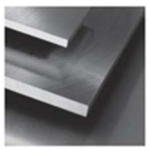
Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.2550
Description	60WCrV8
BS	BS 1
AISI/SAE	S1
Search for alternatives in the ABRAMS STEEL GUIDE®	**www.steel-guide.co.uk/alternatives/BS1**

Specifications



€co-Präz® [€co]
L: 500 mm

Precision round steel
with machining allowance [PRS/BA]
peeled / rough-turned
L: 500 mm
L: 1,000 mm

Chemical composition BS BS 1 (reference value %)

C	Si	Mn	P	S	Cr	V	W
0.55 – 0.65	0.7 – 1.0	0.15 – 0.45	0 – 0.03	0 – 0.03	0.9 – 1.2	0.1 – 0.2	1.7 – 2.2

Physical properties

Hardness (delivery condition)	max. 229 HB, annealed						
Tensile strength R_m (as received condition)	approx. 770 N/mm²						
Working hardness	max. 60 HRC						
Thermal expansion coefficient 10^{-6}m/(m • K)	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C	20 - 500°C	20 - 600°C	20 - 700°C
	11.8	12.7	13.1	13.5	14.0	14.3	14.5
Thermal conductivity W/(m • K)	20°C	350°C	700°C				
	34.2	32.6	30.9				

Technical properties

Steel grade with focus on cold work, with full hardenability, excellent toughness, dimensional stability and impact strength.

Applications

Blanking tools, dies, punches, forming dies, embossing tools, coining tools, tableting punches, plug-in tools, trimming tools, cold shear knives, riveting pins, hand chisels, pneumatic chisels, centre punches, ejectors, woodworking tools.

Heat treatment

Soft annealing	**Temperature**		**Cooling**		**Hardness**	
	710 - 750°C		Furnace		max. 229 HB	
Stress relief annealing	**Temperature**		**Cooling**			
	approx. 650°C		Furnace			
Hardening	**Temperature**		**Quenching in**		**Hardness after quenching**	
	870 - 900°C		Oil, hot basin (180 - 220°C)		60 HRC	
Tempering	100°C	200°C	300°C	400°C	500°C	600°C

Divisions of
ABRAMS Industries GmbH & Co. KG
Hannoversche Str. 38 / 46
49084 Osnabrück
Germany

County court Osnabrück / Germany, HRA 6865
General Partner: ABRAMS Industries Verwaltungs GmbH
County court Osnabrück / Germany, HRB 20019
Managing Director: Dipl.-Wi.-Ing. Dr. Jürgen Abrams
VAT-No.: DE221940667

T: +44 (0) 121 368 0910
sales@abrams-industries.co.uk
www.abrams-industries.co.uk
www.abrams-industries.co.uk/shop

www.premium-steel.co.uk
www.steel-guide.co.uk
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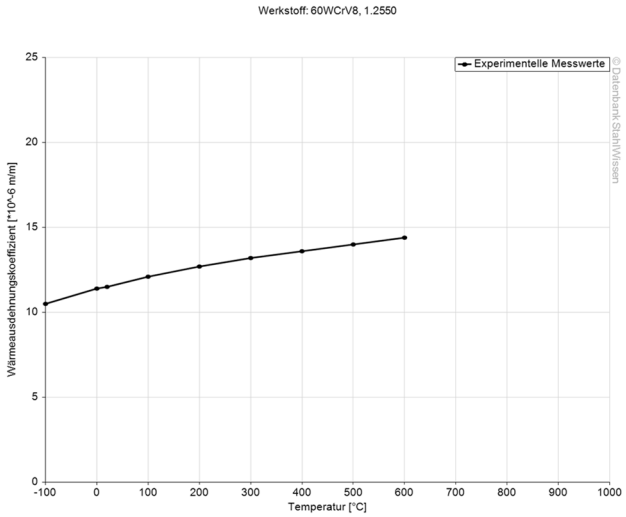
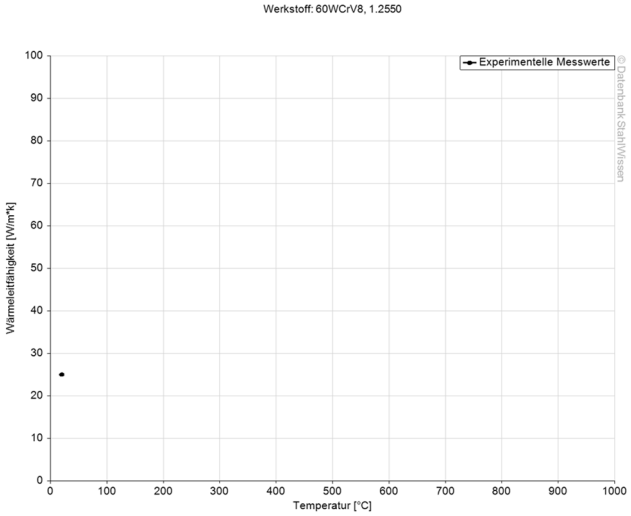
60 HRC	58 HRC	56 HRC	52 HRC	48 HRC	43 HRC

