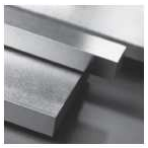
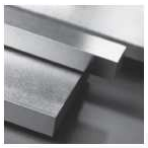
Steel grade

Material No.	PREMIUM A2
AISI	A2; T30102
Search for alternatives in the ABRAMS STEEL GUIDE	**www.abrams-steelguide.com/alternatives/A2**

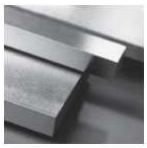
Shapes



Precision Ground Flat Stock regular [GFS reg]
L: 18"
L: 36"



Precision Ground Flat Stock oversize [GFS O/S]
L: 18"
L: 36"



Precision Ground Flat Stock Metric oversize [GFSM O/S]
L: 500 mm
L: 1,000 mm

Drill Rod [DR]
Precision Round Bars
L: 36"

Drill Rod Metric [DRM]
Precision Round Bars Metric
L: 914 mm (36")

Decarb Free Rounds [DCF]
Oversize Round Bars
L: 18"
L: 36"

Chemical composition AISI 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. 118.2 KSI		
Working hardness	max. 62 HRC		
Thermal conductivity W/(m • K)	68°F	662°F	1292°F
	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 D2). Good dimensional stability during heat treatment and easily repairable through welding.

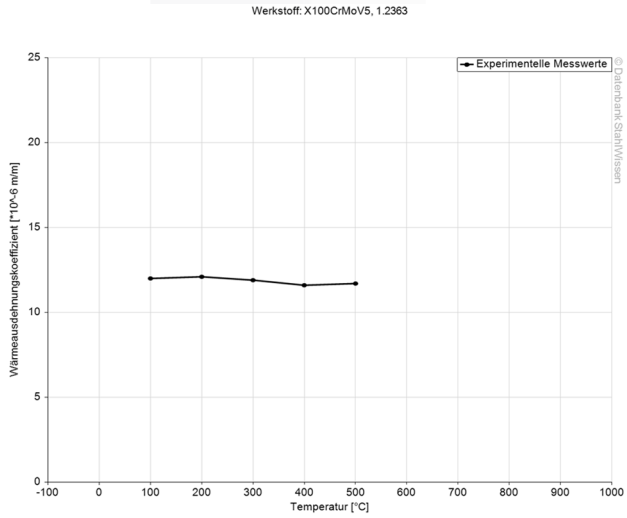
Applications

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 molds.

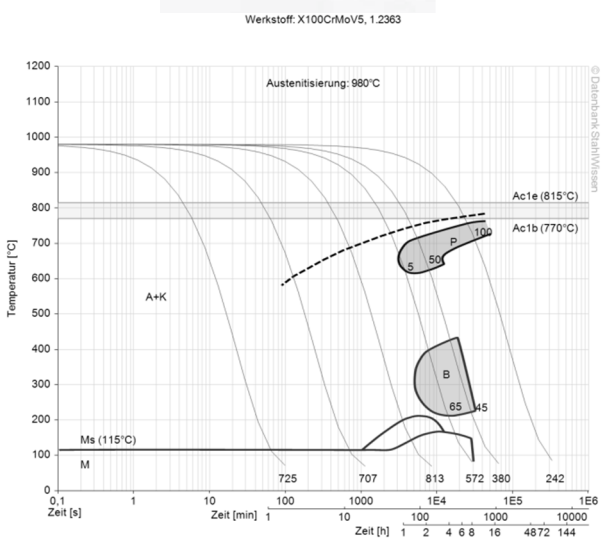
Heat treatment

Soft annealing	**Temperature**		**Cooling**		**Hardness**	
	1472 - 1544°F		Furnace		max. 241 HB	
Stress relief annealing	**Temperature**		**Cooling**			
	approx. 1202°F		Furnace			
Hardening	**Temperature**		**Quenching in**		**Hardness after quenching**	
	1706 - 1778°F		Air, oil, hot basin (932 - 1022°F)		63 HRC	
Tempering	212°F	392°F	572°F	752°F	932°F	1112°F
	63 HRC	62 HRC	59 HRC	57 HRC	59 HRC	52 HRC

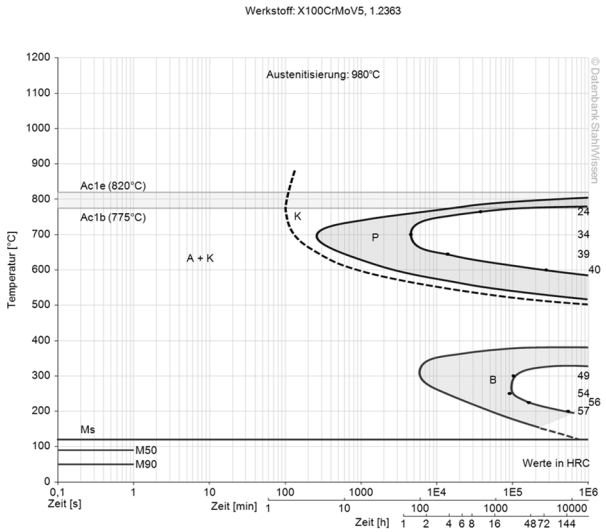
Thermal expansion coefficient diagram



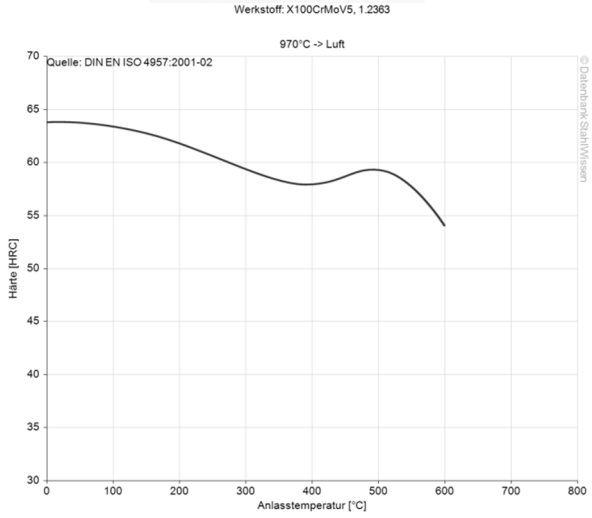
Continuous ZTU-diagram



Isothermical ZTU-diagram



Tempering diagram



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