

## Steel grade

Material No.	PREMIUM 314
AISI	314
Search for alternatives in the ABRAMS STEEL GUIDE	<a href="http://www.abrams-steelguide.com/alternatives/314">www.abrams-steelguide.com/alternatives/314</a>

## Shapes



**Smart Flat Stock [Smart]  
Standardized Precision Blanks**  
L: 12"  
L: 24"



**Smart Flat Stock Metric [SmartM]  
Standardized Precision Blanks Metric**  
L: 300 mm  
L: 600 mm

## Chemical composition AISI 314 (reference value %)

C	Si	Mn	P	S	Cr	Ni	N
0 - 0.2	1.5 - 2.5	0 - 2.0	0 - 0.045	0 - 0.015	24.0 - 26.0	19.0 - 22.0	0 - 0.11

## Physical properties

Hardness (delivery condition)	max. 223 HB, annealed					
Tensile strength $R_m$ (as received condition)	approx. 109.5 KSI					
Working hardness	approx. < 20 HRC					
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	68 - 392°F	68 - 752°F	68 - 1112°F	68 - 1472°C	68 - 1976°C	
	15.5	17.0	17.5	18.0	19.0	
Thermal conductivity $W/(m \cdot K)$	68°C	932°C				
	15.0	19.0				

## Technical properties

Heat-resistant, austenitic chromium-nickel steel, that provides good resistance to oxidation at high temperatures. Good resistance properties as well as excellent chemical resistance at high temperatures up to 2012°F. Very good corrosion resistance.

## Applications

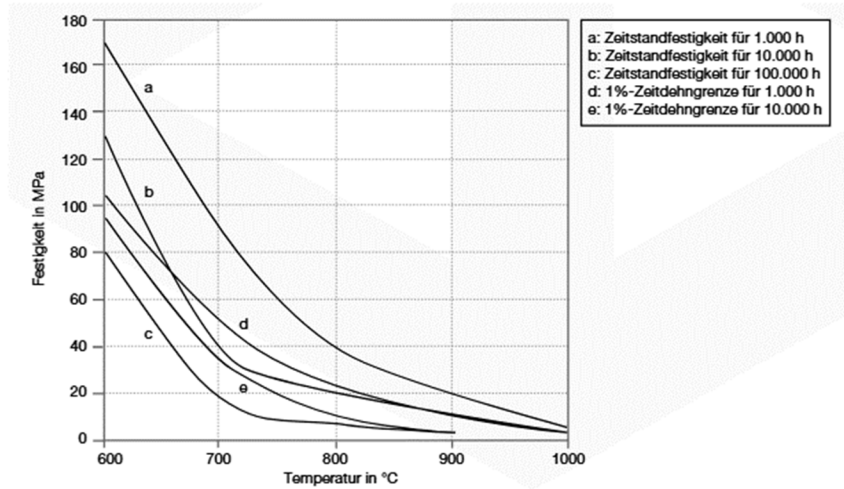
Apparatus engineering for high temperature application, automotive industry, chemical industry, oil industry, chains for the cement and concrete industry, mechanical engineering, furnace construction, annealing muffles, enamel grates, fire baskets, heat conductors.

## Heat treatment

Solution annealing	Temperature	Cooling	Hardness
	1922 - 2102°F	Air, water	max. 223 HB



## Mechanical properties at elevated temperatures in solution annealed condition (+AT)



## Hardening diagram

