

Steel grade

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

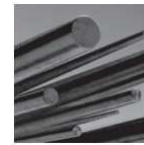
Specifications



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 BS 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

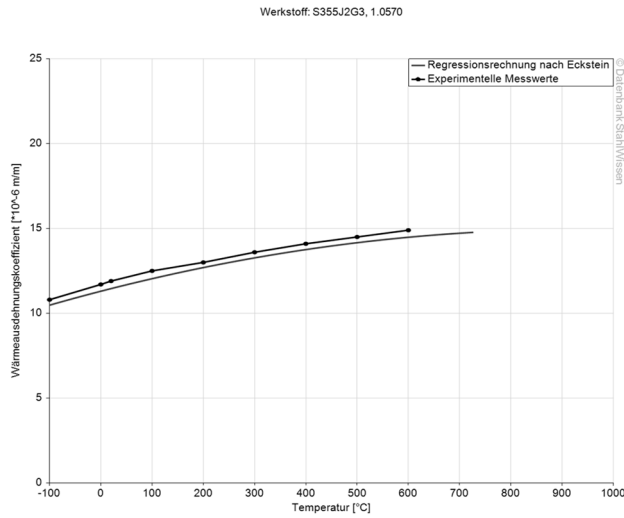
Mechanical engineering, base plates, moulding frames, construction materials, steel frames, hand tools, knives, sledge hammers, spanners.

Heat treatment

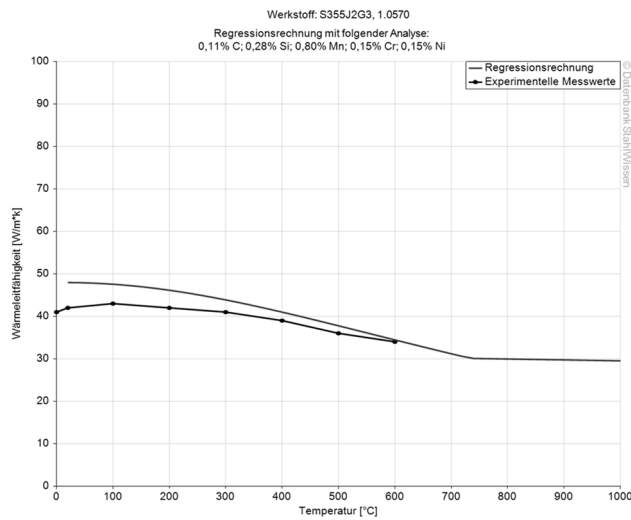
| | | | |
|----------------|-------------|--------------|-------------|
| Soft annealing | Temperature | Cooling | Hardness |
| | 650 - 700°C | Furnace | max. 180 HB |
| Hardening | Temperature | Quenching in | |
| | 860 - 890°C | Oil, water | |



Thermal expansion coefficient diagram

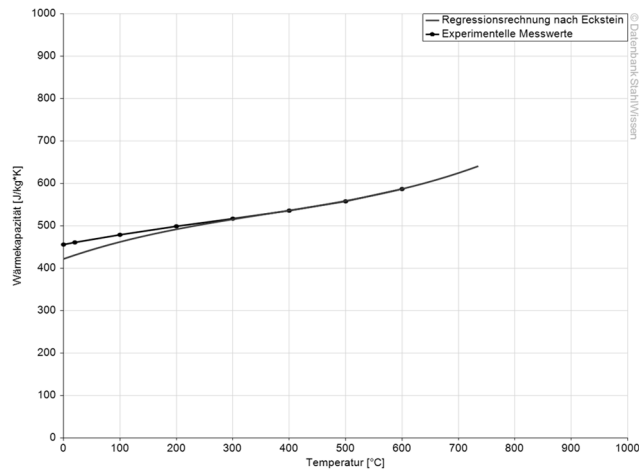


Thermal conductivity diagram



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

