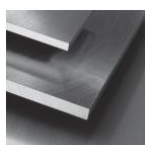


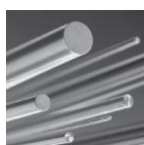
## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.4104
Description	X14CrMoS17
BS	1.4104
AISI/SAE	430F
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.co.uk/alternatives/1.4104">www.steel-guide.co.uk/alternatives/1.4104</a>

## Specifications



€co-Präz° [€co]  
L: 500 mm



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

## Chemical composition AISBS 1.4104 (reference value %)

C	Si	Mn	P	S	Cr	Mo
0,10 - 0,17	0 - 1,0	0 - 1,5	0 - 0,04	0,15 - 0,35	15,5 - 17,5	0,2 - 0,6

## Physical properties

Hardness (delivery condition)	max. 270 HB, tempered			
Tensile strength R <sub>m</sub> (as received condition)	approx. 860 N/mm <sup>2</sup>			
Working hardness	max. 26 HRC			
Thermal expansion coefficient 10 <sup>-6</sup> m/(m • K)	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	10,0	10,5	10,5	10,5
Thermal conductivity W/(m • K)	20°C			
	25,0			

## Technical properties

Martensitic chromium steel with good mechanical properties (tempered condition). The addition of sulphur makes it ideal for machining. It can also be polished very well and is conditionally acid resistant but difficult to weld.

## Applications

Automotive industry, electronic equipment, power engineering, mechanical engineering, connecting elements, architecture and decoration, construction parts for automatic machining in water and steam such as screws, spindles, axes, bushes, etc.

## Heat treatment

Soft annealing	Temperature	Cooling	Hardness
	750 - 850°C	Air	max. 220 HB
Hardening	Temperature	Quenching in	
	950 - 1070°C	Air, oil, compressed gas (N <sub>2</sub> )	

### ABRAMS PREMIUM STEEL

is a registered trademark of  
Abrams Engineering Services GmbH & Co. KG  
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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

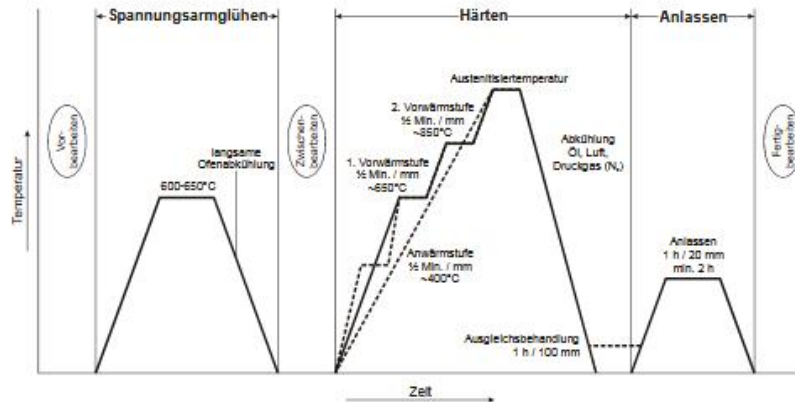
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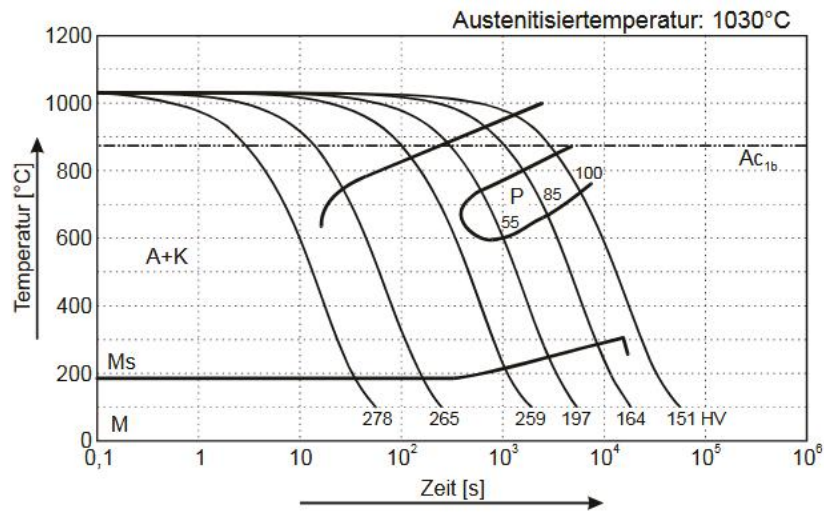
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## Heat treatment scheme



## Continuous ZTU-diagram



## Tempering diagram

