

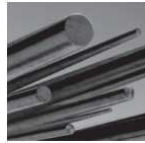
## Steel grade

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

## Specifications



**Eco-Präz® [Eco]**  
L: 500 mm



**Round steel [RS]**  
black  
L: 500 mm  
L: 1,000 mm

## Chemical composition BS 1.2714+QT (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. 400 HB, tempered					
Tensile strength $R_m$ (as received condition)	approx. 1350 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.

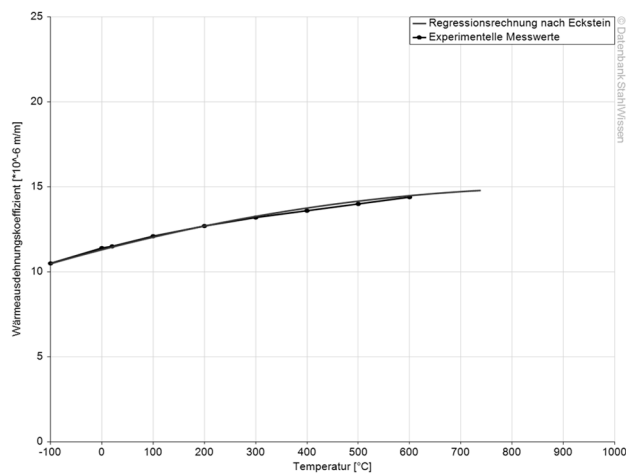


## Heat treatment

	Temperature	Cooling	Hardness						
Soft annealing	650 - 700°C	Furnace	max. 400 HB						
	Temperature	Cooling	Hardness						
Stress relief annealing	600 - 650°C	Furnace							
	Temperature	Quenching in	Hardness after quenching						
Hardening	830 - 870°C	Oil	58 HRC						
	860 - 900°C	Air	56 HRC						
Tempering	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

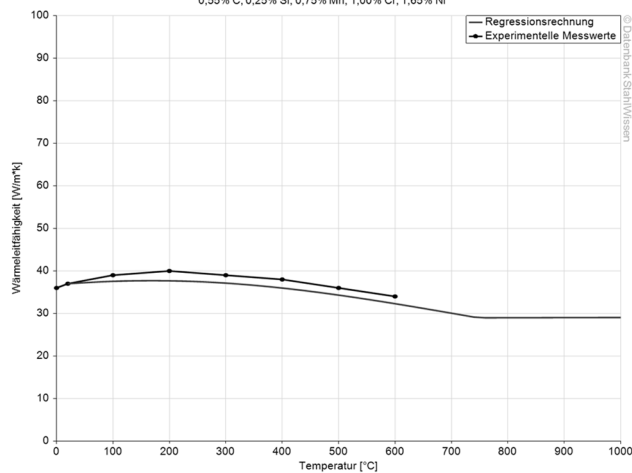
## Thermal expansion coefficient diagram

