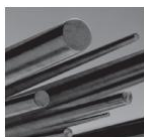


Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.8550
Description	34CrAlNi7-10
AISI/SAE	1.8550
Search for alternatives in the ABRAMS STEEL GUIDE*	www.steel-guide.eu/alternatives/1.8550

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 ²			
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	

ABRAMS PREMIUM STEEL

is a registered trademark of
Abrams Engineering Services GmbH & Co. KG
Hannoversche Str. 38 · 49084 Osnabrueck / Germany
Managing Director: Dipl.-Wi.-Ing. Dr. Juergen Abrams

Amtsgericht Osnabrueck / Germany, HRA 6865
VAT-No.: DE 221940667
General Partner: Abrams Engineering Verwaltungs GmbH
Amtsgericht Osnabrueck / Germany, HRB 20019

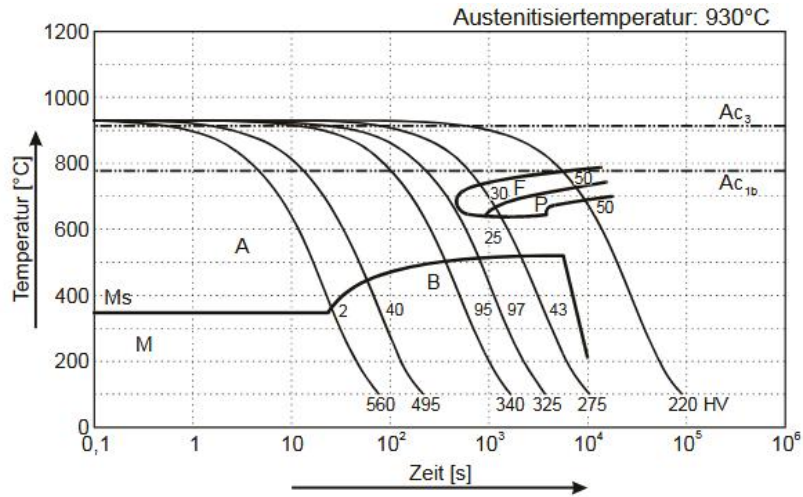
T: +49 (0) 5 41/3 57 39-0
F: +49 (0) 5 41/3 57 39-39

sales@premium-steel.eu
www.premium-steel.eu
www.shop.premium-steel.eu
www.steel-guide.eu

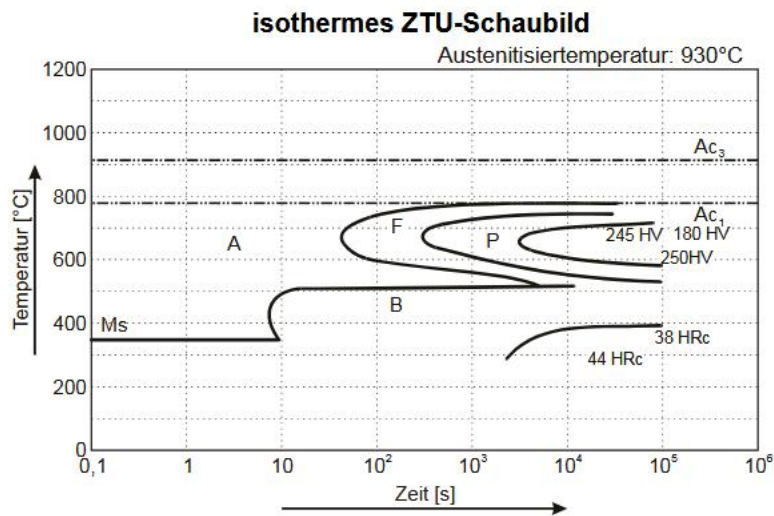
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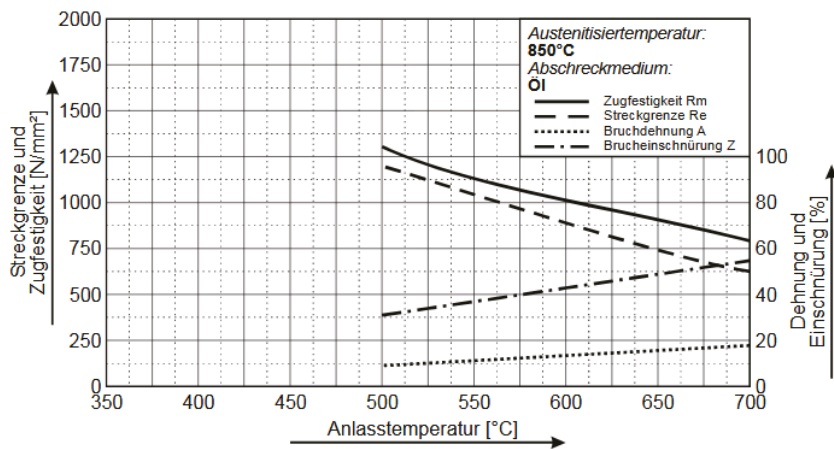
Continuous ZTU-diagram



Isothermal ZTU-diagram



Tempering diagram



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