

Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2067 / 1.3505
Description	102Cr6 / 100Cr6
AISI/SAE	L3; T61203 / L1
Search for alternatives in the ABRAMS STEEL GUIDE®	www.steel-guide.eu/alternatives/L3

Specifications



€co-Präz* [€co]
L: 500 mm



Precision round steel without machining allowance [PRS]
bright drawn / ground, ISO h9
L: 1.000 mm



Precision round steel [PRS/BA]
peeled / rough-turned
L: 1.000 mm

Chemical composition AISI/SAE L3 (reference value %)

C	Si	Mn	P	S	Cr	Mo	Ni
0,95 - 1,1	0,15 - 0,35	0,2 - 0,4	0 - 0,025	0 - 0,025	1,35 - 1,6	0 - 0,1	0 - 0,4

Physical properties

Hardness (delivery condition)	max. 223 HB, annealed			
Tensile strength R_m (as received condition)	approx. 750 N/mm ²			
Working hardness	max. 64 HRC			
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	12,3	13,4	13,7	14,1
Thermal conductivity $W/(m \cdot K)$	20°C	350°C	700°C	
	33,0	32,2	31,4	

Technical properties

An all purpose medium alloyed cold work steel with high hardenability, but low depth of hardening, good wear resistance and toughness. This steel grade belongs to the group of AISI/SAE L1 (roller bearing and ball bearing steel).

Applications

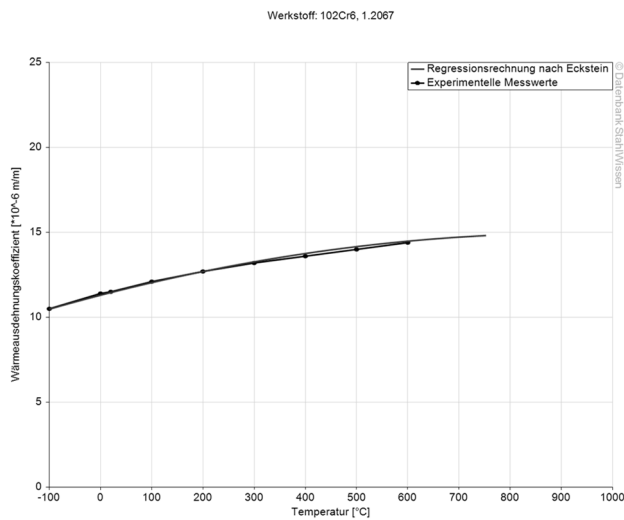
Drills, threading tools, centre lathes, milling cutters, reamers, small die plates, pressure rollers, cold rollings, measuring tools, cold pilger rollings, cold pilger jaws, gauges, mandrels, woodworking tools, cold extrusion tools, flanging rollers, shear knives, roller bearings, ball bearings (medium to large size).



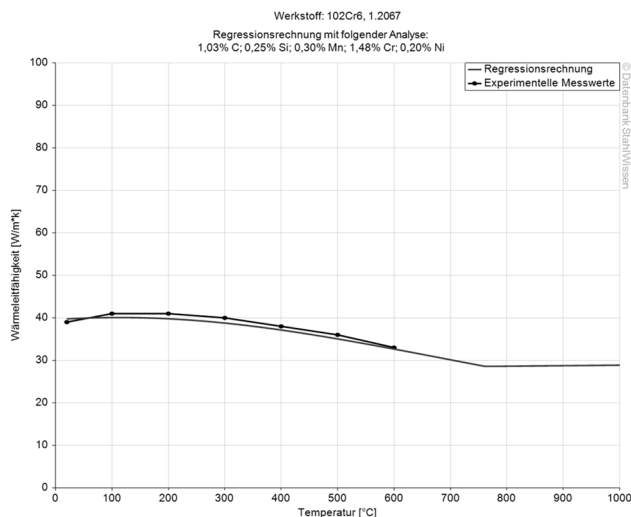
Heat treatment

	Temperature	Cooling	Hardness			
Soft annealing	710 - 750°C	Furnace	max. 223 HB			
Stress relief annealing	approx. 650 °C	Furnace				
	Temperature	Quenching in	Hardness after quenching			
Hardening	830 - 860 °C	Oil, basin, 180 - 220 °C	64 HRC			
	100°C	200°C	300°C	400°C	500°C	600°C
Tempering	64 HRC	61 HRC	56 HRC	50 HRC	44 HRC	36 HRC

