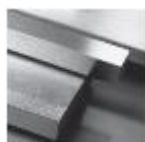


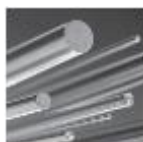
## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2363
Description	X100CrMoV5-1
AISI/SAE	A2; T30102
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.eu/alternatives/A2">www.steel-guide.eu/alternatives/A2</a>

## Specifications



**Precision flat steel with machining allowance [PFS/BA]**  
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 <sup>2</sup>		
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). 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
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
	63 HRC	62 HRC	59 HRC
		400°C	500°C
		57 HRC	52 HRC

## ABRAMS PREMIUM STEEL

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Managing Director: Dipl.-Wi.-Ing. Dr. Juergen Abrams

Amtsgericht Osnabrueck / Germany, HRA 6865  
VAT-No.: DE 221940667  
General Partner: Abrams Engineering Verwaltungs GmbH  
Amtsgericht Osnabrueck / Germany, HRB 20019

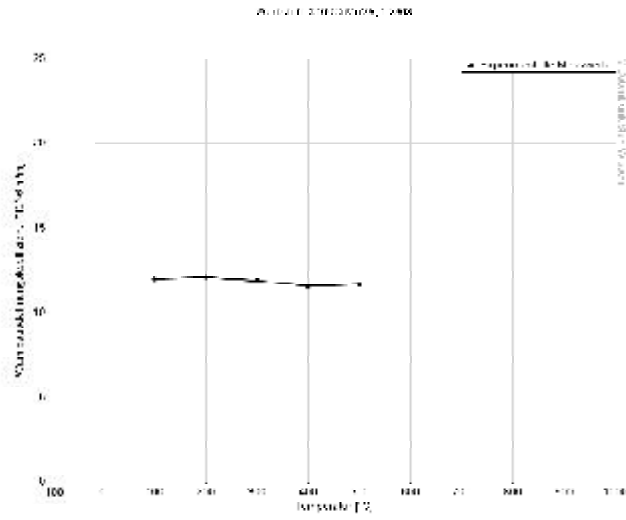
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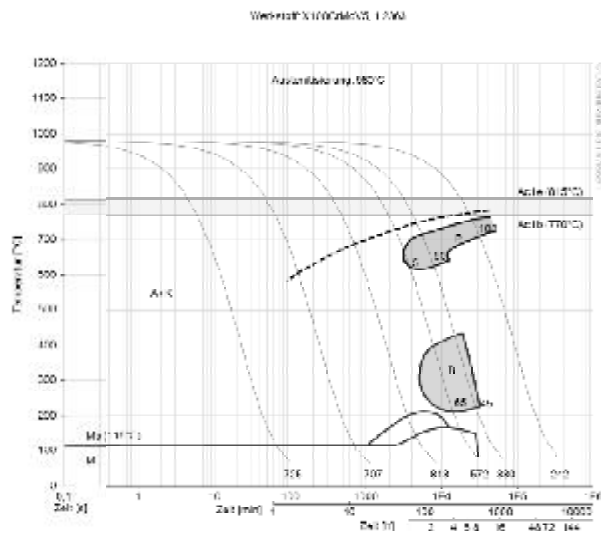
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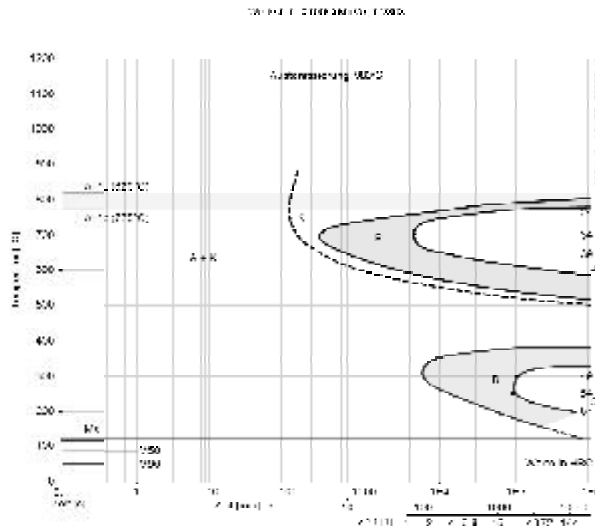
Thermal expansion coefficient diagram



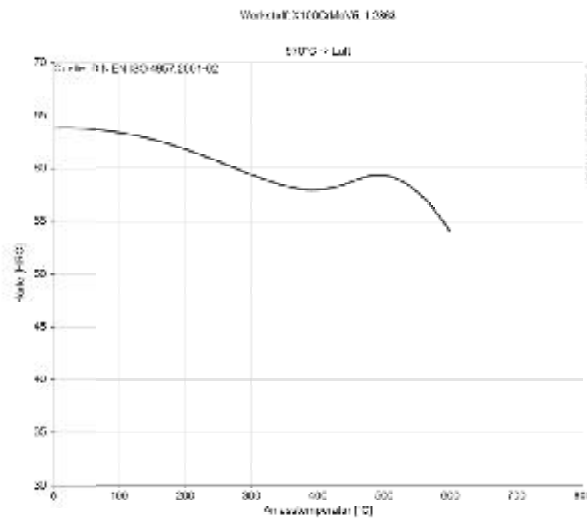
Continuous ZTU-diagram



## 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  
Issued: 2012

