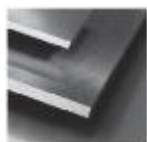


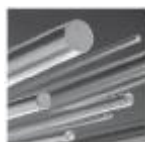
## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2367
Description	X38CrMoV5-3
AISI/SAE	1.2367
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.eu/alternatives/1.2367">www.steel-guide.eu/alternatives/1.2367</a>

## Specifications



€co-Präz® [€co]  
L: 500 mm



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

## Chemical composition AISI/SAE 1.2367 (reference value %)

C	Si	Mn	P	S	Cr	Mo	V
0,35 - 0,4	0,3 - 0,5	0,3 - 0,5	0 - 0,03	0 - 0,02	4,8 - 5,2	2,7 - 3,2	0,4 - 0,6

## Physical properties

Hardness (delivery condition)	max. 229 HB, annealed						
Tensile strength $R_m$ (as received condition)	approx. 770 N/mm <sup>2</sup>						
Working hardness	max. 54 HRC						
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C	20 - 500°C	20 - 600°C	20 - 700°C
	11,9	12,5	12,6	12,8	13,1	13,3	13,5
Thermal conductivity $W/(m \cdot K)$	20°C		350°C		700°C		
	Annealed		30,8		33,5		35,1
	Tempered		29,8		33,9		35,3

## Technical properties

Hot work steel with excellent toughness, excellent heat resistance and excellent tempering resistance. Good hardenability with high warp-resistance. Can be cooled with water.

## Applications

Dies, die inserts, extrusion presses, hot extrusion tools, die casting tools, slides, press mandrels, intermediate sleeves, die holders, profiling dies, profile mandrels, block receivers, hot shear knives, light metal processing, plastic moulds.

## Heat treatment

	Temperature	Cooling	Hardness						
Soft annealing	730 - 780°C	Furnace	max. 229 HB						
Stress relief annealing	Temperature	Cooling							
	600 - 650°C	Furnace							
Hardening	Temperature	Quenching in	Hardness after quenching						
	1020 - 1050°C	Air, oil, hot basin (500 - 550°C)	57 HRC						
Tempering	100°C	200°C	300°C	400°C	500°C	550°C	600°C	650°C	700°C
	57 HRC	55 HRC	53 HRC	52 HRC	55 HRC	55 HRC	52 HRC	45 HRC	36 HRC

## ABRAMS PREMIUM STEEL

is a registered trademark of  
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Amtsgericht Osnabrueck / Germany, HRA 6865  
VAT-No.: DE 221940667  
General Partner: Abrams Engineering Verwaltungs GmbH  
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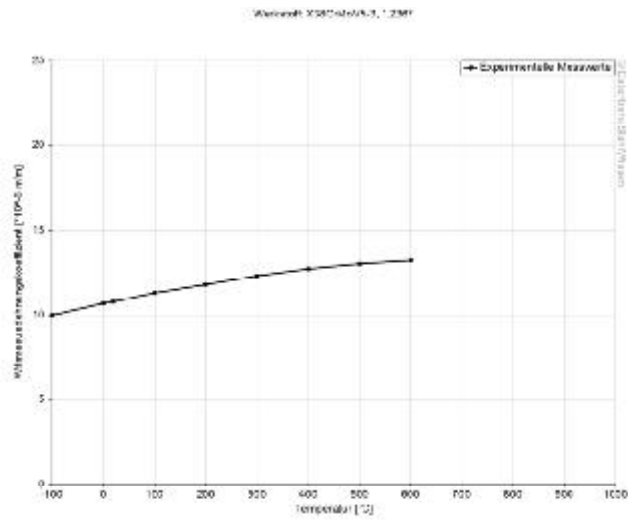
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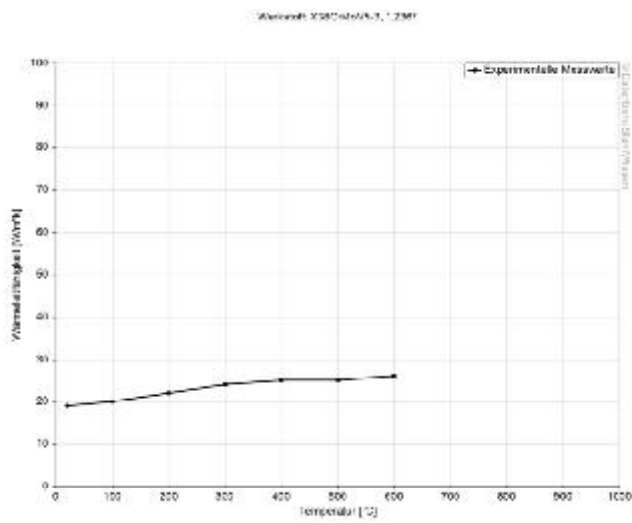
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Thermal expansion coefficient diagram

