

TI101 – Electrostatic dissipative IGP coating powder

Explanation of terms

The electrical resistance in the context of this technical information is the "point-to-point resistance" according to the standard DIN EN 61340-2-3 "Test method for determining the resistance and resistivity of solid materials used to avoid electrostatic charge" and is described metrologically in accordance with this standard.

The contact quality between the metallic measuring electrode and the surface to be measured is decisive for a correct measurement. To largely rule out errors, cylindrical electrodes with a weight of 2.5 kg and a glued-on, soft, conductivity rubber are used to ensure the most intensive, full-surface contact possible. In addition, contamination must be removed from the surface to be measured without leaving any residue prior to measurement

The measuring distance of the electrodes, measured from the centre of the electrode, must be 250 mm.

According to the EPA requirements of DIN EN 61340-5-1, a coating is considered conductive if it has an electrical resistance of $<1 \times 10^9 \Omega$. According to comment f from Table 3 of this standard, it is also recommended not to fall below a value of $<1 \times 10^4 \Omega$. Values lower than $10^4 \Omega$ are defined as conductivity, while surface resistances greater than $10^{11} \Omega$ are defined as electrical insulation. As the conductivity between two points on the surface is significantly influenced by the coated substrate, inadequate results can occur on coated Aluminium, which is why coating Aluminium is not recommended for use in ESD applications.

Application

For electrically conductive powder coatings. Protection against electrostatic charges and the resulting flashovers and rapid discharges is particularly important here, but the avoidance of dust attraction is also an important requirement in industry, offices and many other areas, including private homes. Apart from irritation or health problems caused by discharges above one's own body, electrostatic processes in the industrial sector cause major losses due to the destruction of electronic components during production or operation, for example. Electrostatically attracted dust particles can severely impair product quality, and the safety aspect can also be affected by the risk of explosion.

Processing information

Adjusting for conductivity can lead to slight colour impairments. In order to obtain optimum values in terms of electrical resistance, it is essential to maintain Film thicknesses of 60 - 80 μm . Due to the influence of the surface, only comparative measurements can be carried out with textured powder coatings. The necessary Film thicknesses here are between 80 - 100 μm .

Assortment

Electrically conductive powder coatings are labelled with the code "C". This applies to the 11th digit of the IGP article number, example: **6807A70350C00**.
