

## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2714
Description	55NiCrMoV7
BS	1.2714
AISI/SAE	L6; T61206
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.co.uk/alternatives/1.2714">www.steel-guide.co.uk/alternatives/1.2714</a>

## Specifications



€co-Präz® [€co]  
L: 500 mm



Precision round steel  
with machining allowance [PRS/BA]  
peeled / rough-turned  
L: 500 mm  
L: 1,000 mm

## Chemical composition BS 1.2714 (reference value %)

C	Si	Mn	P	S	Cr	Mo	Ni	V
0.5 – 0.6	0.1 – 0.4	0.6 – 0.9	0 – 0.03	0 – 0.03	0.8 – 1.2	0.35 – 0.55	1.5 – 1.8	0.05 – 0.15

## Physical properties

Hardness (delivery condition)	max. 250 HB, annealed						
Tensile strength $R_m$ (as received condition)	approx. 850 N/mm <sup>2</sup>						
Working hardness	max. 54 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	
	12.2	13.0	13.3	13.7	14.2	14.4	
Thermal conductivity $W/(m \cdot K)$	20°C	350°C	700°C				
	36.0	38.0	35.0				

## Technical properties

Hot work steel that can be used for a wide range of applications. With good through-hardening, tempering resistance, toughness, pressure and heat resistance.

## Applications

Forging dies, slides, punch heads, extruding stamps, press tools, hot shear knives, extrusion press tools, die holders, support tools, tool holders, pressure plates, armoured die plates.

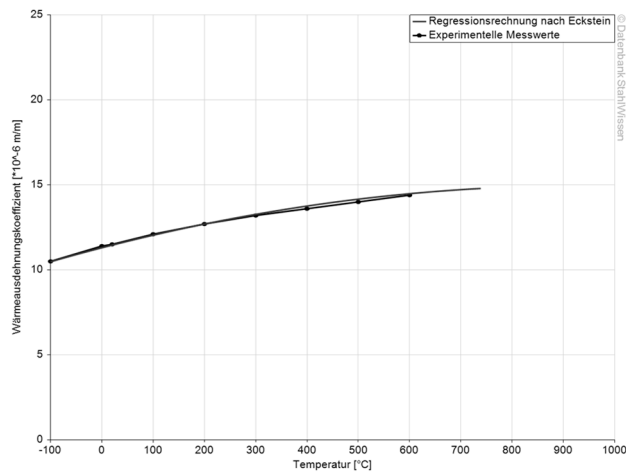


## Heat treatment

	Temperature	Cooling	Hardness						
<b>Soft annealing</b>	650 - 700°C	Furnace	max. 250 HB						
<b>Stress relief annealing</b>	600 - 650°C	Furnace							
	Temperature	Quenching in	Hardness after quenching						
<b>Hardening</b>	830 - 870°C	Oil	58 HRC						
	860 - 900°C	Air	56 HRC						
<b>Tempering</b>	100°C	200°C	300°C	400°C	450°C	500°C	550°C	600°C	650°C
Oil	57 HRC	54 HRC	52 HRC	49 HRC	47 HRC	46 HRC	43 HRC	38 HRC	34 HRC
Air	55 HRC	52 HRC	50 HRC	47 HRC	45 HRC	43 HRC	40 HRC	36 HRC	32 HRC

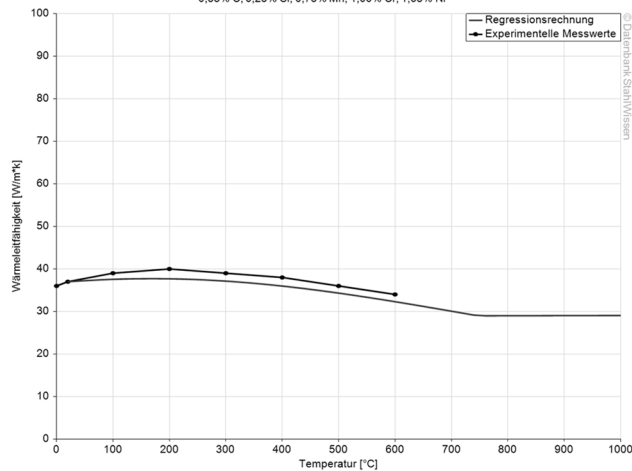
## Thermal expansion coefficient diagram

Werkstoff: 55NiCrMoV7, 1.2714



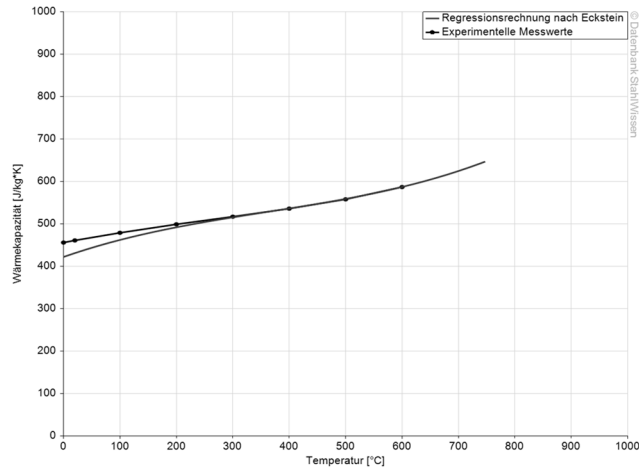
## Thermal conductivity diagram

Werkstoff: 55NiCrMoV7, 1.2714  
 Regressionsrechnung mit folgender Analyse:  
 0,55% C; 0,25% Si; 0,75% Mn; 1,00% Cr; 1,65% Ni



