

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	17000 MPa	<i>ASTM D 790</i>
Flexural modulus +60°C	12000 MPa	<i>ASTM D 790</i>
Flexural modulus +90°C	9800 MPa	<i>ASTM D 790</i>
Flexural modulus +120°C	8000 MPa	<i>ASTM D 790</i>
Tensile strength +23°C	210 MPa	<i>ISO 527</i>
Tensile strength +60°C	159 MPa	<i>ISO 527</i>
Tensile strength +90°C	134 MPa	<i>ISO 527</i>
Tensile strength +120°C	117 MPa	<i>ISO 527</i>
Rockwell hardness M	>100	<i>ASTM D 785</i>
Izod-Impact strength (notched) +23°C	70 J/m	<i>ASTM D 256</i>
Charpy-Impact strength (unnotched) +23°C	30 kJ/m²	<i>DIN 53453</i>

Thermal properties

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

Electrical properties

Surface resistivity	10^2 Ohm	<i>100V</i>
Comparative tracking index	<100 Volts	<i>IEC 112</i>
Decay time	< 0.1 sec	<i>1000-10 V</i>

Other properties

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