

Steel grade

Material No.	PREMIUM 440C
AISI	440C
Search for alternatives in the ABRAMS STEEL GUIDE	www.abrams-steelguide.com/alternatives/440C

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



**Cold Finished Rounds [CF]
Precision Round Bars**
L: 18"
L: 36"



**Decarb Free Rounds [DCF]
Oversize Round Bars**
L: 18"
L: 36"

Chemical composition AISI 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_m (as received condition)	ca. 139.9 KSI			
Working hardness	max. 60 HRC			
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	68 - 212°F	68 - 392°F	68 - 572°F	68 - 752°F
	10.4	10.8	11.2	11.6
Thermal conductivity $W/(m \cdot K)$	68°F			
	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 440B this steel has a slightly higher hardenability at the expense of the corrosion resistance. The material is conditionally acid resistant.

Applications

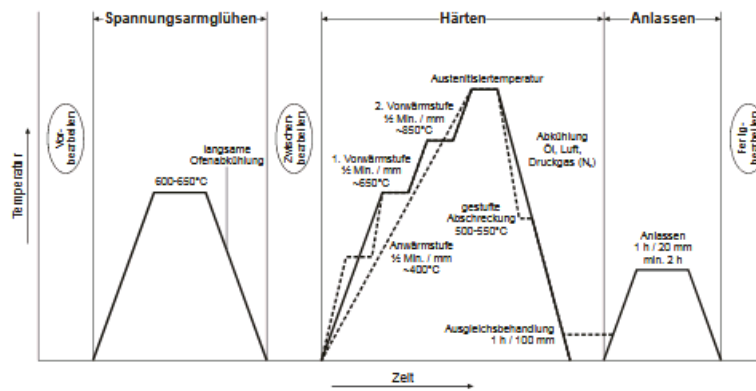
Knives for the food industry, for example frozen food cutters, pork and beef cleaving knives and fish industry knives as well as accessories for meat grinders.



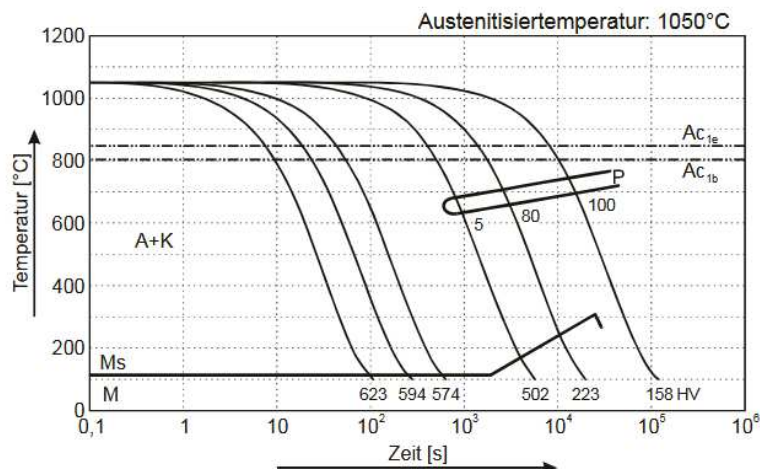
Heat treatment

	Temperature	Cooling	Hardness
Soft annealing	1436 - 1544°F	Furnace	max. 285 HB
Stress relief annealing	1112 - 1202°F	Furnace	
Tempering	1832 - 1922°F	Quenching in	

Heat treatment scheme



Continuous ZTU-diagram



Tempering diagram

