

## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.4305
Description	X8CrNiS18-9
AISI/SAE	303; S30300
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.eu/alternatives/303">www.steel-guide.eu/alternatives/303</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 AISI/SAE 303 (reference value %)

C	Si	Mn	P	S	Cr	Ni	Cu	N
0 - 0,1	0 - 1,0	0 - 2,0	0 - 0,045	0,15 - 0,35	17,0 - 19,0	8,0 - 10,0	0 - 1,0	0 - 0,11

## Physical properties

Hardness (delivery condition)	max. 250 HB, annealed				
Tensile strength $R_m$ (as received condition)	approx. 800 N/mm <sup>2</sup>				
Working hardness	max. 20 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
	16,0	16,5	17,0	17,5	18,0
Thermal conductivity $W/(m \cdot K)$	20°C				
	15,0				

## Technical properties

Corrosion resistant austenitic stainless chrome-nickel-steel with additional sulphur content that allows excellent milling, however, not forgeable, non-weldable (cracking), limited polishing properties. Average mechanical properties, non-magnetisable and conditionally acid resistant.

## Applications

Food industry, photographic industry, paint industry, oil industry, soap industry, paper industry, textile industry, mechanical engineering, turned parts, fittings construction, kitchen equipment, decoration.

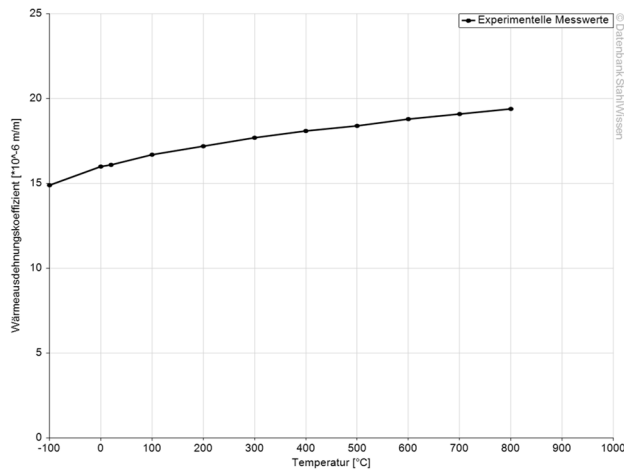
## Heat treatment

Soft annealing	Temperature	Cooling	Hardness
	1000 - 1080°C	Air	max. 250 HB



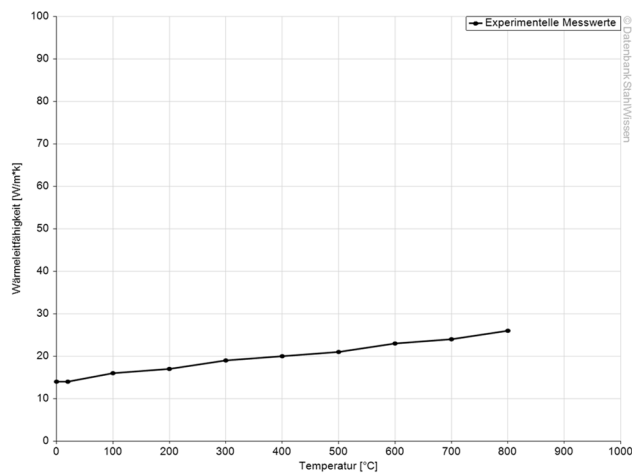
## Thermal expansion coefficient diagram

Werkstoff: X8CrNiS18-9, 1.4305



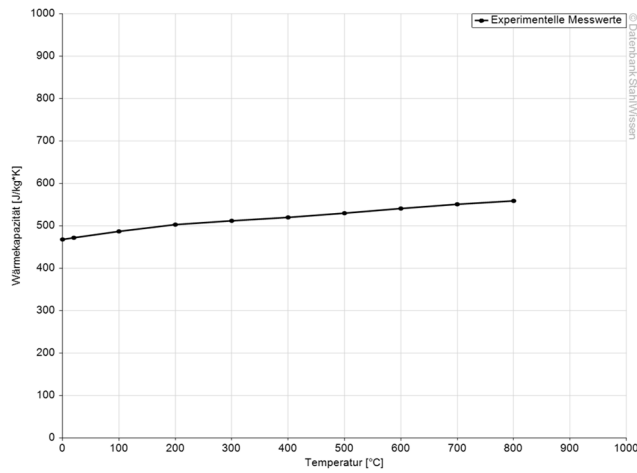
## Thermal conductivity diagram

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## Thermal capacity diagram

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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

