

**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. %
<b>C</b>	0.57-0.65	<b>Si</b>	0.15-0.35	<b>Cr</b>	≤0.4
<b>P</b>	≤0.035	<b>S</b>	≤0.035		

## Mechanical properties

Density	<b>7.9 g/cm<sup>3</sup></b>
Hardness, Vickers	<b>55-57 HRC</b>
Tensile strength, ultimate	<b>850-1000 MPa</b>
0.2% Yield stress	<b>500 MPa</b>
Modulus of elasticity	<b>200 GPa</b>

## Thermal properties

Coef. of lin. therm expansion	<b>11 E-6/°C</b>	20°C-100°C
Coef. of lin. therm expansion	<b>12 E-6/°C</b>	20°C-300°C
Specific heat capacity	<b>0.502 J/(g·K)</b>	
Thermal conductivity	<b>52 W/(m·K)</b>	

## Electrical properties

Resistivity	<b>0.18 E-4 Ohm.cm</b>
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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.

**TECHNICAL DATA SHEET**

# Engineering coating type DR

**General notes:**

- » thermoplastic vulcanizate TPV
- » very soft and elastic, good tear resistance
- » outstanding abrasion/wear resistance (improved life-time)
- » good chemical resistance (oils, grease, fuels, acid, detergents and soaps )
- » good hydrolytic resistance (hot water)
- » electrically static dissipative, low surface resistivity ( $10^8$ - $10^9$  Ohm), ESD-safe material!
- » Ideal for repetitive handling tasks in specimen preparation, electronics, instrumentation, laboratories and forensics. Especially useful for handling ESD sensitive components or small static items

## Mechanical properties

Hardness, Shore A	<b>36</b>	
Tensile Strength	<b>20.3 kg/cm<sup>2</sup></b>	ASTM 412C, 23°C
Tear Strength	<b>12.1 kg/cm</b>	ASTM 624C, 23°C
Elongation at break	<b>452.5 %</b>	ASTM 412C, 23°C
Melt Flow Index	<b>42E g/10min</b>	ASTM D1238, 23°C

Melt Flow Index:

**B: 125°C/2.16kg C: 150°C/2.16kg E: 190°C/2.16kg G: 200°C/5kg**

## Thermal properties

Continuous Use Temperature	<b>50° C</b>	96 h
Short Time Temperature	<b>50° C</b>	36 h

## Electrical properties

Surface Resistivity	<b><math>10^8</math>-<math>10^9</math> Ohm</b>	ICE60093
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## Other properties

Density	<b>0.9 g/cm<sup>3</sup></b>	ASTM D792
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