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/cm$^3$** |
| 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** |

This document contains information based on average values as obtained from the results of laboratory tests and observations made on the material. Ideal-tek SA declines all responsibility from an improper use of the product described in this document.