

## Steel grade

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

## Specifications



**Precision round steel  
without machining allowance / Silversteel [PRS]**  
bright ground, ISO h8  
L: 1,000 mm

## Chemical composition BS 1.2210 (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, with high hardness 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.

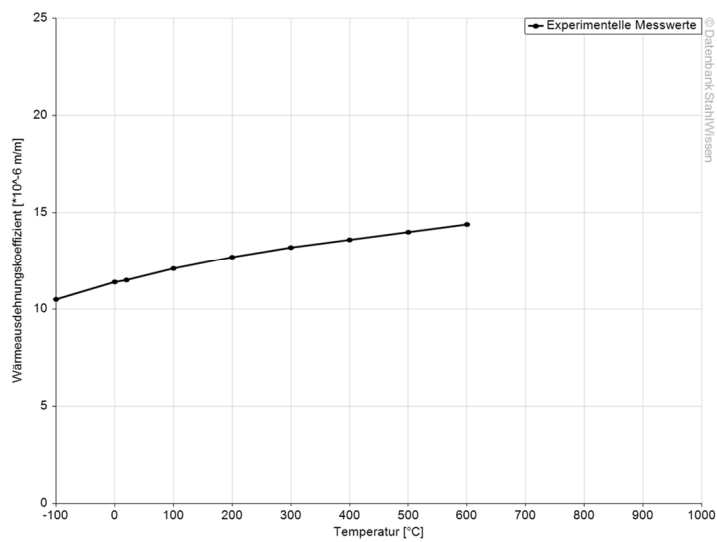


## Heat treatment

	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 ø)	64 HRC			
	780 - 810°C	Water (> 15 mm ø)	64 HRC			
Tempering	100°C	200°C	300°C	400°C	500°C	600°C
	64 HRC	62 HRC	57 HRC	51 HRC	44 HRC	36 HRC

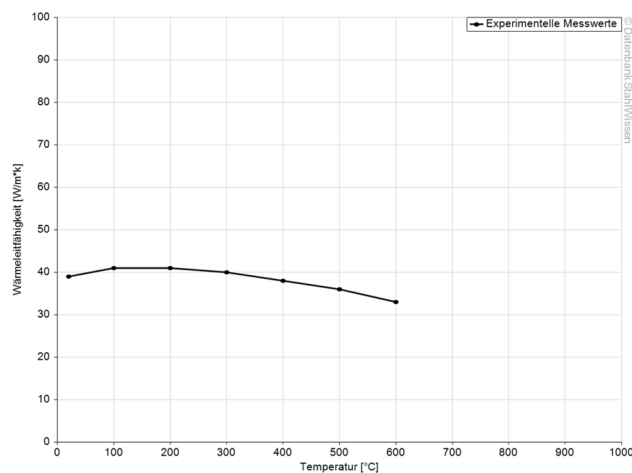
## Thermal expansion coefficient diagram

Werkstoff: 115CrV3, 1.2210

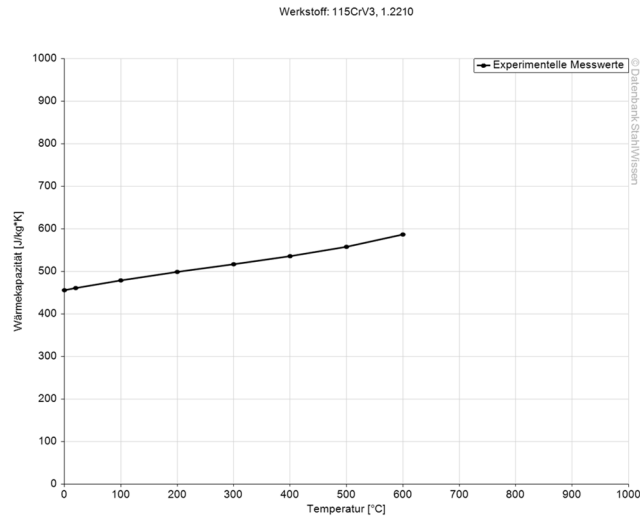


## Thermal conductivity diagram

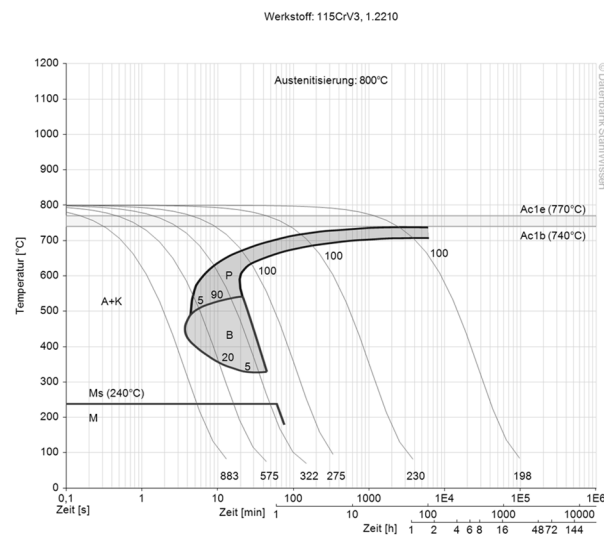
Werkstoff: 115CrV3, 1.2210



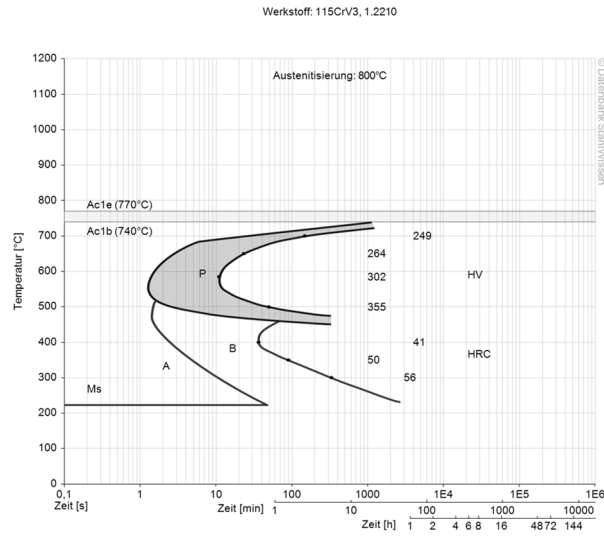
## Thermal capacity diagram



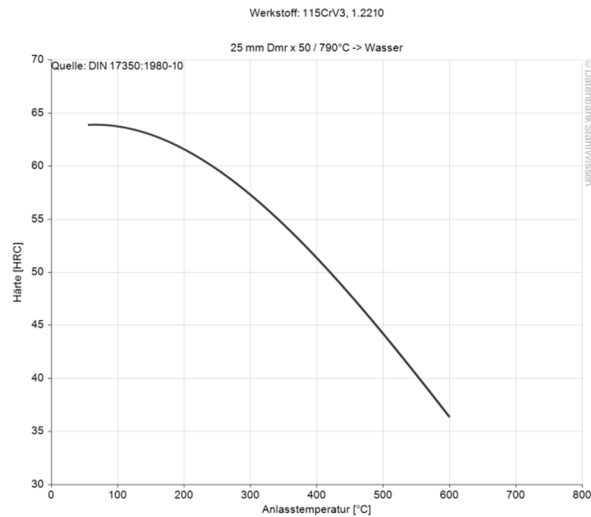
## Continuous ZTU-diagram



## 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

