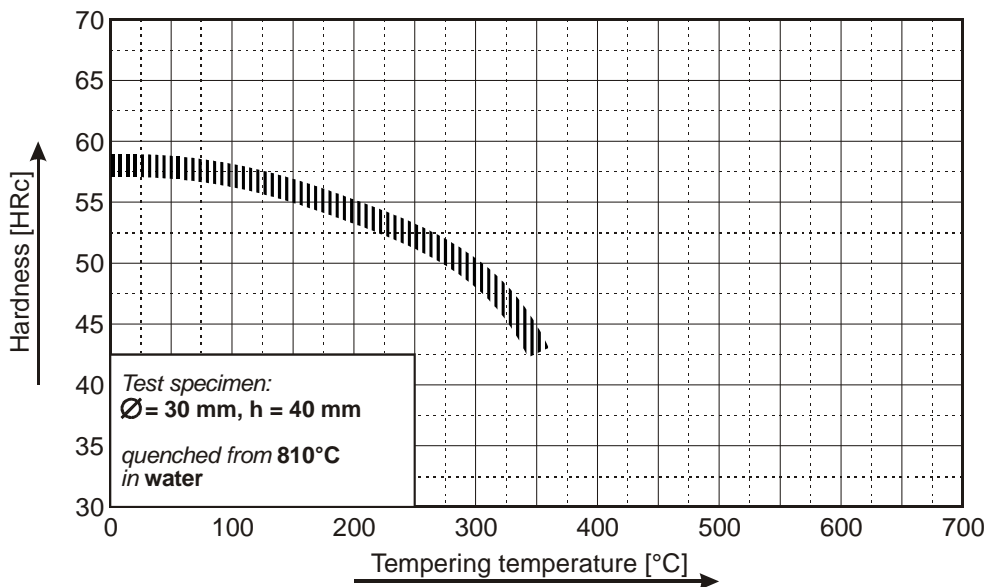
(1.1730) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram



Remarks: All technical information is for reference only.