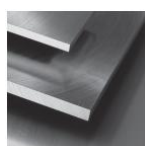


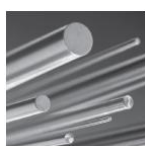
Steel grade

| | |
|--|--|
| Material No. / Werkstoff-Nr. | PREMIUM 1.4305 |
| Description | X8CrNiS18-9 |
| BS | 303 S 31 |
| AISI/SAE | 303; S30300 |
| Search for alternatives in the ABRAMS STEEL GUIDE® | www.steel-guide.co.uk/alternatives/303S31 |

Specifications



€co-Präz* [€co]
L: 500 mm



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

Chemical composition BS 303 S 21 (reference value %)

| C | Si | Mn | P | S | Cr | Ni | Cu | N |
|---------|---------|---------|-----------|-------------|-------------|------------|---------|----------|
| 0 - 0,1 | 0 - 1,0 | 0 - 2,0 | 0 - 0,045 | 0,15 - 0,35 | 17,0 - 19,0 | 8,0 - 10,0 | 0 - 1,0 | 0 - 0,11 |

Physical properties

| | | | | | |
|--|-------------------------------|------------|------------|------------|------------|
| Hardness (delivery condition) | max. 250 HB, annealed | | | | |
| Tensile strength R _m (as received condition) | approx. 800 N/mm ² | | | | |
| Working hardness | max. 20 HRC | | | | |
| Thermal expansion coefficient 10 ⁻⁶ m/(m • K) | 20 - 100°C | 20 - 200°C | 20 - 300°C | 20 - 400°C | 20 - 500°C |
| | 16,0 | 16,5 | 17,0 | 17,5 | 18,0 |
| Thermal conductivity W/(m • K) | 20°C | | | | |
| | 15,0 | | | | |

Technical properties

Corrosion resistant austenitic stainless chrome-nickel-steel with additional sulphur content that allows excellent milling, however, not forgeable, non-weldable (cracking), limited polishing properties. Average mechanical properties, non-magnetisable.

Applications

Food industry, photographic industry, paint industry, oil industry, soap industry, paper industry, textile industry, machine construction, turned parts, fittings construction, kitchen equipment, decoration.

Heat treatment

| Soft annealing | Temperature | Cooling | Hardness |
|----------------|---------------|---------|-------------|
| | 1000 - 1080°C | Air | max. 250 HB |

ABRAMS PREMIUM STEEL

is a registered trademark of
Abrams Engineering Services GmbH & Co. KG
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Managing Director: Dipl.-Wi.-Ing. Dr. Juergen Abrams

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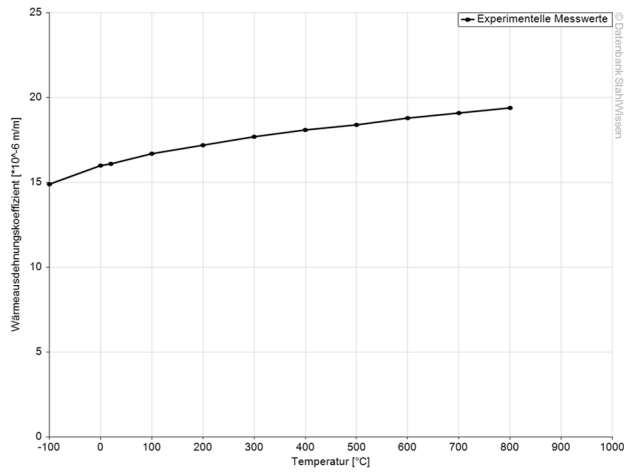
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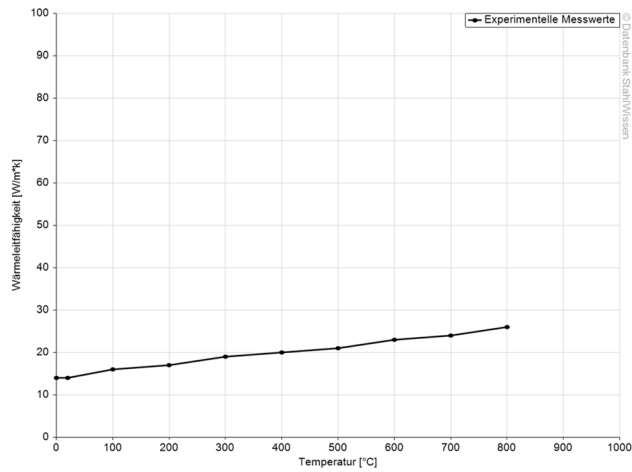
Thermal expansion coefficient diagram

Werkstoff: X8CrNiS18-9, 1.4305



Thermal conductivity diagram

Werkstoff: X8CrNiS18-9, 1.4305



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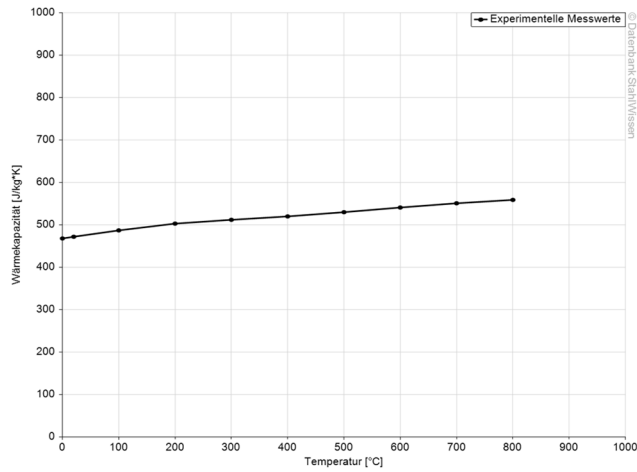
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Thermal capacity diagram

Werkstoff: X8CrNiS18-9, 1.4305



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

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