

TECHNICAL DATA SHEET

Carbon steel type C

General notes:

- » **Carbon style** (material number 1.1231, C67S, AISI 1070)
- » contains from 0,65 - 0,73 wt% carbon
- » magnetizable
- » will be hardened by heat treatment, max. hardness 60 HRC
- » poor resistance to corrosion
- » used where strength and/or hardness are of primary concern
- » typical applications include tweezers and cutting tools for the electronic industry, medical device manufacturers, watch-makers, jewelers applications

Composition

| Component | Wt. % | Component | Wt. % | Component | Wt. % |
|-----------|-------------|-----------|-------------|-----------|-------|
| C | 0.65 - 0.73 | Si | 0.15 - 0.35 | Cr | ≤ 0.4 |
| P | ≤ 0.025 | S | ≤ 0.025 | | |

Mechanical properties

| | |
|----------------------------|------------------------------------|
| Density | 7.7 - 8.03 g/cm³ |
| Hardness, Vickers | 700 HV |
| Tensile strength, ultimate | 533 - 534 MPa |
| 0.2% Yield stress | 358 - 365 MPa |
| Modulus of elasticity | 200 GPa |

Thermal properties

| | | |
|-------------------------------|---------------------|--------------|
| Coef. of lin. therm expansion | 11 E-6/°C | 20°C - 100°C |
| Coef. of lin. therm expansion | 12 E-6/°C | 20°C - 300°C |
| Specific heat capacity | 0.50 J/(g K) | |
| Thermal conductivity | 50 W/(m K) | |

Electrical properties

| | |
|-------------|-------------------------------|
| Resistivity | 0.17 - 0.23 E-4 Ohm.cm |
|-------------|-------------------------------|