

## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2210 (Silver Steel)
Description	115CrV3
AISI/SAE	L2; T61202
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.eu/alternatives/L2">www.steel-guide.eu/alternatives/L2</a>

## Specifications



**Precision round steel without machining allowance / Silversteel [PRS]**  
bright ground, ISO h8  
L: 1.000 mm

## Chemical composition AISI/SAE L2 (reference value %)

C	Si	Mn	P	S	Cr	V
1,1 - 1,25	0,15 - 0,3	0,2 - 0,4	0 - 0,03	0 - 0,03	0,5 - 0,8	0,07 - 0,12

## Physical properties

Hardness (delivery condition)	max. 220 HB, annealed						
Tensile strength $R_m$ (as received condition)	approx. 750 N/mm <sup>2</sup>						
Working hardness	max. 62 HRC						
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C	20 - 500°C	20 - 600°C	20 - 700°C
	10,0	12,7	13,7	14,2	14,9	15,8	16,8
Thermal conductivity $W/(m \cdot K)$	20°C	350°C	700°C				
	34,2	32,6	31,0				

## Technical properties

Cold work steel that can be used for a wide range of applications. Good machinability, high hardenability and wear resistance. Generally used for round dies.

## Applications

Twist drills, screw taps, reamers, milling cutters, countersinks, centre drills, scrapers, engraving tools, punches, ejectors, guide pins, wood chisels, bushes, gauges, jigs, construction parts.

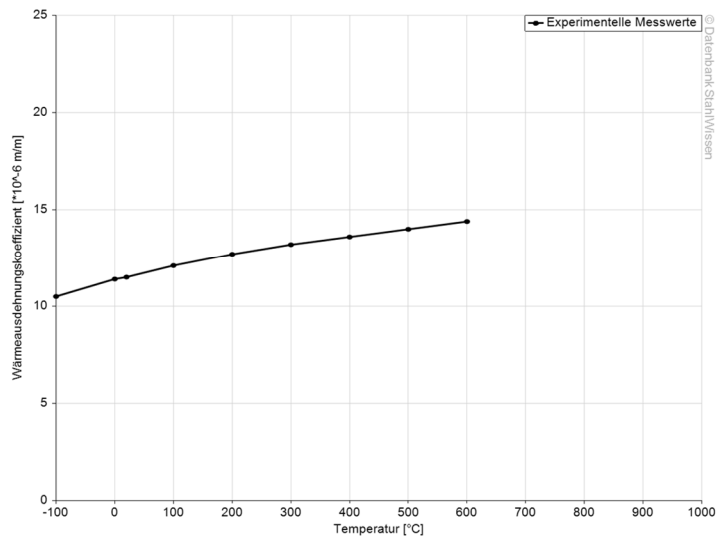
## Heat treatment

	Temperature	Cooling	Hardness
Soft annealing	710 - 750°C	Furnace	max. 220 HB
	Temperature	Cooling	
Stress relief annealing	approx. 650 - 680°C	Furnace	
	Temperature	Quenching in	Hardness after quenching
Hardening	810 - 840°C	Oil (< 15 mm $\phi$ )	64 HRC
	780 - 810°C	Water (> 15 mm $\phi$ )	64 HRC
Tempering	100°C	200°C	300°C
	64 HRC	62 HRC	57 HRC
		400°C	500°C
		51 HRC	44 HRC
			600°C
			36 HRC



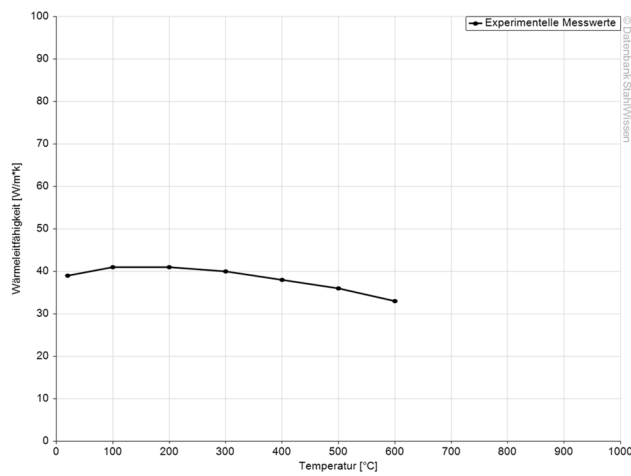
## Thermal expansion coefficient diagram

