

Material for Micro-Tec CP carbon fibre reinforced PEEK ESD safe plastic probes

The material used for manufacturing the Micro-Tec CP series ESD safe plastic probes is polyetheretherketone (PEEK) reinforced with 30% carbon fibre.

It is used for the following products:

- #52-001060 Micro-Tec CP1 carbon fibre reinforced PEEK probe, fine pointed / strong flat
- #52-001061 Micro-Tec CP2 carbon fibre reinforced PEEK probe, curved pointed / strong flat
- #52-001062 Micro-Tec CP3 carbon fibre reinforced PEEK probe, sharp flat / large flat
- #52-001063 Micro-Tec CPS carbon fibre reinforced PEEK probes, set of all three

General remarks:

- CP series is plastic polyetheretherketone (PEEK) reinforced with 30% carbon fibre
- ESD safe material (avoid powder or dust attraction, avoid spark generation)
- very hard and very high wear resistance
- high tensile and flexural strength
- high heat capacity with a continuous use temperature of 260°C
- good dimensional stability
- low thermal linear expansion coefficient
- excellent resistance to chemicals and aggressive agents
- typical applications include handling of samples and components in cleaning, chemical and assembly processes even at higher temperatures

Properties of carbon fibre reinforced PEEK

Mechanical Properties	
Tensile strength +23°C	190 MPa
Tensile modulus +23°C	24000 MPa
Flexural strength +23°C	350 MPa
Flexural modulus +23°C	21400 Mpa
Hardness Rockwell M	102
Izod-impact strength (notched) +23°C	65 J/m
Thermal Properties	
Coefficient of thermal linear expansion	1.0 x 10 ⁻⁵ /°C (20-100°C)
Temp. of defl. under load (1.8 MPa)	300°C
Continuous use (service) temperature	260°C
Maximum service temperature (short)	300°C
Electrical Properties	
Surface resistivity (1000-10V)	10E5 to 10E6 Ohm
Comparative tracking index	<100 Volts
Decay time	<0.2 sec



Other Properties	
Density	1.39 g/cm ³
Water absorption (24h / +23°C)	0.01%

**TSB 50-001060 Material for Micro-Tec CP carbon fibre reinforced PEEK ESD safe plastic probes 2015-12-11
Revision 1**

