

TECHNICAL DATA SHEET

Carbon steel type C

General notes:

- » **Carbon style** (material number 1.1221, Ck60, AISI 1060)
- » contains from 0,57-0,65 wt% carbon
- » magnetizable
- » will be hardened by heat treatment, max. hardness 57 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, watch-makers, jewelers applications

Composition

| Component | Wt. % | Component | Wt. % | Component | Wt. % |
|-----------|-----------|-----------|-----------|-----------|-------|
| C | 0.57-0.65 | Si | 0.15-0.35 | Cr | ≤0.4 |
| P | ≤0.035 | S | ≤0.035 | | |

Mechanical properties

| | |
|----------------------------|-----------------------------|
| Density | 7.9 g/cm³ |
| Hardness, Vickers | 55-57 HRC |
| Tensile strength, ultimate | 850-1000 MPa |
| 0.2% Yield stress | 500 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 | 0.502 J/(g·K) | |
| Thermal conductivity | 52 W/(m·K) | |

Electrical properties

| | |
|-------------|------------------------|
| Resistivity | 0.18 E-4 Ohm.cm |
|-------------|------------------------|

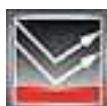
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TECHNICAL DATA SHEET

Industrial coating type NP

General notes:

- » This **pure nickel coating** is generally used to improve the resistance of tools made of carbon steel. The coating is deposited by electroplating technique



Mechanical properties

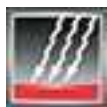
This coating is hard and elastic and has a very good resistance to mechanical stress

| | |
|------------------|---------------------------------|
| Thickness | 20-30 microns |
| Hardness | 200-500 Vickers |
| Tensile Strength | 70-140 kg/mm² |
| Elongation | 25-35% |



Wear and abrasion resistance

Improved resistance to wear and abrasion



Aging

Superior aging and oxidation resistance



Chemical resistance

Superior corrosion resistance to saltwater, alkalies and organic acids

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