

Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2361
Description	X91CrMoV18
AISI/SAE	1.2361
Search for alternatives in the ABRAMS STEEL GUIDE®	www.steel-guide.eu/alternatives/1.2361

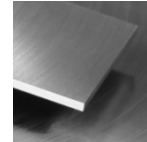
Specifications



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



Eco-Präz® [Eco]
L: 300 mm
L: 500 mm



Hart-Präz® [Hart]
L: 250 mm
L: 500 mm



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



Precision round steel [PRS/BA]
geschält / überdreht
L: 500 mm
L: 1.000 mm

Chemical composition AISI/SAE 1.2361 (reference value %)

C	Si	Mn	P	S	Cr	Mo	Ni	V	Cu
0,86 - 0,96	0 - 1,0	0 - 1,0	0 - 0,045	0 - 0,03	17,0 - 19,0	0,9 - 1,3	0 - 0,3	0,07 - 0,12	0 - 0,3

Physical properties

Hardness (delivery condition)	max. 265 HB, annealed			
Tensile strength R_m (as received condition)	approx. 900 N/mm ²			
Working hardness	max. 58 HRC			
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	10,5	11,0	11,0	12,0
Thermal conductivity $W/(m \cdot K)$	20°C			
	29,0			

Technical properties

Corrosion resistant martensitic chromium steel (approx. 18 % Cr) for cold work. Achieves, through heat treatment, an unusually high degree of hardness and wear resistance. Polishable to a long lasting high gloss and is conditionally acid resistant.

Applications

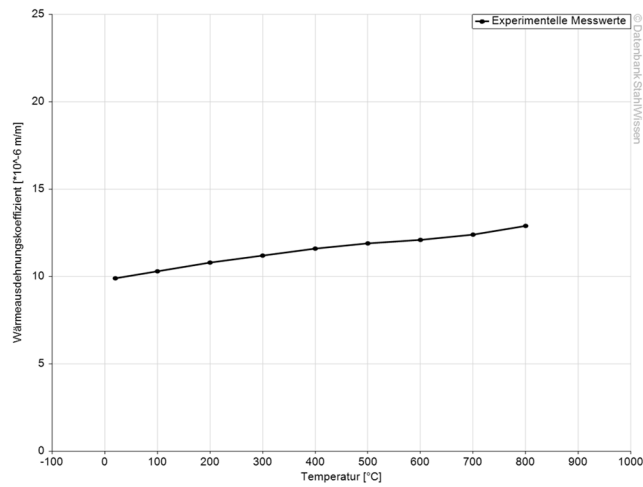
Cutting tools, knives, knife blades, cutlery, guide rails, wear parts, perforated discs, screw elements, pump shafts, scale pans, horizontal cutting, surgical instruments, plastic moulds, injection nozzles, roller bearings, ball bearings, mechanical engineering, food industry, building industry.



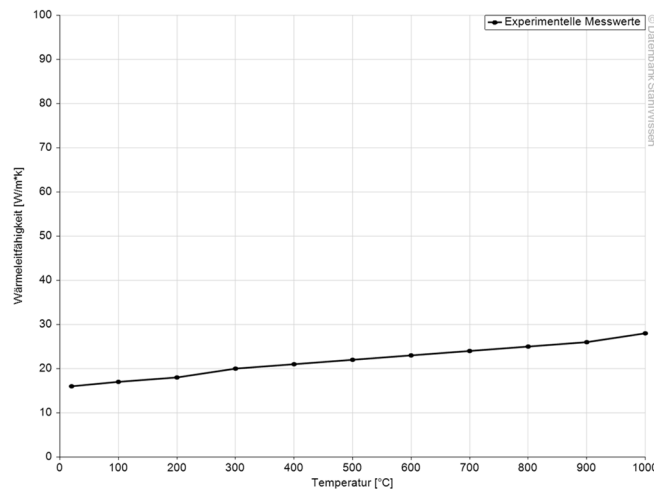
Heat treatment

Soft annealing	Temperature		Cooling		Hardness		
	800 - 850°C		Slowly, e.g. Furnace		max. 265 HB		
Hardening	Temperature		Quenching in		Hardness after quenching		
	1000 - 1050°C		Oil		59 HRC		
Tempering	100°C	200°C	300°C	400°C	500°C	550°C	600°C
	58 HRC	56 HRC	54 HRC	54 HRC	54 HRC	50 HRC	40 HRC

