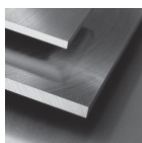


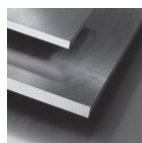
Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.7227+QT
Description	42CrMoS4+QT
AISI/SAE	4140+QT

Specifications



€co-Präz* [€co]
without machining allowance
L: 500 mm



€co-Präz* [€co]
with machining allowance
L: 500 mm

Chemical composition AISI/SAE 4140 (reference value %)

C	Si	Mn	P	S	Cr	Mo
0,38 - 0,45	0 - 0,4	0,6 - 0,9	0 - 0,035	0,02 - 0,04	0,9 - 1,2	0,15 - 0,3

Physical properties

Hardness (delivery condition)	max. 270 HB, tempered			
Tensile strength R _m (as received condition)	max. 900 N/mm ²			
Working hardness	max. 48 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

Versatile heat-treatable steel (tempered condition) with high strength and high toughness, that is often used for demanding applications in automotive engineering. Better machinability due to the addition of sulphur, very low distortion.

Applications

Mechanical engineering, machine components, axes, knuckles, connecting rods, crankshafts, gear shafts, pinions, gears, bandages, base plates, assembling parts.

Heat treatment

Soft annealing	Temperature	Cooling	Hardness
	680 - 720°C	Furnace	max. 217 HB
Hardening	Temperature	Quenching in	
	830 - 880°C	Oil or water	

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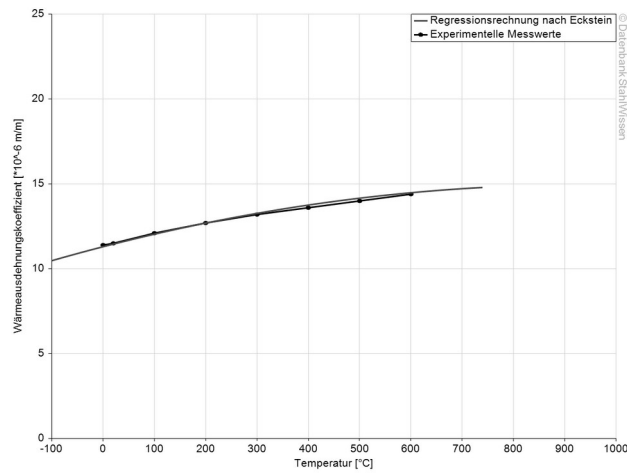
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GP: ABRAMS Industries Verwaltungs GmbH
Country court Osnabrück / Germany, HRB 20019
CEO: Dipl.-Wi.-Ing. Dr. Jürgen Abrams
COO: Ms. Nur H. Nezir, LL.B.

T: +49 541 / 357 39-0
sales@abrams-industries.eu
www.abrams-industries.eu/shop
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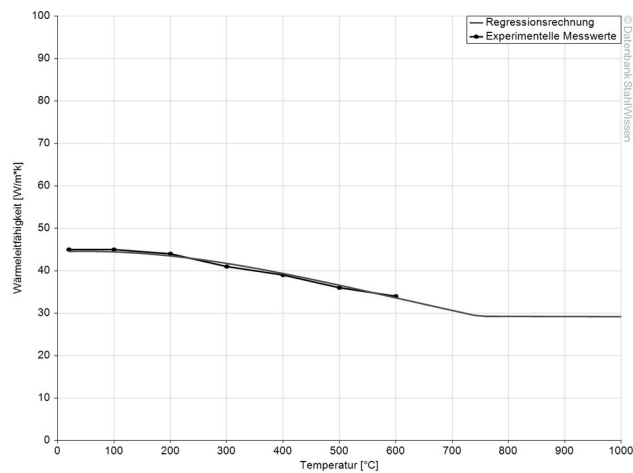
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Thermal expansion coefficient diagram



