

Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.6580
Description	30CrNiMo8
AISI/SAE	4340
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Specifications



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

Chemical composition AISI/SAE 4340 (reference value %)

C	Si	Mn	P	S	Cr	Mo	Ni
0,15 - 0,21	0 - 0,4	0,5 - 0,9	0 - 0,025	0 - 0,035	1,5 - 1,8	0,25 - 0,35	1,4 - 1,7

Physical properties

Hardness (delivery condition)	max. 380 HB, tempered			
Tensile strength R_m (as received condition)	approx. 1200 N/mm ²			
Working hardness	max. 41 HRC			
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	11,5	12,5	13,3	13,9
Thermal conductivity $W/(m \cdot K)$	20°C			
	38,0			

Technical properties

CrNiMo alloyed heat-treatable steel (tempered condition) for components with high strength and toughness. It is used for through-hardening components in automotive and mechanical Engineering. The material is usually difficult to weld. Components are usually used in the quenched and tempered state. An optionally achievable surface hardness through nitriding: approx. 60-64 HRC.

Applications

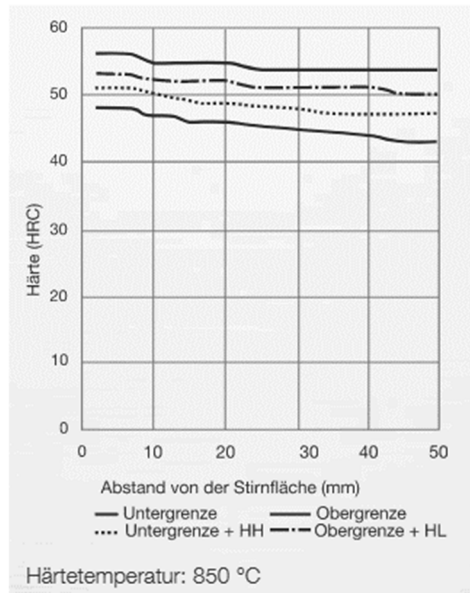
Shafts, gear parts, gears, bevel gears, driving pinion.

Heat treatment

	Temperature	Cooling	Hardness
Normal annealing	850 - 880°C	Air	max. 248 HB
Soft annealing	650 - 700°C	Furnace	
Hardening	Temperature	Quenching in	
	830 - 860°C	Oil, polymer, water, air	



Hardenability scatter band



Hardening and tempering diagram

