Steel grade

Material No.	PREMIUM L6
AISI	L6; T61206
Search for alternatives in the ABRAMS STEEL GUIDE	**www.abrams-steelguide.com/alternatives/L6**

Shapes

$mart Flat Stock [$mart]
Standardized Precision Blanks
L: 12"
L: 24"

$mart Flat Stock Metric [$martM]
Standardized Precision Blanks Metric
L: 300 mm
L: 600 mm

Decarb Free Round (DCF)
Oversize Round Bars
L: 18"
L: 36"

Chemical composition AISI L6 (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. 123.2 KSI					
Working hardness	max. 54 HRC					
Thermal expansion coefficient 10^{-6}m/(m • K)	68 - 212°F	68 - 392°F	68 - 572°F	68 - 752°F	68 - 932°F	68 - 1112°F
	12.2	13.0	13.3	13.7	14.2	14.4
Thermal conductivity W/(m • K)	68°F	662°F	1292°F			
	36.0	38.0	35.0			

Technical properties

Hot work steel that can be used for a wide range of applications. With good through-hardenability, 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.

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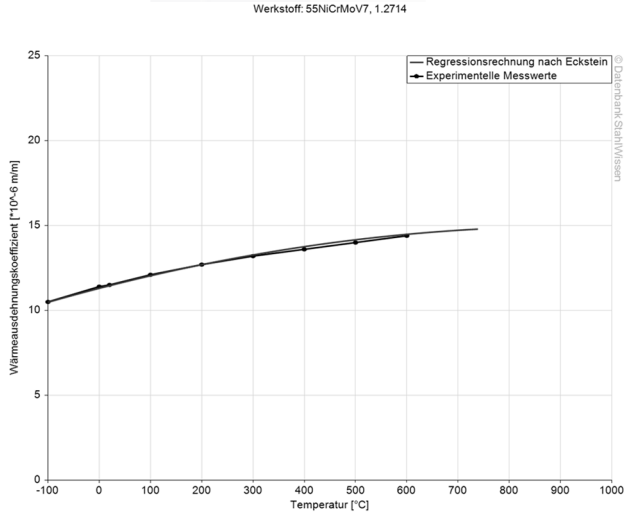
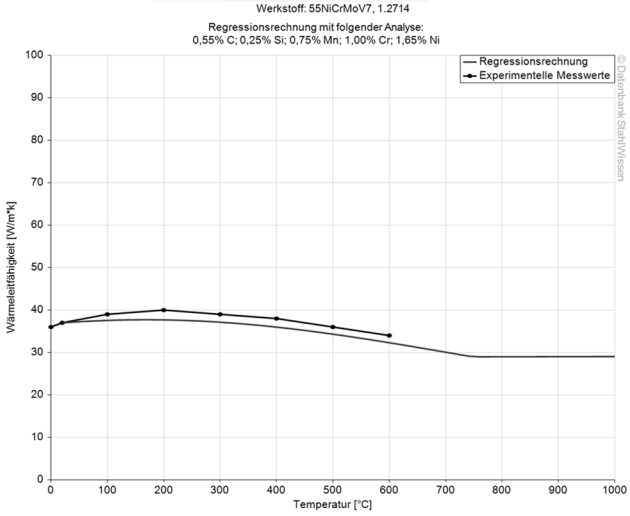
Heat treatment

Soft annealing	**Temperature**		**Cooling**			**Hardness**			
	1202 - 1292°F		Furnace			max. 250 HB			
Stress relief annealing	**Temperature**		**Cooling**						
	1112 - 1202°C		Furnace						
Hardening	**Temperature**		**Quenching in**			**Hardness after quenching**			
	1526 - 1598°F		Oil			58 HRC			
	1580 - 1652°F		Air			56 HRC			
Tempering	212°F	392°F	572°F	752°F	842°F	932°F	1022°F	1112°F	1202°F
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