Werkstoff: 115CrV3, 1.2210

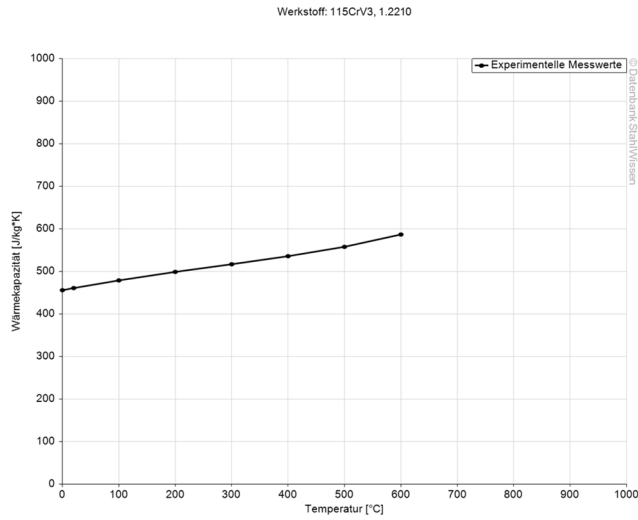


## Thermal conductivity diagram

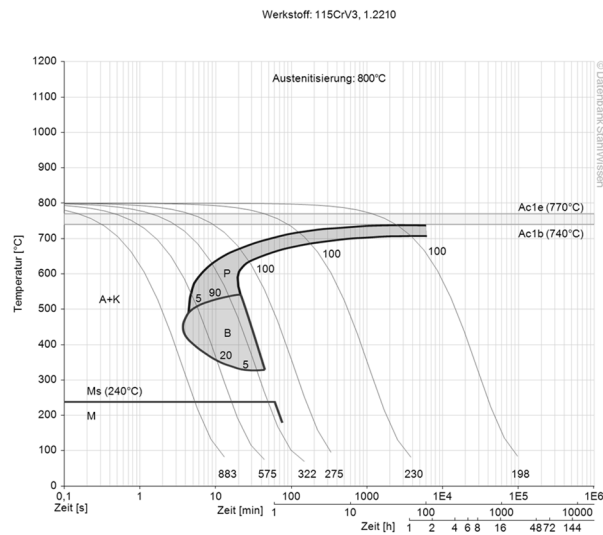
Werkstoff: 115CrV3, 1.2210



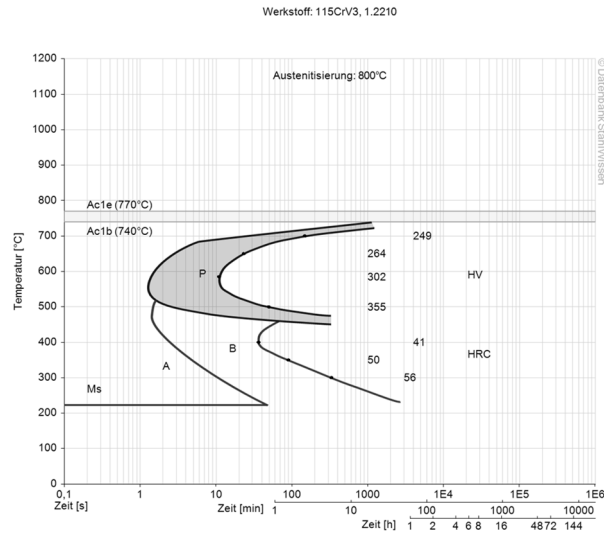
## Thermal capacity diagram



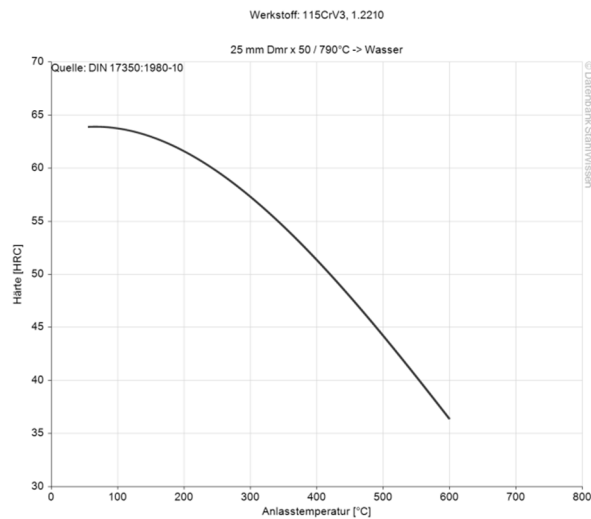
## Continuous ZTU-diagram



## Isothermal ZTU-diagram



## Tempering diagram



The data shown here is to be used only as an indication of the statistics, thus we accept no liability.  
Diagrams are taken from Datenbank StahlWissen Dr. Sommer Werkstofftechnik  
Issued: 2012

