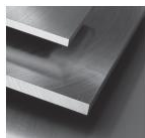


Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.4006
Description	X12Cr13
AISI/SAE	410
Search for alternatives in the ABRAMS STEEL GUIDE®	www.steel-guide.eu/alternatives/410

Specifications



€co-Präz® [€co]
L: 500 mm

Chemical composition AISI/SAE 410 (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 $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	10,5	11,0	11,5	12,0
Thermal conductivity $W/(m \cdot K)$	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

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Abrams Engineering Services GmbH & Co. KG
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Amtsgericht Osnabrueck / Germany, HRA 6865
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General Partner: Abrams Engineering Verwaltungs GmbH
Amtsgericht Osnabrueck / Germany, HRB 20019

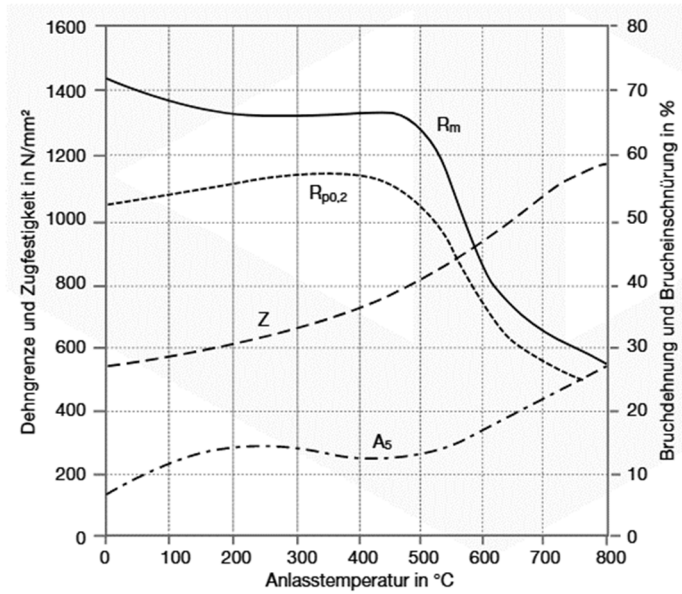
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Tempering diagram



consolidation chart

