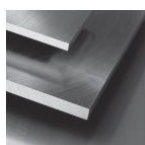


Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.4006
Description	X12Cr13
BS	410 S 21
AISI/SAE	410
Search for alternatives in the ABRAMS STEEL GUIDE®	www.steel-guide.co.uk/alternatives/410S21

Specifications



€co-Präz° [€co]
L: 500 mm

Chemical composition BS 410 S 21 (reference value %)

C	Si	Mn	P	S	Cr	Ni
0,08 - 0,15	0 - 1,0	0 - 1,5	0 - 0,04	0 - 0,03	11,5 - 13,5	0 - 0,75

Physical properties

Hardness (delivery condition)	max. 252 HB, tempered					
Tensile strength R _m (as received condition)	approx. 850 N/mm ²					
Working hardness	max. 31 HRC					
Thermal expansion coefficient 10 ⁻⁶ m/(m • K)	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C		
	10,5	11,0	11,5	12,0		
Thermal conductivity W/(m • K)	20°C					
	30,0					

Technical properties

Corrosion resistant, martensitic steel (tempered condition), which shows good mechanical and good corrosion resistance in moderately aggressive substances. It has a low susceptibility to embrittlement, is polishable to a high gloss and can be used at temperatures up to 400°C.

Applications

Hydraulic engineering, mechanical engineering, pump industry, oil industry, petrochemical industry, decorative uses, kitchen equipment, food industry, environmental technology, energy technology (hydroelectric power).

Heat treatment

	Temperature	Cooling	Hardness
Soft annealing	745 - 825°C	Furnace, air	max. 219 HB
	Temperature	Quenching in	
Hardening	950 - 1000°C	Air, 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

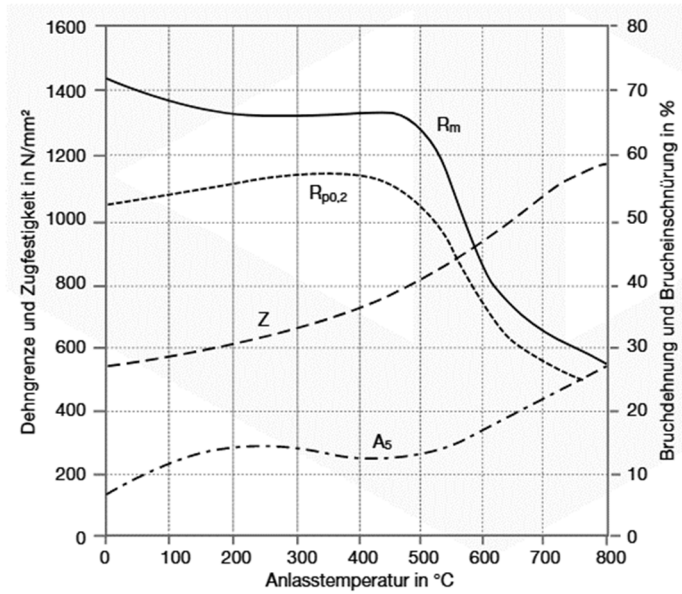
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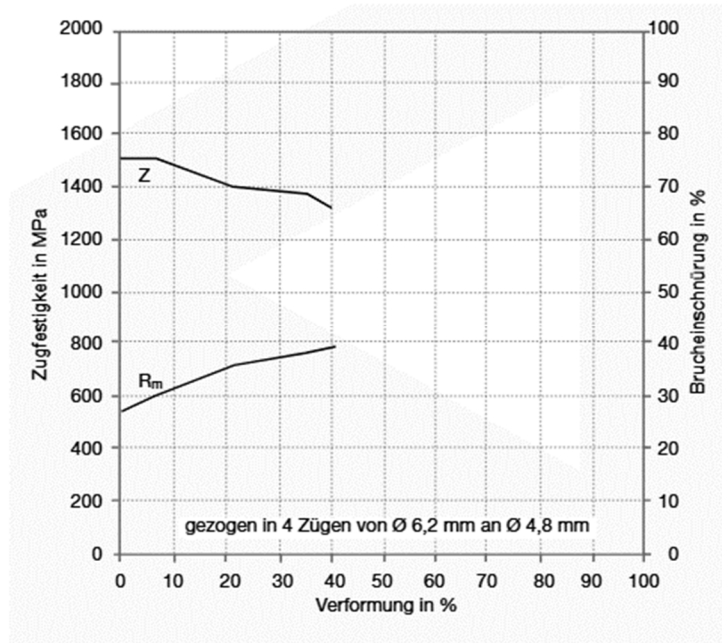
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Tempering diagram



consolidation chart



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