

# Cryodur 2210

(115CrV3)

C 1.20 Cr 0.70 V 0.10

**Steel properties** Wear resistant chromium-vanadium alloyed cold-work steel.

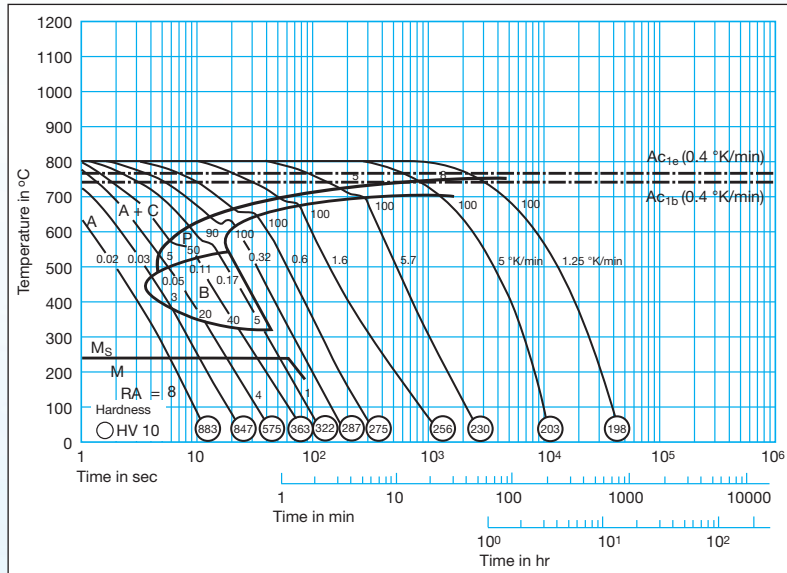
**Standards** AISI L2

Physical properties	Coefficient of thermal expansion							
	at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
	$10^{-6} \text{ m}/(\text{m} \cdot \text{K})$	10.0	12.7	13.7	14.2	14.9	15.8	16.8
Thermal conductivity								
	at °C	20			350			700
	$\text{W}/(\text{m} \cdot \text{K})$	34.2			32.6			31.0

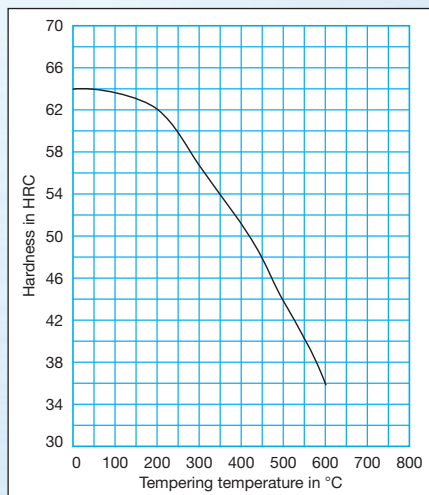
**Applications** Piercing dies, guide rods, twist drills, ejector pins and wood chisels.

Heat treatment	Soft annealing °C	Cooling	Hardness HB				
	710 – 750	Furnace	max. 220				
Stress-relief annealing °C	Stress-relief annealing °C	Cooling	Hardness after quenching HRC				
	approx. 650 – 680	Furnace					
Hardening °C	Hardening °C	Quenching	Hardness after quenching HRC				
	810 – 840 780 – 810	Oil: < 15 mm Ø Water: > 15 mm Ø					
Tempering °C	Tempering °C	100	200	300	400	500	600
	HRC	64	62	57	51	44	36

**Time-temperature-transformation diagram**



**Tempering diagram**



Reference numbers in brackets are not standardized in EN ISO 4957.