

## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.4125
Description	X105CrMo17
AISI/SAE	440C
Search for alternatives in the ABRAMS STEEL GUIDE®	<a href="http://www.steel-guide.eu/alternatives/440C">www.steel-guide.eu/alternatives/440C</a>

## Specifications



€co-Präz® [€co]  
L: 500 mm

## Chemical composition AISI/SAE 440C (reference value %)

C	Si	Mn	P	S	Cr	Mo
0,95 - 1,20	0 - 1,0	0 - 1,0	0 - 0,04	0 - 0,015	16,0 - 18,0	0,4 - 0,8

## Physical properties

Hardness (delivery condition)	max. 285 HB, annealed					
Tensile strength R <sub>m</sub> (as received condition)	ca. 965 N/mm <sup>2</sup>					
Working hardness	max. 60 HRC					
Thermal expansion coefficient 10 <sup>-6</sup> m/(m • K)	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C		
	10,4	10,8	11,2	11,6		
Thermal conductivity W/(m • K)	20°C					
	15,5					

## Technical properties

Stainless, martensitic steel with high hardness and high wear resistance and good cutting power due to the higher carbon content. Compared to the AISI / SAE 440B this steel has a slightly higher hardenability at the expense of the corrosion resistance. The material is conditionally acid resistant.

## Applications

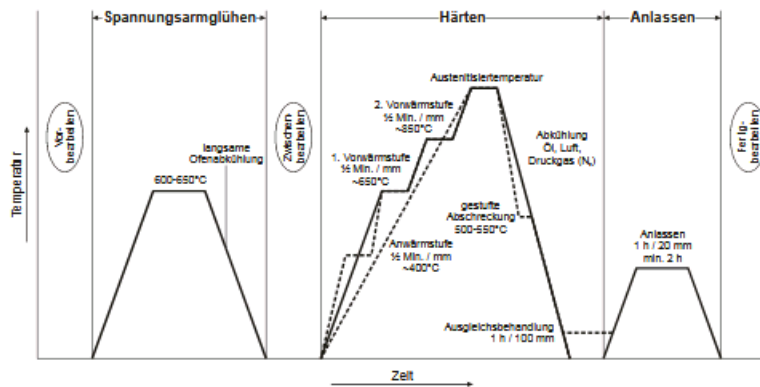
Knives for the food industry, for example frozen food cutters, pork and beef cleaving knives and fish industry knives as well as accessories for meat grinders.

## Heat treatment

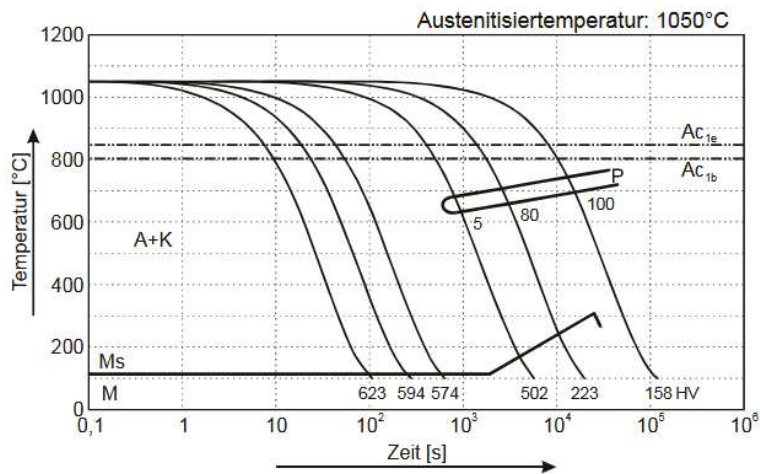
	Temperature	Cooling	Hardness
Soft annealing	780 - 840°C	Furnace	max. 285 HB
Stress relief annealing	Temperature	Cooling	
	600 - 650°C	Furnace	
Tempering	Temperature	Quenching in	
	1000 - 1050°C	Air, oil, hot basin (500 - 550°C)	



## Heat treatment scheme



## Continuous ZTU-diagram



## Tempering diagram

