

C L A I M S

- 5 1. Method for depositing a conformal nanocoating on all surfaces and all parts of a three-dimensional structure or assembly composed of electrically conductive and electrically non-conductive elements, characterized in that said coating is deposited by a low pressure plasma polymerisation process preceded by a degassing step of the structure or assembly.
- 10 2. Method according to claim 1 whereby the degassing and the plasma polymerisation process are processed in the same plasma chamber.
3. Method according to claims 1 to 2, whereby the coating has a thickness between 25 and 250nm, preferably of approximately 80 nm.
- 15 4. Method according to claims 1 to 2, whereby the plasma process is performed at pressures ~~between 10 and 1000 mTorr, preferably at 50 mTorr~~ 1.33 Pa and 133.32 Pa, preferably at 6.67 Pa.
- 20 5. Method according to claims 1 to 2, whereby the plasma process is performed at a temperature between 20 to 90°C.
6. Method according to claims 1 to 2, whereby the plasma process is performed at a frequency of 20 kHz to 2.45 GHz, preferably 40 kHz, more preferably 13.56
25 MHz.
7. Method according to any of claims 1 to 6, whereby the RF power is continuously maintained during the plasma polymerisation process.
- 30 8. Method according to any of claims 1 to 6, whereby the RF power is pulsed during the plasma polymerisation process, and the frequency of the pulses is typically between 1 Hz and 100 kHz, with a mark to space ratio typically between 0.05 and 50%.