

Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.6582
Description	34CrNiMo6
BS	817 M 40
AISI/SAE	4337
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Specifications



Round steel [RS]
black
L: 500 mm
L: 1,000 mm

Chemical composition BS 817 M 40 (reference value %)

C	Si	Mn	P	S	Cr	Mo	Ni
0.3 – 0.38	0 – 0.4	0.5 – 0.8	0 – 0.025	0 – 0.035	1.3 – 1.7	0.15 – 0.3	1.3 – 1.7

Physical properties

Hardness (delivery condition)	max. 352 HB, tempered			
Tensile strength R _m (as received condition)	approx. 1200 N/mm ²			
Working hardness	max. 38 HRC			
Thermal expansion coefficient 10 ⁻⁶ m/(m • K)	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	11.1	12.1	12.9	13.5
Thermal conductivity W/(m • K)	20°C			
	42.6			

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. 58-62HRC.

Applications

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

Heat treatment

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

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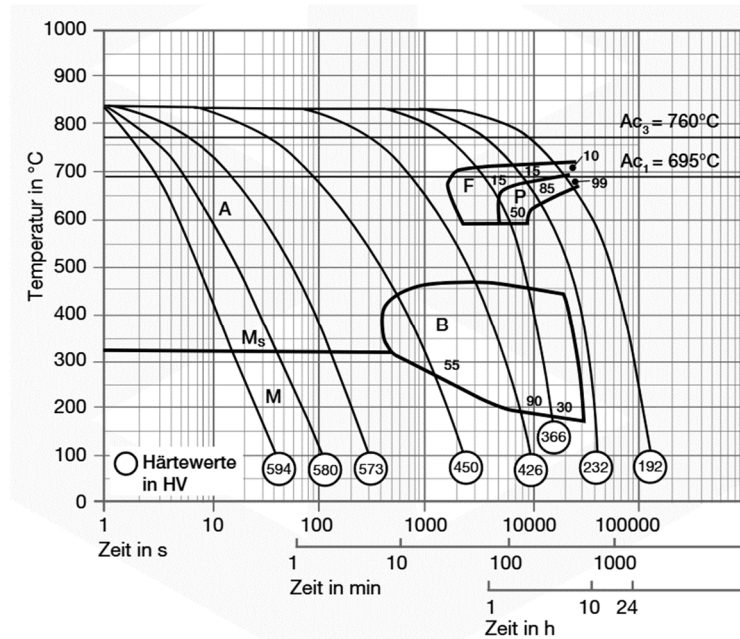
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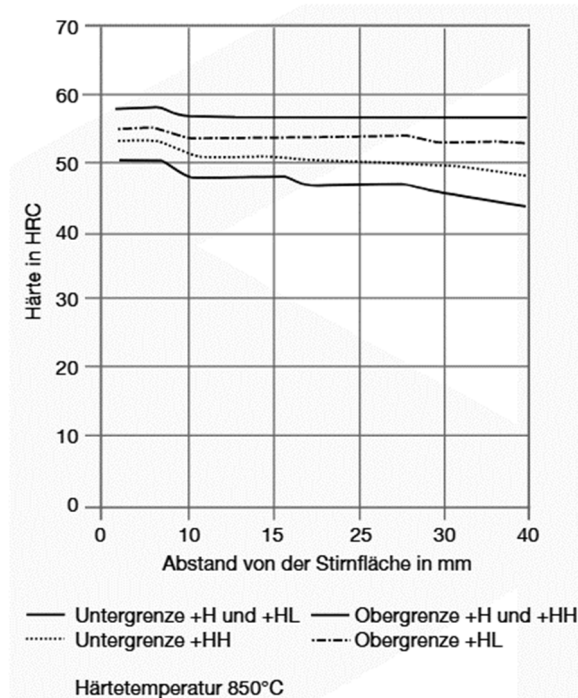
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Continuous ZTU-diagram



Hardenability scatter band



Hardening and tempering diagram