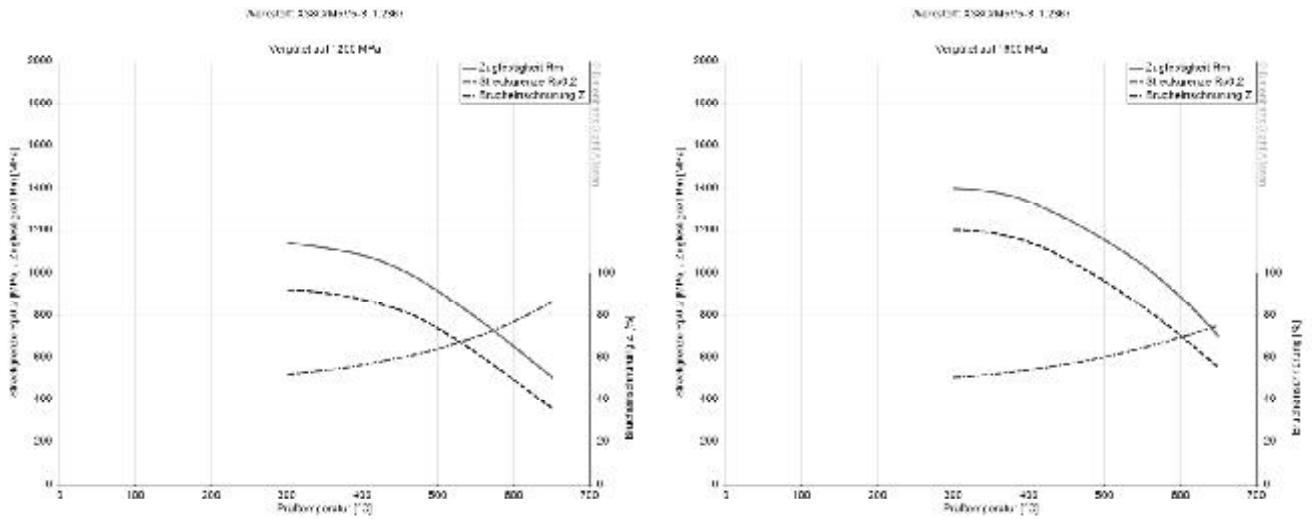


Thermal conductivity diagram

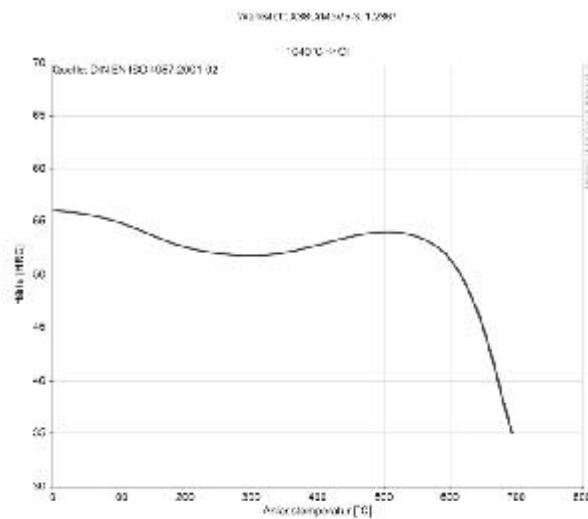




## Hardening and tempering diagrams



## 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

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