ELECTRICAL CONDUCTIVE SOLUTIONS



Tisan

Plastics Engineer

Why Electrical Conductive Compounds?

- With more than 45 years of compound manufacturing experience, Tisan Engineering Plastics develops electrically conductive compounds that provide static electricity control and discharge.
- Safety, productivity and profitability can be provided with electrostatic discharge (ESD) engineering plastics produced by Tisan.
- Tisan Engineering Plastics accompanies you in adding value to your industry by providing reliability and innovation with its products.



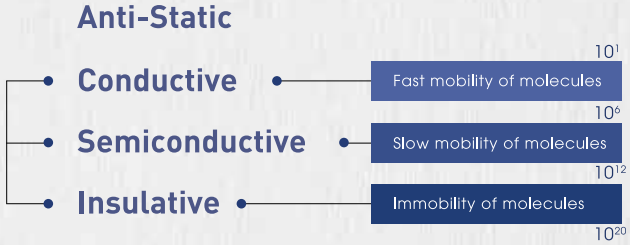
Electrical Conductivity

- Conductivity value of electrically conductive compounds is assigned from the surface conductivity measurement.
- Surface conductivity value is the ratio between voltage and current given to the material.
- The measurement is made by the two electrodes which are placed parallel to each regardless of the size of the material.
- Surface conductivity unit is ohm. International standards are IEC 60093 and ASTM D257.
- Volumetric conductivity is the surface conductivity value per volume unit. Its unit is ohm.cm.



Electrical Conductive Compounds

- Generally, the electrical resistance of plastics depends on chemical composition, fillers, temperature and humidity. Moisture causes a decrease in electrical resistance in polar plastics.
- Plastics are not conductive in their nature. Conductivity values are 1012 ohm and above.
- By using different additives, the conductivity value of plastics can be reduced to 101 ohm and it can be used in areas where conductivity is required.



T-LAB

1 Mechanical tests	**2** Physical properties	**3** Weathering and aging tests
4 Flammability tests	**5** Color arrangement and measurements	**6** Thermal and flow analysis
7 Heat deflection analysis	**8** Electrical and chemical resistance	**9** Dimensional tests

ISO 9001 · ISO OHSAS 18001 · ISO 14001 · REACH · RoHS COMPLIANT · INTERNATIONAL MATERIAL DATA SYSTEM

Our quality is **your guarantee**

Our product reach reliably the customer having passed all the quality tests in our T-LAB laboratory matching international standards.

More than 40 years **experience**

Tisan Engineering Plastics specialized on production of compounds used as raw materials more than 40 years experience. Tisan produces competitive and favorable solutions to customers based on their requirements. Our aim is to provide competitive solutions, qualified products, flexible production, high-speed service with strong technical infrastructure and human quality in both standard and exclusive products for all markets.

www.tisan.com.tr

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Electrical Conductivity Additives

Carbon Powder

- Isotropic Moulding shrinkage
- Strength / rigidity
- Heat stabilizers
- Moderate elongation
- Advantage of cost



Carbon Fiber

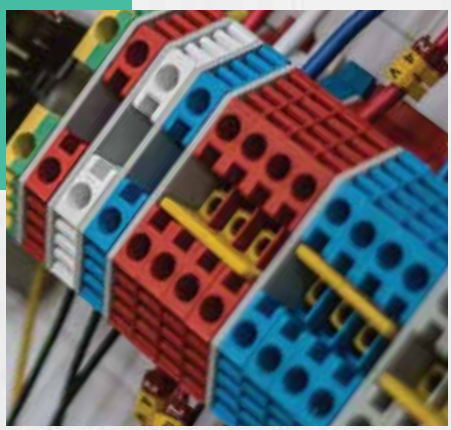
- High Strength / rigidity
- Producability in dark colour
- Low gas output

Carbon Nanotube

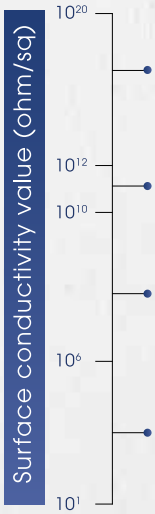
- Nano size
- High value at low usage
- Low density
- High purity and low agglomeration
- High Cost

Other Metal Powders

- Tisan engineers can develop products with a surface conductivity value of 10^{1} to 10^{12} ohm according to the usage area and requirements of the customers. These products are formulated in accordance with the desired polymer for both injection and extrusion process.
- Plastics, which are an insulative in their natural state, are given conductive properties with different technologies and additives.
- The compounds are specially developed and produced as anti-static, static discharge (ESD) or conductive to provide the conductivity value you need in your application area.



Our Electrical Conductive Solutions



- Conductivity values of all plastics are 1012 and above. The conductivity values of all our products for which anti-static properties are not required are within this range.
- Anti-static compounds: Static discharge is at a low speed. Our compounds containing antistatic additives are in this range.
- Electric discharge (ESD) compounds: It provides faster discharge of static electricity compared to other antistatic products. These product are produced with carbon based additives.
- Conductive compounds: They are the materials with the highest static electricity discharge rate. The conductivity values of our products which contains carbon fiber, carbon powder or other conductive additives are in this range.

Product Code		Polymer Type	Conductivity Value	Application
Tisoplen	D UNR K17 R02	PPC	10^3-10^4	ESD Case
Tisren	K UNR K17 R02	PS	10^3-10^4	ESD Sheets
Tisetilen	N UNR K17 R02	PE	10^3-10^4	ESD Bag, Packaging, Yarn
Tisoplen	D UNR K17 R02	PPC	10^6-10^8	ESD Electric-Electronic Case
Tisoplen	C UNR K17 R02	PPH	10^3-10^4	Sack, Packaging, Yarn
Tisetilen	N UNR K17 R02	PE	10^6-10^8	Sack, Packaging, Yarn
Tislamid	A 10D11 K07 R02	PA6	10^3-10^4	Industrial usage
Tislamid	A 30D11 K07 R02	PA6	$\leftarrow 10^3$-10^4	Industrial usage
Tisapet	L 30D11 K07 R02	PBT	$\leftarrow 10^3$-10^4	Industrial usage





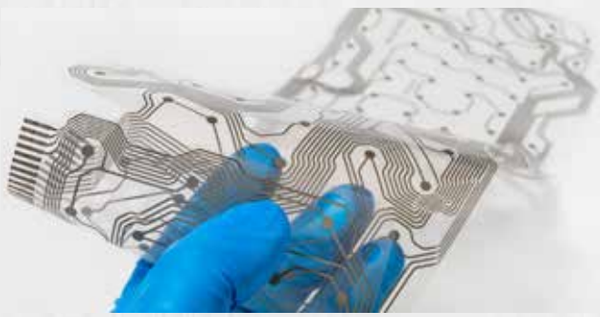












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