

**A METHOD AND APPARATUS FOR PROVIDING A SUBSTRATE COATING HAVING
A PREDETERMINED RESISTIVITY, AND USES THEREOF**

ABSTRACT

A method and apparatus for providing a substrate coating having a predetermined resistivity is described. The method comprises the steps of providing a substrate to be coated in a vacuum chamber, creating a plasma in the chamber, and depositing ions of the plasma on the substrate to form a ta-C substrate coating. The coating step is stopped when the ta-C substrate coating has the predetermined resistivity. The predetermined resistivity is 10^5 - 10^{10} Ωcm , and preferably about 10^6 Ωcm . The substrate may be biased during the method to aid in arriving at the predetermined resistivity. The coating may be employed to reduce the risk of, or prevent electrostatic discharge to or from the substrate, or to provide a seed layer to improve adhesion between the substrate a further coating. Also described are coatings having predetermined resistivities.

[Figure 1]