Thermal conductivity diagram



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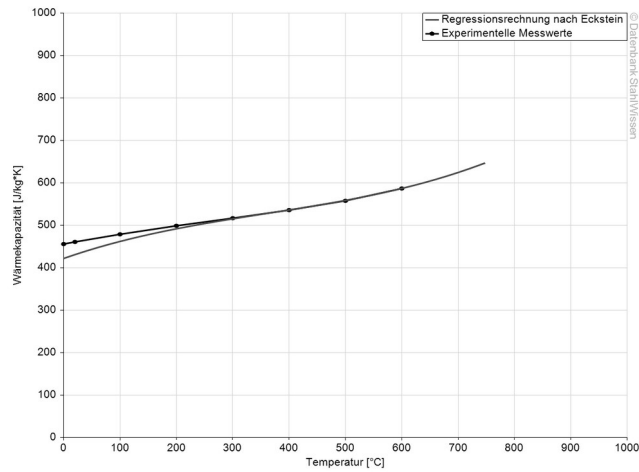
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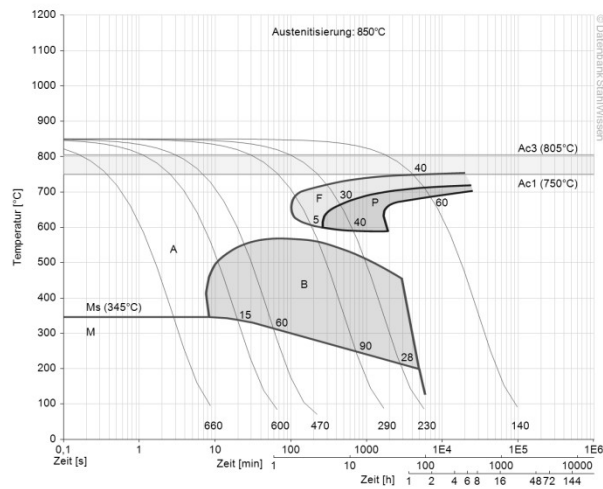
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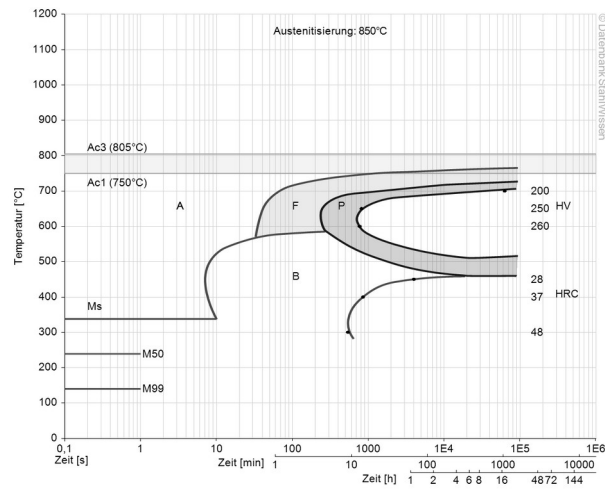
Thermal capacity diagram



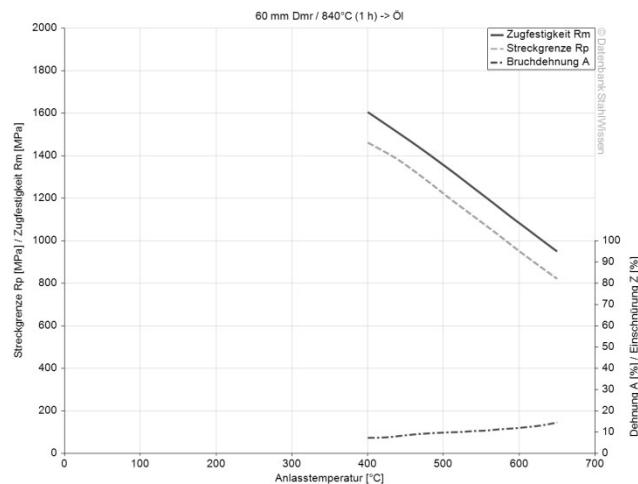
Continuous ZTU-diagram



Isothermal ZTU-diagram



Hardening and tempering diagram



Die hier angegebenen Daten dienen als Anhaltswerte. Eine Haftung ist ausgeschlossen.
Quelle der Grafiken: Datenbank StahlWissen Dr. Sommer Werkstofftechnik
Stand: 2012

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