Thermal expansion coefficient diagram



Thermal conductivity diagram



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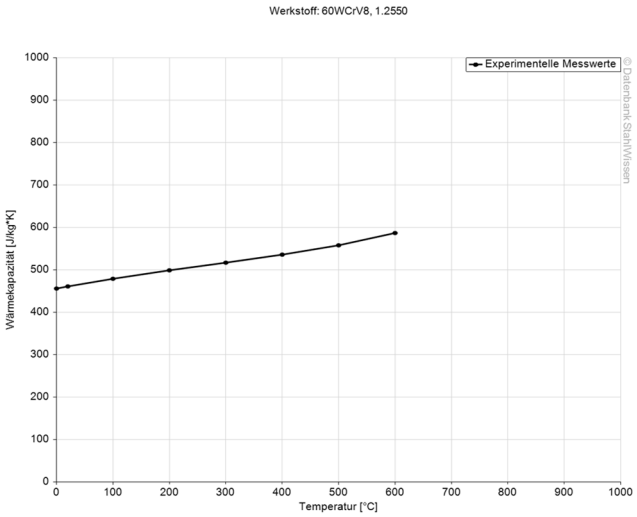
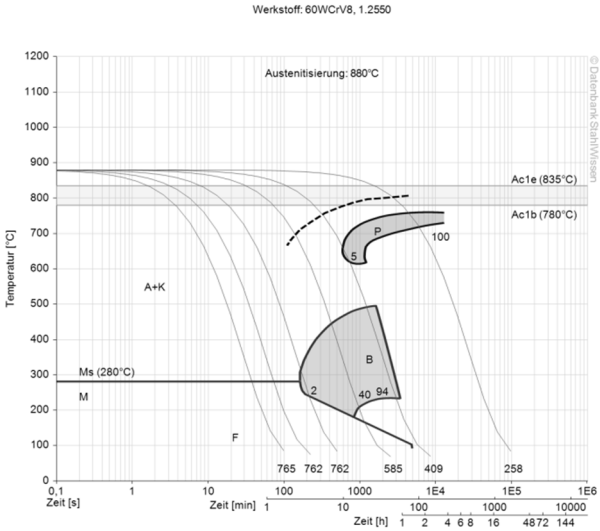
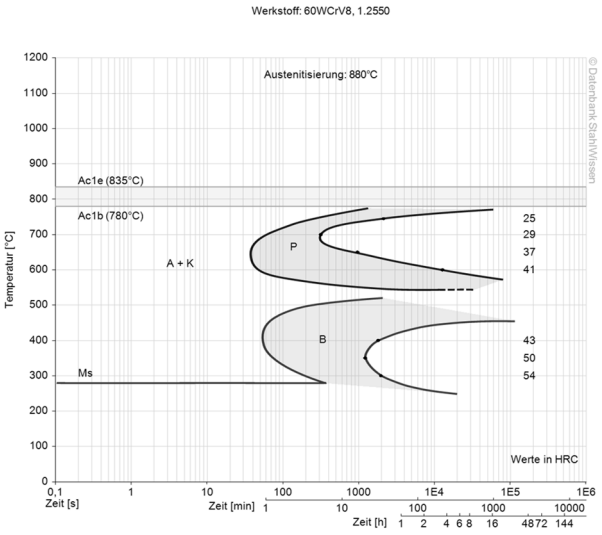
Thermal capacity diagram



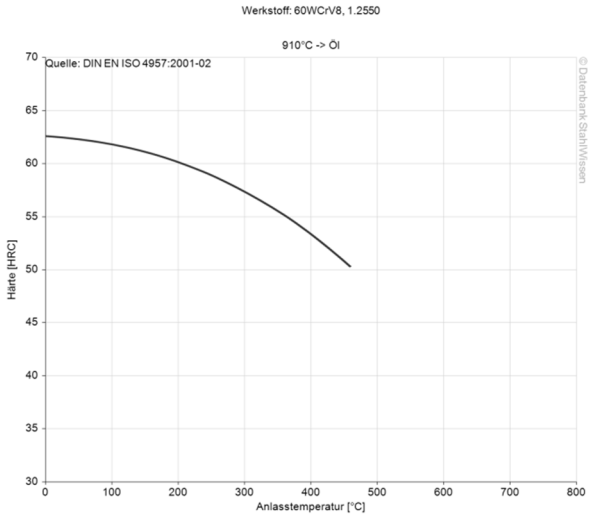
Continuous ZTU-diagram



Isothermical ZTU-diagram



Tempering diagram



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