

TECHNICAL DATA SHEET

# Engineering plastic type CF

ESD safe replaceable fiber tip tweezers provide durable tip materials with self-aligning replacement tips and anti-magnetic stainless steel handles for precision handling applications.

**General notes:**

- » **PA66/CF30** polyamide 66 reinforced with 30 wt% carbon fibre
- » ESD safe material
- » Low friction, self lubricating properties
- » Excellent wear and abrasion resistance
- » High mechanical strength and toughness
- » Very high rigidity, excellent tensile and flexural strength (bend strength), fatigue and creep resistance
- » Heat stabilized, 130°C (continuous use) - 190° (short time)
- » Very low coefficient of linear thermal expansion
- » Good chemical resistance (oils, grease, fuels, non polar solvents)
- » Lead-free

Applications include handling of sensitive components and devices (electronic components, micro-mechanical parts, glass and ceramic substrates, etc.) where non-scratching is critical. Popular in standard ESD and general electronics assembly and lab applications.

**NOTE: Not resistant to strong acids, alkalis, hot water or steam.**

## Mechanical properties

Flexural modulus +23°C	<b>17000 MPa</b>	<i>ASTM D 790</i>
Flexural modulus +60°C	<b>12000 MPa</b>	<i>ASTM D 790</i>
Flexural modulus +90°C	<b>9800 MPa</b>	<i>ASTM D 790</i>
Flexural modulus +120°C	<b>8000 MPa</b>	<i>ASTM D 790</i>
Tensile strength +23°C	<b>210 MPa</b>	<i>ISO 527</i>
Tensile strength +60°C	<b>159 MPa</b>	<i>ISO 527</i>
Tensile strength +90°C	<b>134 MPa</b>	<i>ISO 527</i>
Tensile strength +120°C	<b>117 MPa</b>	<i>ISO 527</i>
Rockwell hardness M	<b>&gt;100</b>	<i>ASTM D 785</i>
Izod-Impact strength (notched) +23°C	<b>70 J/m</b>	<i>ASTM D 256</i>
Charpy-Impact strength (unnotched) +23°C	<b>30 kJ/m<sup>2</sup></b>	<i>DIN 53453</i>

## Thermal properties

Temp. of defl. under load (1.80 MPa)	<b>256 °C</b>	<i>ASTM D648</i>
Temp. of defl. under load (0.45 MPa)	<b>260 °C</b>	<i>ASTM D648</i>
Vicat softening temperature (50°C/h 50N)	<b>254 °C</b>	<i>ISO 306</i>
Coef. of lin. therm expansion, normal	<b>2,80 E-5/°C</b>	<i>ASTM D 696</i>
Continuous Use Temperature	<b>130°C</b>	<i>20'000 h</i>
Short Time Temperature	<b>190°C</b>	

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.

## Electrical properties

Surface resistivity	<b>10<sup>2</sup> Ohm</b>	<i>100V</i>
Comparative tracking index	<b>&lt;100 Volts</b>	<i>IEC 112</i>
Decay time	<b>&lt; 0.1 sec</b>	<i>1000-10 V</i>

## Other properties

Density	<b>1.28 g/ccm</b>	<i>ISO 1183</i>
Water absorption in water 23°C (24h)	<b>0.60%</b>	<i>ISO 62</i>

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