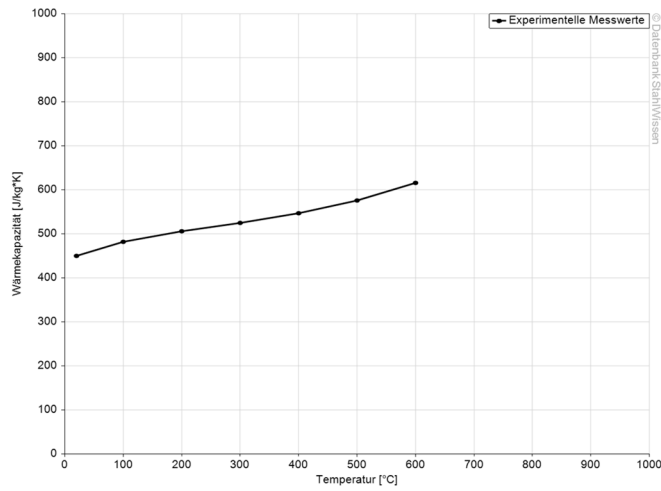
Thermal expansion coefficient diagram



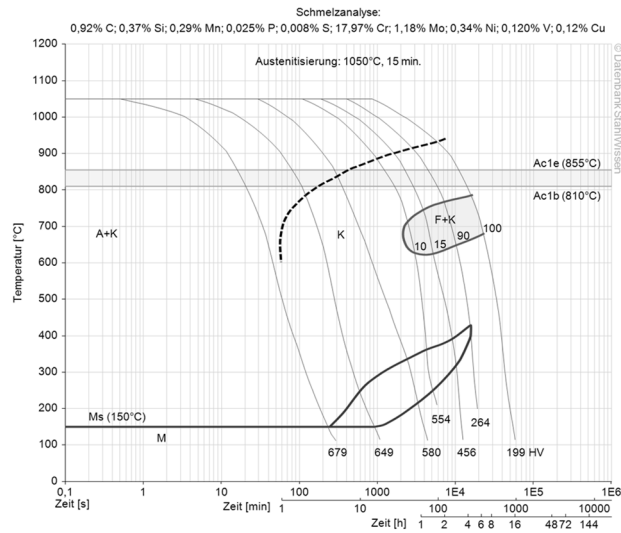
Thermal conductivity diagram



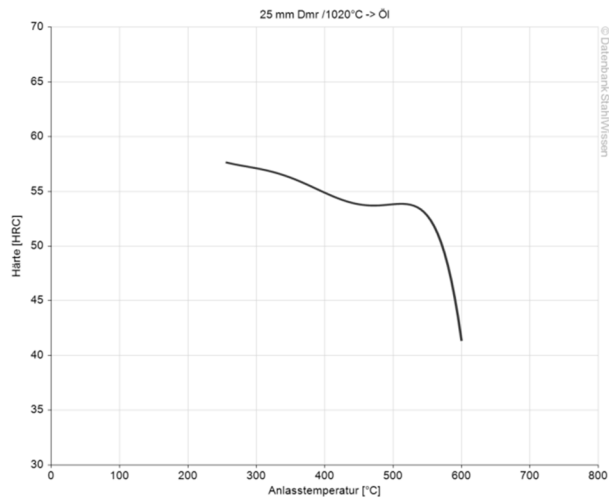
Thermal capacity diagram



Continuous 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

