

Cryodur 2080

X210Cr12

C 2.00 Si 0.30 Mn 0.30 Cr 12.00

Steel properties 12 % ledeburitic chromium tool steel with extreme wear resistance.

Standards AISI D3 AFNOR Z200C12

Physical properties

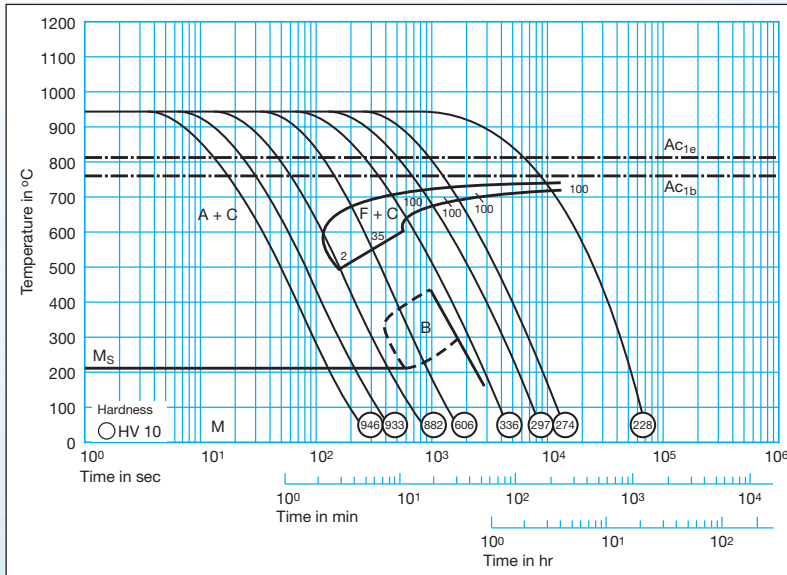
Coefficient of thermal expansion							
at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
$10^{-6} \text{ m}/(\text{m} \cdot \text{K})$	10.8	11.7	12.2	12.6	12.8	13.1	13.3

Thermal conductivity			
at °C	20	350	700
$\text{W}/(\text{m} \cdot \text{K})$	16.7	20.5	24.2

Applications Cutting tools for sheets up to 4 mm thickness, trimming dies, blanking dies for paper and plastics, shear blades and rotary shear blades for sheet thicknesses up to 2 mm, drawing and deep-drawing tools. Woodworking tools, stone pressing tools, pressure pads and highly wear-resistant plastic moulds, profile rolls.

Heat treatment	Soft annealing °C	Cooling	Hardness HB				
	800 – 840	Furnace	max. 250				
	Stress-relief annealing °C	Cooling					
	approx. 650 – 700	Furnace					
	Hardening °C	Quenching	Hardness after quenching HRC				
	930 – 960	Oil	64				
	950 – 980	Air (up to 30 mm thickness)	64				
	Tempering °C						
	100	200	300	400	500	600	
	HRC	63	62	59	57	54	46

Time-temperature-transformation diagram



Tempering diagram

