

Steel grade

Material No. / Werkstoff-Nr.	PREMIUM 1.0570
Description	ST52-3 / ~S355J2+N
AISI/SAE	1.0570; 1024; K03011; K03014; K12037; K12709
Search for alternatives in the ABRAMS STEEL GUIDE®	www.steel-guide.eu/alternatives/1.0570

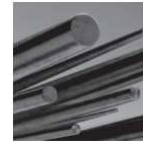
Specifications



Precision flat steel with machining allowance [PFS/BA]
L: 500 mm
L: 1.000 mm



Precision round steel without machining allowance [PRS]
bright drawn / ground, ISO h9
L: 1.000 mm



Round steel [RS]
black
L: 500 mm
L: 1.000 mm

Chemical composition AISI/SAE 1.0570 (reference value %)

C	Si	Mn	P	S
0 - 0,22	0 - 0,55	0 - 1,6	0 - 0,035	0 - 0,035

Physical properties

Hardness (delivery condition)	max. 180 HB, annealed				
Tensile strength R_m (as received condition)	approx. 625 N/mm ²				
Working hardness	< 20 HRC				
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C	20 - 500°C
	11,1	12,1	12,9	13,5	13,9
Thermal conductivity $W/(m \cdot K)$	35 - 45				

Technical properties

Unalloyed structural steel with good machinability and dimensional stability, high toughness and good weldability because of its low carbon content ($C \leq 0,22\%$). This grade is only used for unhardened components.

Applications

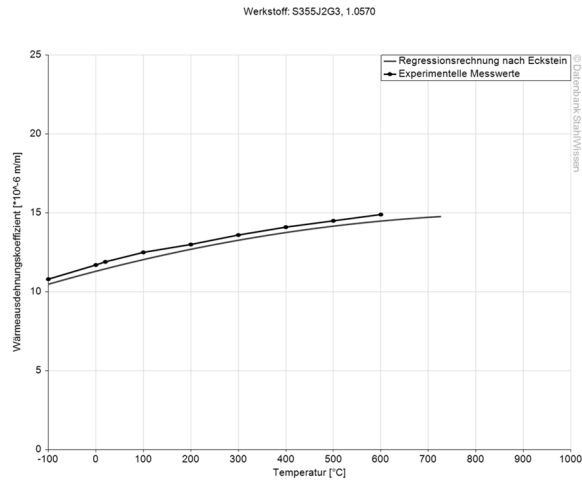
Mechanical engineering, base plates, moulding frames, construction materials, steel frames, hand tools, knives, sledge hammers, spanners.

Heat treatment

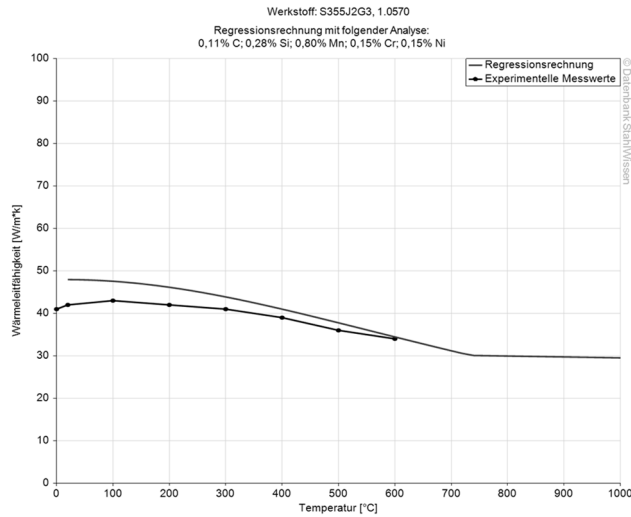
	Temperature	Cooling	Hardness
Soft annealing	650 - 700°C	Furnace	max. 180 HB
	Temperature	Quenching in	
Hardening	860 - 890°C	Oil, water	



Thermal expansion coefficient diagram

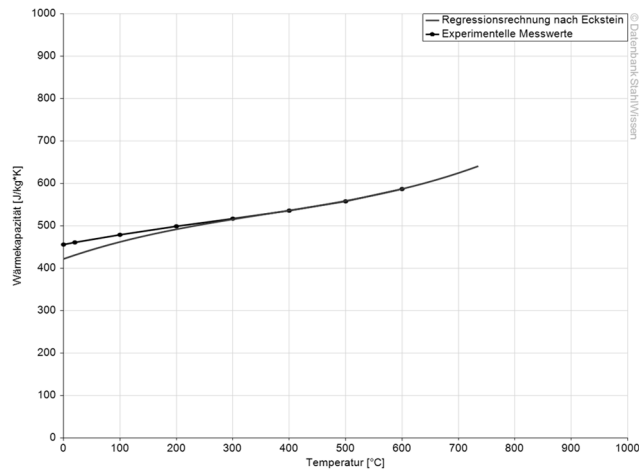


Thermal conductivity diagram



Thermal capacity diagram

Werkstoff: S355J2G3, 1.0570



The data shown here is to be used only as an indication of the statistics, thus we accept no liability.
Diagrams are taken from Datenbank StahlWissen Dr. Sommer Werkstofftechnik
Issued: 2012