Werkstoff: 55NiCrMoV7, 1.2714



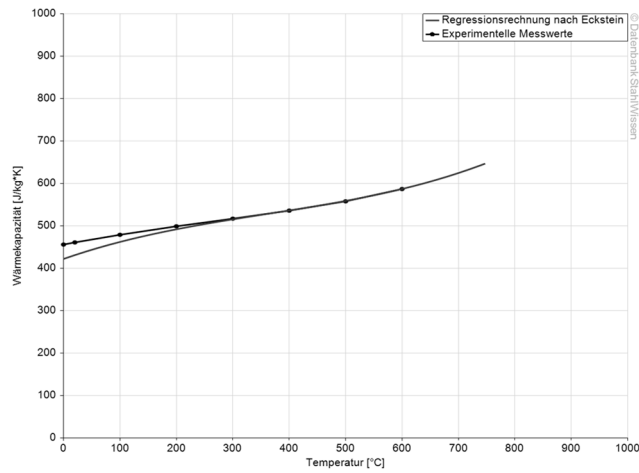
## Thermal conductivity diagram

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



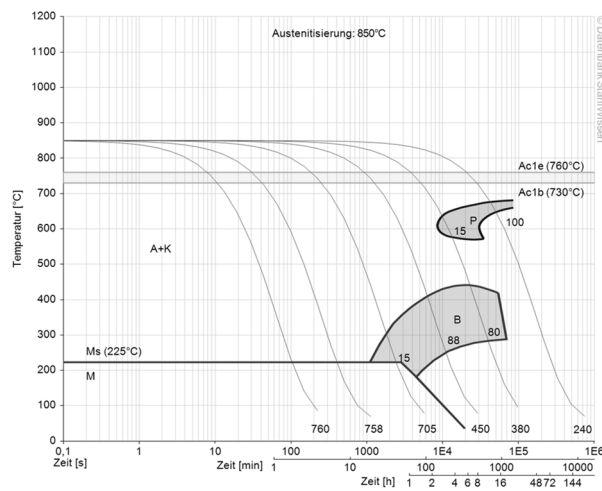
## Thermal capacity diagram

Werkstoff: 55NiCrMoV7, 1.2714

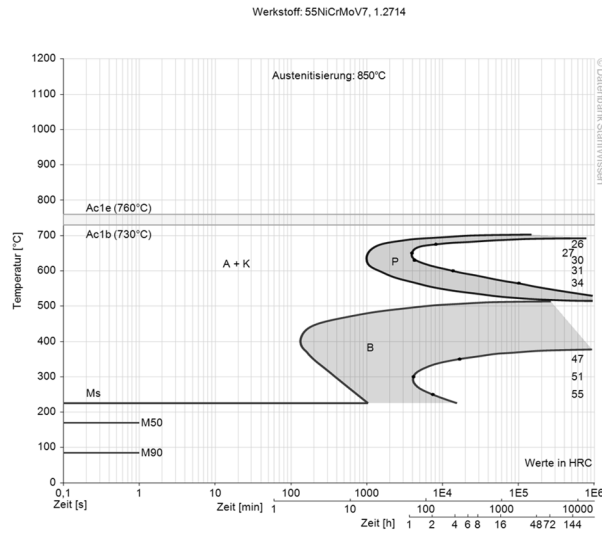


## Continuous ZTU-diagram

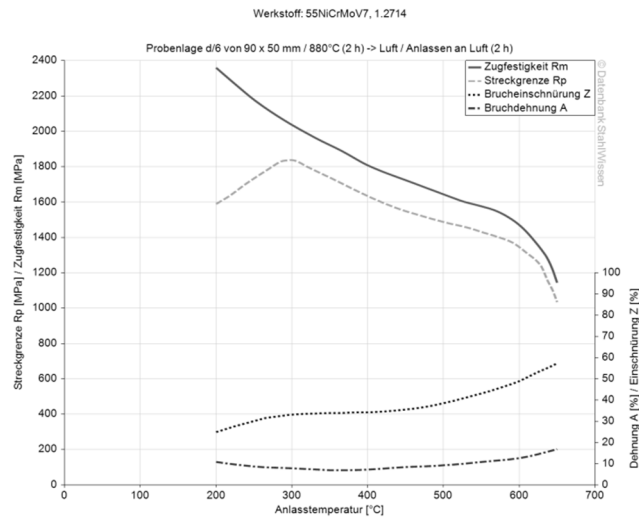
Werkstoff: 55NiCrMoV7, 1.2714



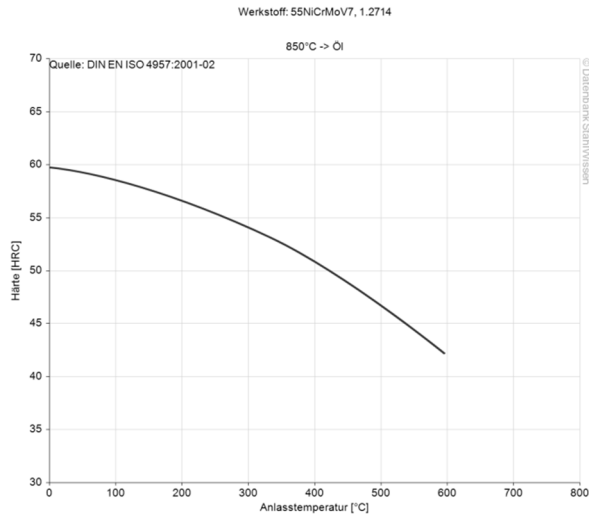
## Isothermal ZTU-diagram



## 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