Thermal expansion coefficient diagram

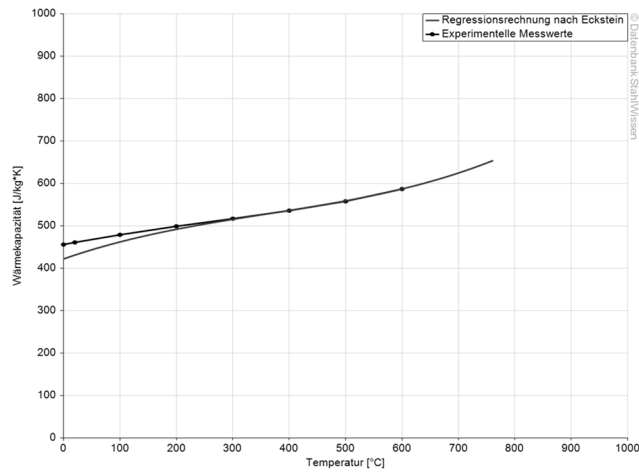


Thermal conductivity diagram



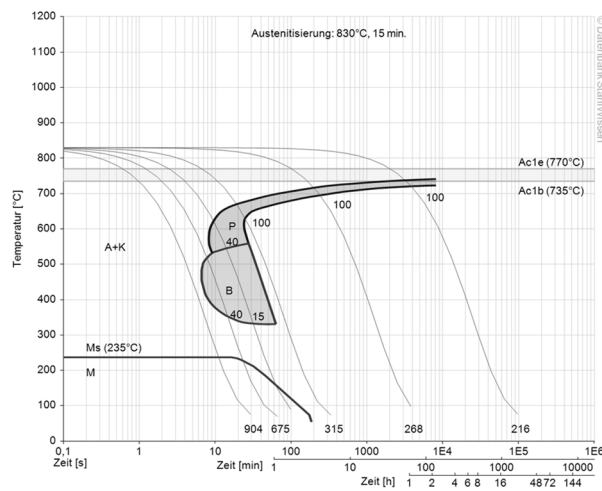
Thermal capacity diagram

Werkstoff: 102Cr6, 1.2067



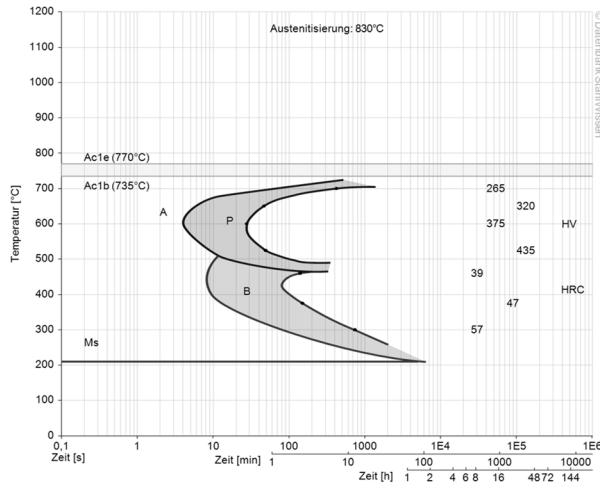
Continuous ZTU-diagram

Werkstoff: 102Cr6, 1.2067



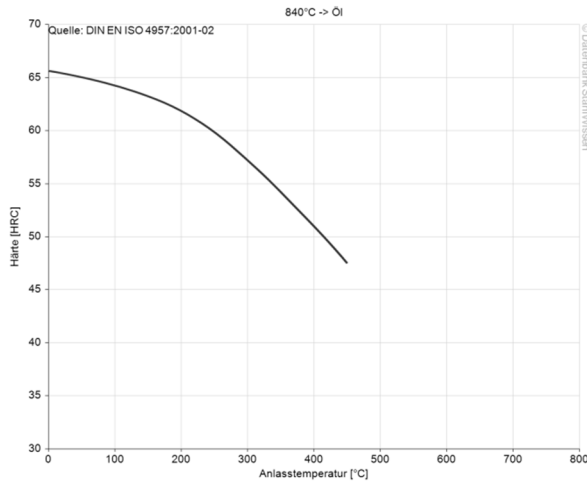
Isothermal ZTU-diagram

Werkstoff: 102Cr6, 1.2067



Tempering diagram

Werkstoff: 102Cr6, 1.2067



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
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