

Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2363
Description	X100CrMoV5-1
AISI/SAE	A2; T30102
Search for alternatives in the ABRAMS STEEL GUIDE®	www.steel-guide.eu/alternatives/A2

Specifications



Precision flat steel with machining allowance [PFS/BA]
L: 500 mm
L: 1.000 mm



Precision round steel with machining allowance [PRS/BA]
peeled / rough-turned
L: 500 mm
L: 1.000 mm

Chemical composition AISI/SAE A2 (reference value %)

C	Si	Mn	P	S	Cr	Mo	V
0,95 - 1,05	0,1 - 0,4	0,4 - 0,8	0 - 0,03	0 - 0,03	4,8 - 5,5	0,9 - 1,2	0,15 - 0,35

Physical properties

Hardness (delivery condition)	max. 241 HB, annealed		
Tensile strength R_m (as received condition)	approx. 815 N/mm ²		
Working hardness	max. 62 HRC		
Thermal conductivity $W/(m \cdot K)$	20°C	350°C	700°C
	15,8	26,7	29,1

Technical properties

Air hardening cold work steel, good machinability, high wear resistance and improved toughness (reduced occurrence of hard carbides with about 5 % chromium compared to 12 % chromium in ledeburites AISI/SAE D2, AISI/SAE D6, AISI/SAE D3 mod.). Good dimensional stability during heat treatment and easily repairable through welding.

Applications

Blanking tools, stamping tools, dies, punches, trimming tools, cutting tools, thread rolling tools, thread rolling dies, shear knives, circular shear knives, cold pilger mandrels, cold stamping tools, plastic moulds.

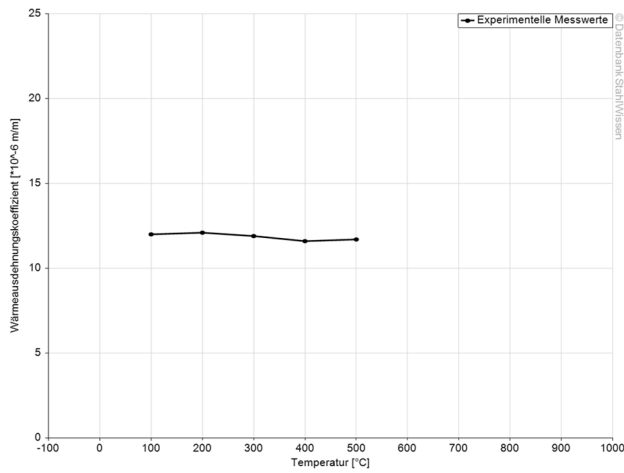
Heat treatment

	Temperature	Cooling	Hardness			
Soft annealing	800 - 840°C	Furnace	max. 241 HB			
	Temperature	Cooling				
Stress relief annealing	approx. 650°C	Furnace				
	Temperature	Quenching in	Hardness after quenching			
Hardening	930 - 970°C	Air, oil, hot basin (500 - 550°C)	63 HRC			
	100°C	200°C	300°C	400°C	500°C	600°C
Tempering	63 HRC	62 HRC	59 HRC	57 HRC	59 HRC	52 HRC



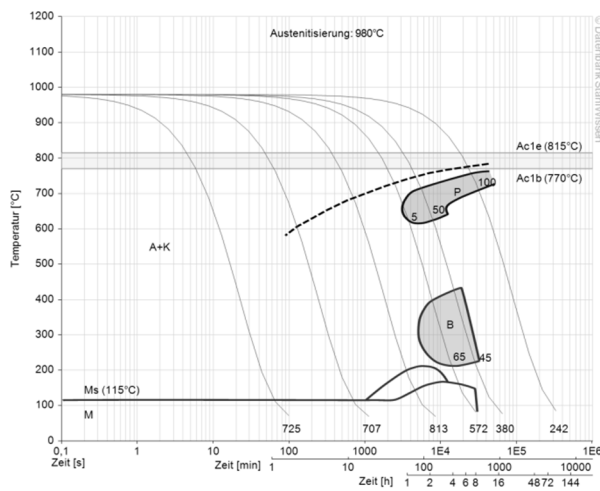
Thermal expansion coefficient diagram

Werkstoff: X100CrMoV5, 1.2363

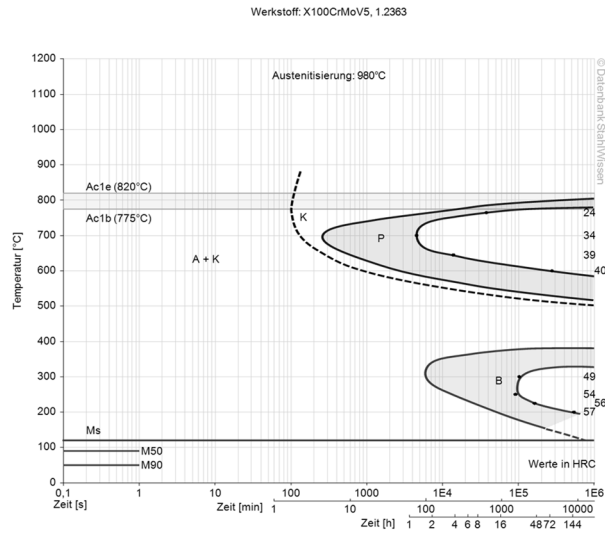


Continuous ZTU-diagram

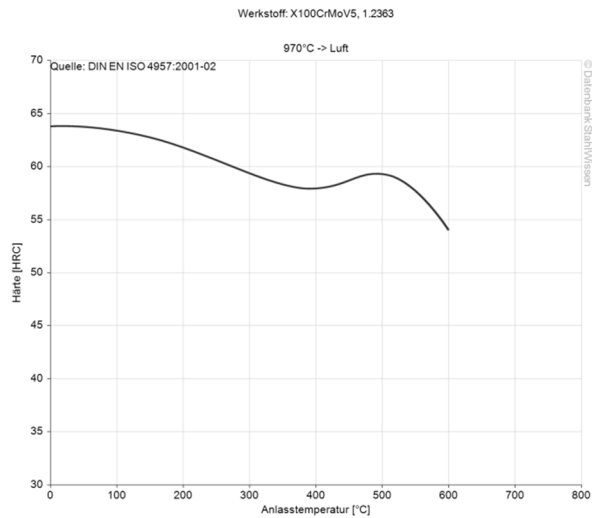
Werkstoff: X100CrMoV5, 1.2363



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
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