

Krefine[®] Electrostatic Dissipative Special Carbon Material

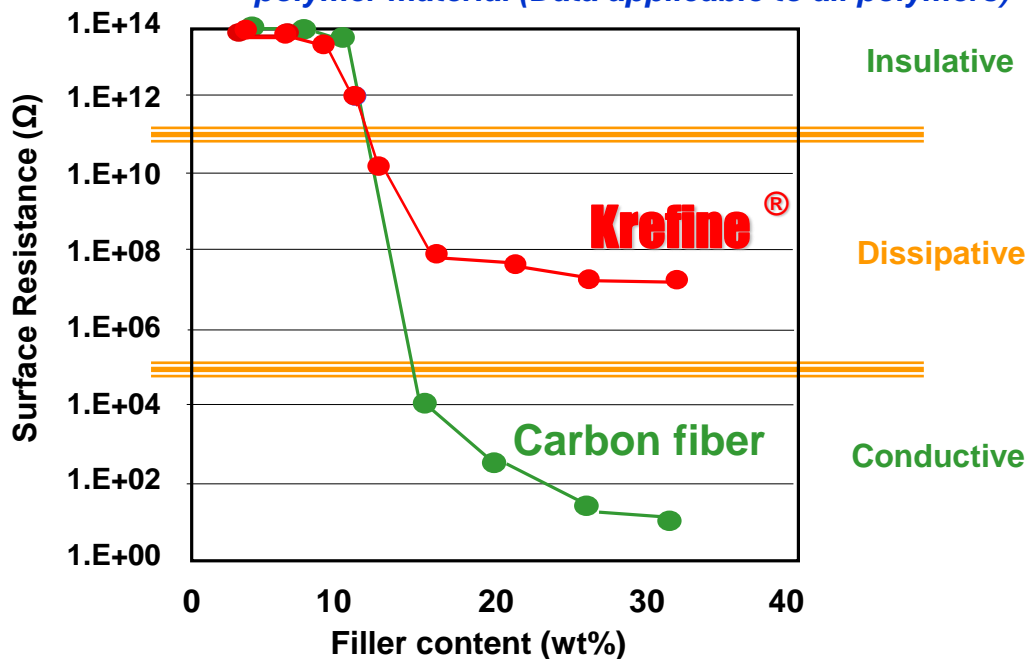
Abstract

- Electrostatic Discharge (ESD) problems have challenged many industries, including electronics, chemicals and automotive, since the 1990's.
- The Plastics Industry has tried to develop reliable ESD control materials for many years. However, due to the limitations of traditional fillers, it has been difficult for manufacturers to control surface resistance in the electrostatic dissipative range.
- A breakthrough by Kureha Extron Co., Ltd. has resulted in the development of a special carbon material that tightly controls surface resistance, and is now offered globally.



Characteristics

Comparison of surface resistance between carbon fiber filled polymer material and special carbon filled Krefine[®] polymer material (Data applicable to all polymers)



Krefine® Special Carbon is able to be dry-blended directly with various polymer materials!!

Properties for Krefine® special carbon

Properties	Method	Units	Krefine® Special Carbon
Bulk specific gravity	Ref)JIS-Z-2504	g/cc	0.53
Volume resistivity*	JIS K7194	$\Omega \cdot \text{cm}$	3E+07
Mean diameter		μm	22

*ref) Volume resistivity of Carbon Fiber is E-4 to E-1 ohm·cm.

Examples of formulation

Property	Method	Unit	PEEK Natural	PEEK/ Carbon Fiber	PEEK/ Special Carbon
Specific gravity	ASTM D792	g/cm ³	1.32	1.37	1.35
Surface resistance	ESD-STD11.11	Ω	>E+13	E+2	E+07
Flexural strength	ASTM D790	MPa	170	300	250
Flexural modulus	ASTM D790	GPa	4.2	12.8	11.9

All technical information regarding Extron's products is based upon reliable tests and practical field experience.
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