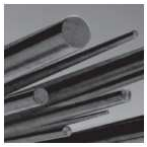
Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.6580
Description	30CrNiMo8
BS	823 M 30
AISI/SAE	4340
Search for alternatives in the ABRAMS STEEL GUIDE®	**www.steel-guide.co.uk/alternatives/823M30**

Specifications



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

Chemical composition BS 823 M 30 (reference value %)

C	Si	Mn	P	S	Cr	Mo	Ni
0.26 – 0.34	0 – 0.4	0.3 – 0.6	0 – 0.025	0 – 0.035	1.8 – 2.2	0.3 – 0.5	1.8 – 2.2

Physical properties

Hardness (delivery condition)	max. 380 HB, tempered			
Tensile strength R_m (as received condition)	approx. 1200 N/mm²			
Working hardness	max. 41 HRC			
Thermal expansion coefficient 10^{-6}m/(m • 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 • 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

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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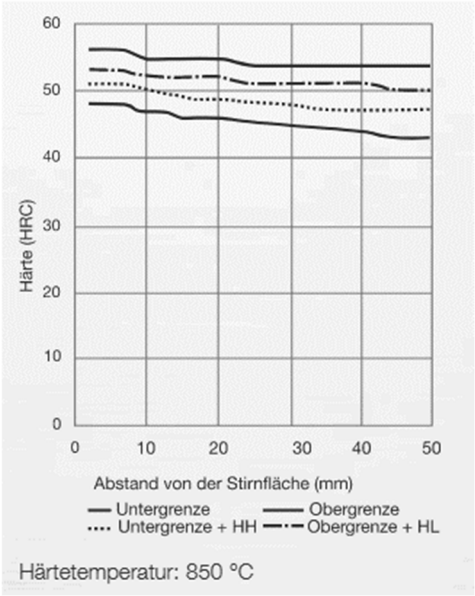
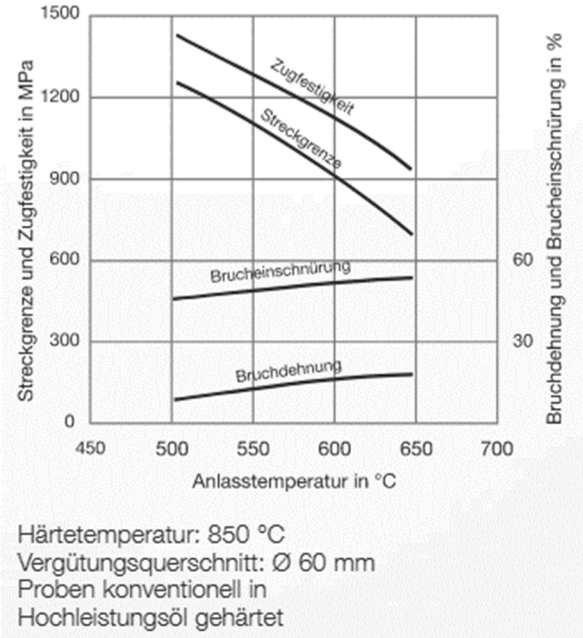
Hardenability scatter band



Hardening and tempering diagram



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