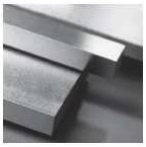
ABRAMS INDUSTRIES®

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/mm²		
Working hardness	max. 62 HRC		
Thermal conductivity W/(m • 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

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

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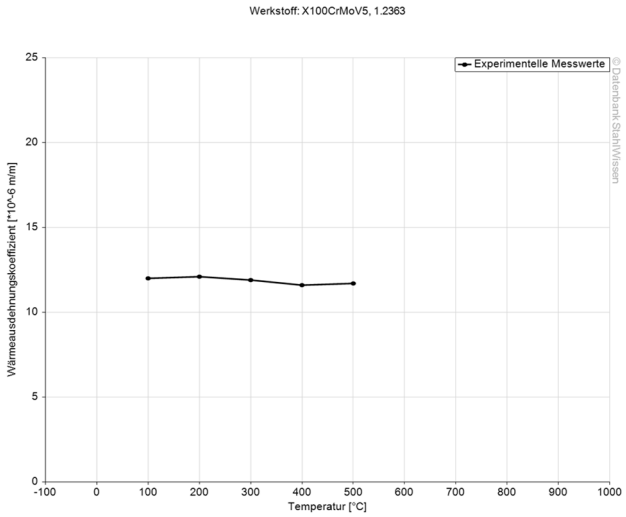
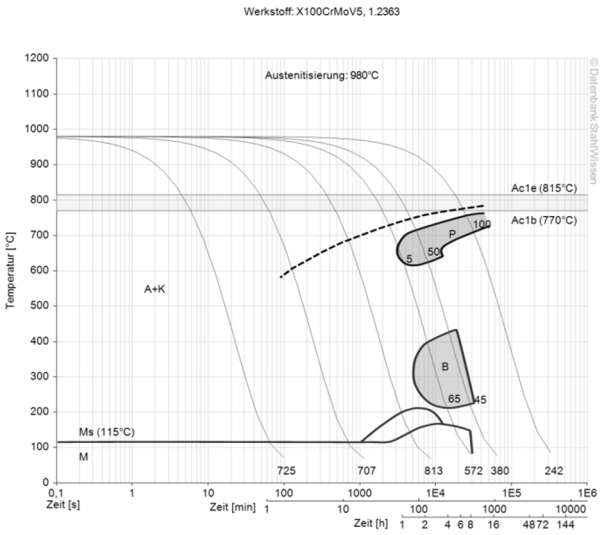
Thermal expansion coefficient diagram



Continuous ZTU-diagram



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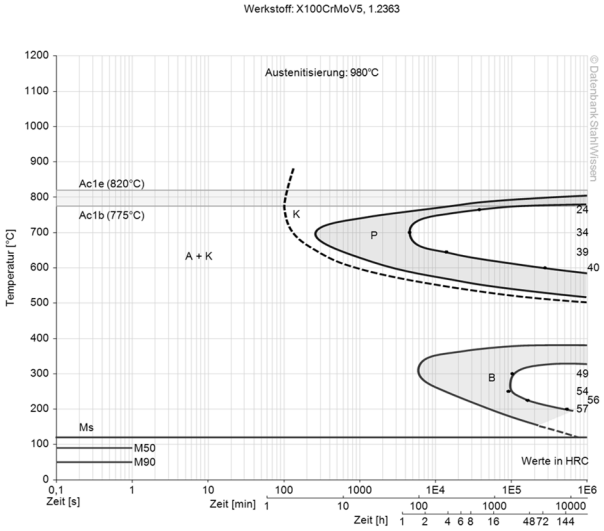
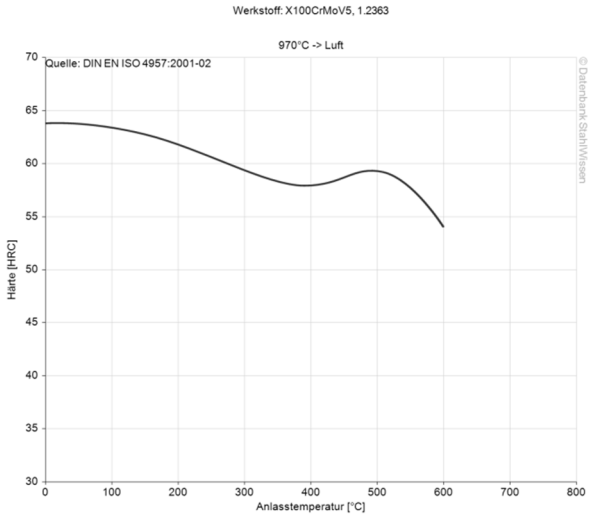
Isothermical ZTU-diagram



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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