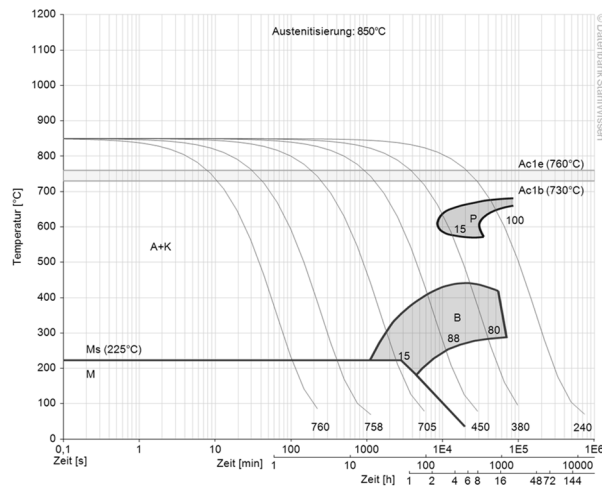
## Thermal capacity diagram

Werkstoff: 55NiCrMoV7, 1.2714

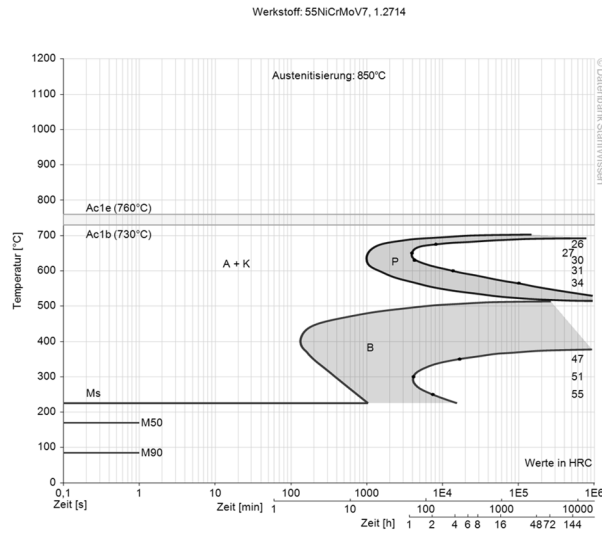


## Continuous ZTU-diagram

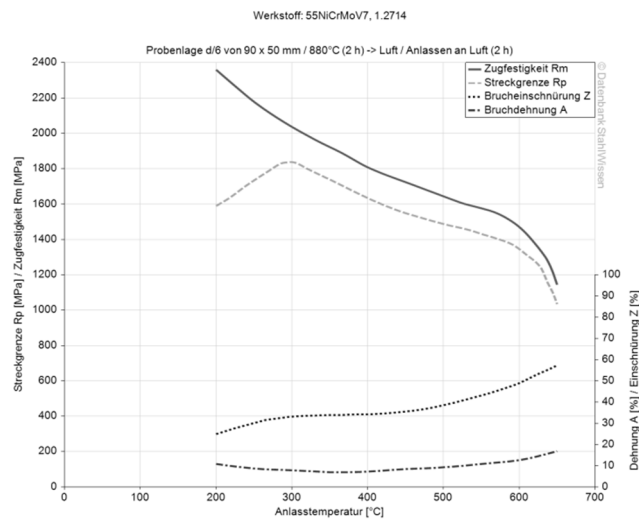
Werkstoff: 55NiCrMoV7, 1.2714



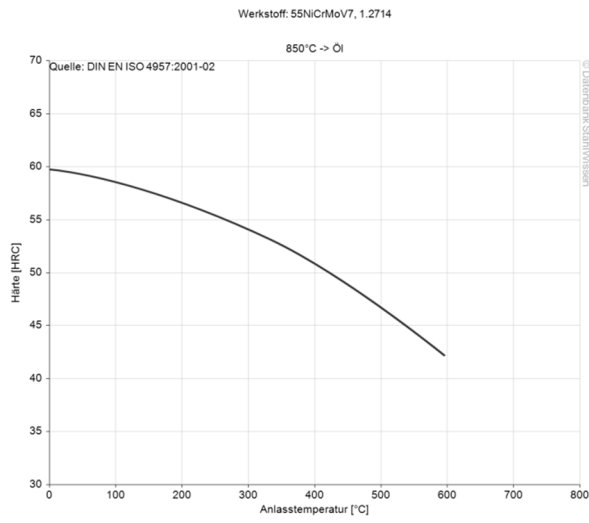
## Isothermal ZTU-diagram



## Hardening and tempering 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

