

## Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.8550
Description	34CrAlNi7-10
AISI/SAE	1.8550
Search for alternatives in the ABRAMS STEEL GUIDE <sup>®</sup>	<a href="http://www.steel-guide.eu/alternatives/1.8550">www.steel-guide.eu/alternatives/1.8550</a>

## Specifications



**Round steel [RS]**  
black  
L: 500 mm  
L: 1.000 mm

## Chemical composition AISI/SAE 1.8550 (reference value %)

C	Si	Mn	P	S	Cr	Mo	Ni	Al
0,3 - 0,37	0 - 0,4	0,4 - 0,7	0 - 0,025	0 - 0,03	1,5 - 1,8	0,15 - 0,25	0,85 - 1,15	0,8 - 1,2

## Physical properties

Hardness (delivery condition)	max. 323 HB, tempered			
Tensile strength $R_m$ (as received condition)	approx. 1095 N/mm <sup>2</sup>			
Working hardness	max. 68 HRC (nitriding hardness)			
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	12,1	12,7	13,2	13,7
Thermal conductivity $W/(m \cdot K)$	20°C			
	33,7			

## Technical properties

The AISI / SAE 1.8550 is a CrAlNiMo alloyed nitriding steel (tempered condition), which is used for heavy duty parts in mechanical engineering due to its high wear resistance. Hardenable surface, difficult to weld.

## Applications

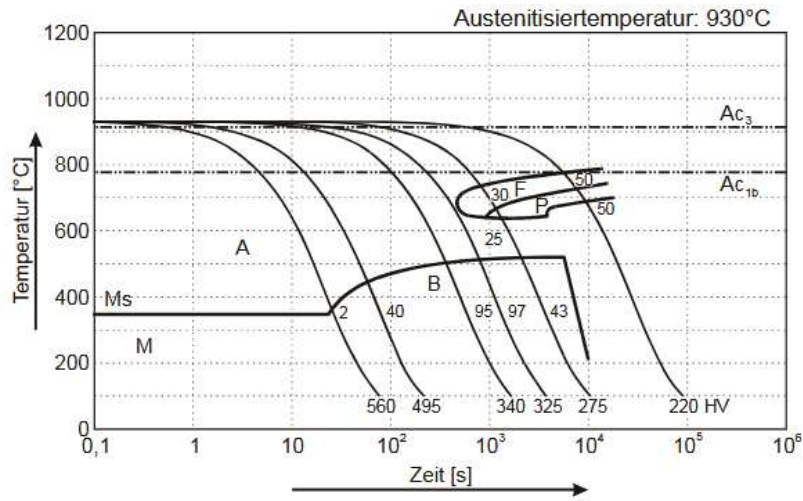
Mechanical engineering, plastic processing, automotive industry, plant engineering, engine and piston construction, drive technology, cam plates, eccentric, pinion shafts.

## Heat treatment

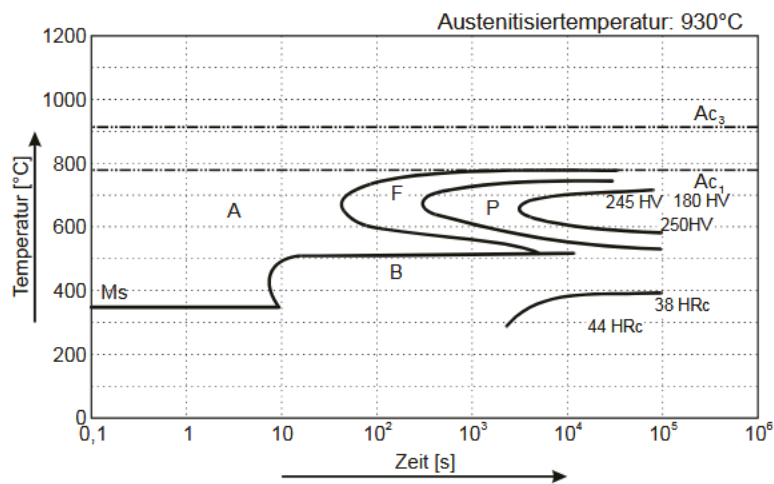
	Temperature	Cooling	Hardness
Soft annealing	650 - 700°C	Furnace	max. 248 HB
Annealing	Temperature	Cooling	
	860 - 900°C	Air	
Hardening	Temperature	Quenching in	
	870 - 930°C	Oil	



## Continuous ZTU-diagram



## Isothermal ZTU-diagram



## Tempering diagram

