



How is Electrical Insulation Measured?

Electrical insulation is measured using several key properties:

- **Comparative Tracking Index (CTI):** Resistance of insulating materials to tracking.
- **Resistivity:**
 - **Volume :** the resistance through a material within specific area.
 - **Surface:** The resistance across the surface of a material within specific dimensions.
- **Dielectric Constant:** Ability to store electrical energy.
- **Dielectric Strength:** The level of voltage where the material allows current to flow or breakdown.
- **Dissipation Factor:** Energy loss in electrical systems.

Standards like ASTM provide test methods for evaluating these properties in coatings and films.

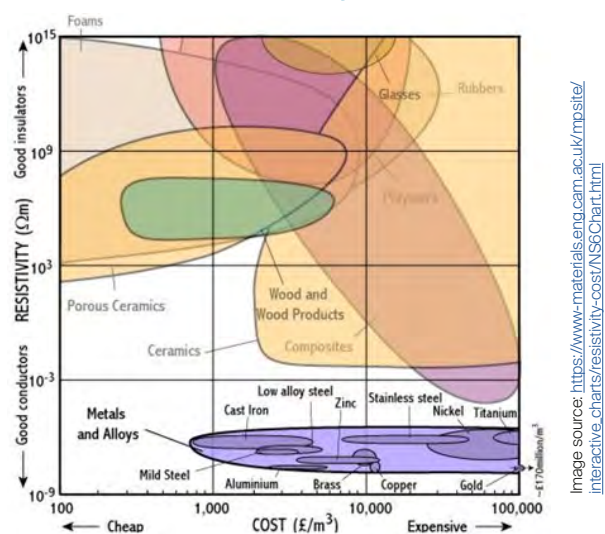
Does PPG Offer Insulating Powder Coatings?

Generally, powder coatings can offer a certain level of electrical insulation when applied at a film thickness sufficient to form a continuous, uninterrupted layer.

What Is a Scale of a Materials Resistivity?

Materials range from highly conductive (metals) to highly resistive (polymers). Polymers, including most powder coatings, are good insulators. Composites vary widely, spanning from insulative to conductive depending on their composition.

What Tests Measure Resistivity?



Why Do Customers Request Insulative Powder Coatings?

Common reasons include:

- **Preventing electrical “short circuits”** in generators, batteries and power equipment.
- **Providing dielectric or encapsulating coatings** in electronic components like capacitors and resistors.
- **Applying conformal coatings** for physical and chemical protection.

Understanding the customer's measurement methods and operating environment is essential for selecting the right product.



Preventing
“short circuits”



Dielectric
coatings



Conformal
coatings

Does PPG Have Insulative Powder Products?

Yes, PPG offers a variety of insulating coatings tailored to customer and market needs. Offerings include systems such as epoxy, which provide excellent insulation, fast curing and low out gassing, which helps to preserve film integrity.

ASTM D257 is a standard method for measuring DC insulation resistance, volume resistance and surface resistance of electrically insulating materials.

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