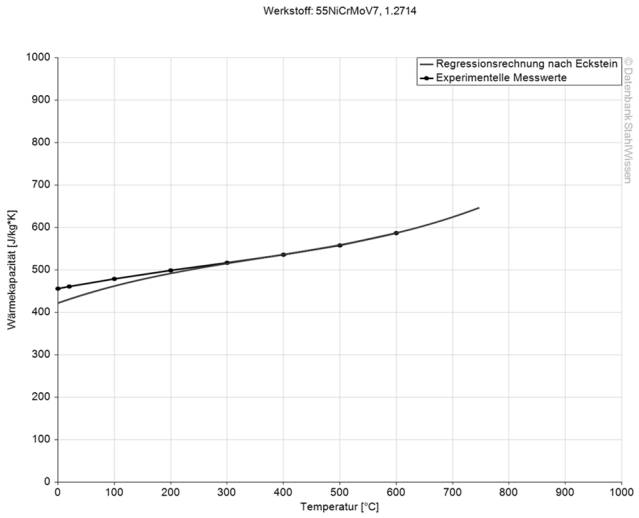
Thermal expansion coefficient diagram



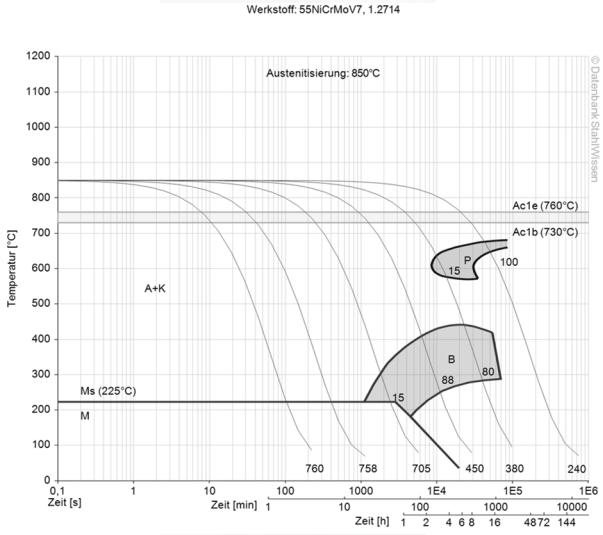
Thermal conductivity diagram



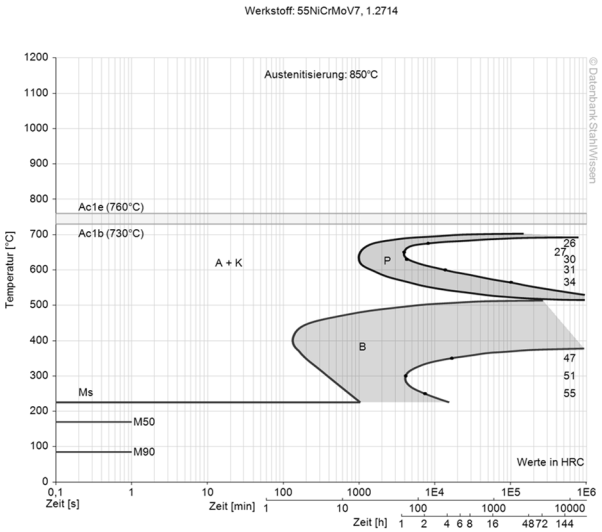
Thermal capacity diagram



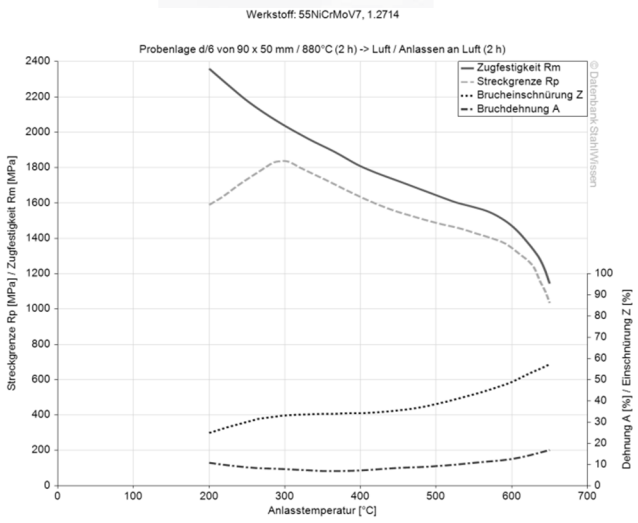
Continuous ZTU-diagram



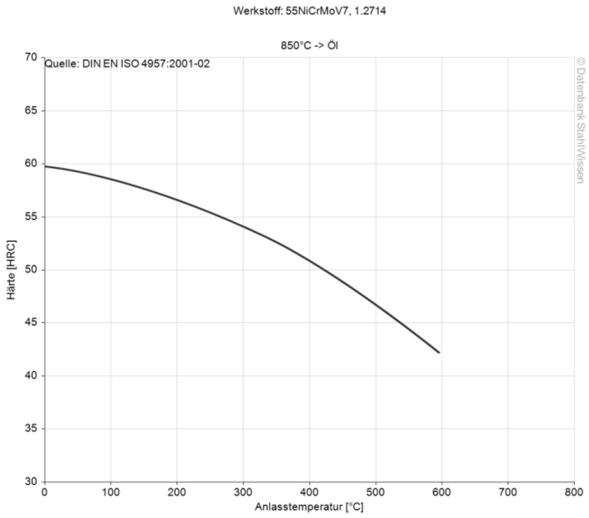
Isothermical ZTU-diagram



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.
Diagramsaretakenfrom Datenbank StahlWissen Dr. Sommer Werkstofftechnik
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