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# United States Patent [19]

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**Walters et al.**

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[54] **SPIN PROCESS FOR HIGHLY CONFORMAL COATINGS**

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[21] Appl. No.: **670,983**

“Mechanism for the Local Planarization of Microscopically Rough Surfaces by Drying Thin Films of Spin-Coated Polymer/Solvent Solutions”, Journal of Electrochemical Society, vol. 137 (1990) (no date).

[22] Filed: **Jun. 28, 1996**

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### Related U.S. Application Data

[63] Continuation of Ser. No. 359,371, Dec. 20, 1994, abandoned.

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[51] **Int. Cl.**<sup>6</sup> ..... **B05D 3/12**

[57] **ABSTRACT**

[52] **U.S. Cl.** ..... **427/240; 427/162; 427/385.5**

A substrate is rotated at a first speed of less than or equal to 500 rpm per second. A coating composition solution is applied to the substrate at this point. The substrate is then accelerated at a first rate of between 300 and 1200 rpm per second. When the speed of the substrate reaches approximately 3000 rpm per second, a second acceleration is initiated at a second rate of greater than or equal to 3000 rpm. The coating composition is set and the substrate is decelerated. This process provides a more conformal coating of the composition providing better push-pull unwritten variability.

[58] **Field of Search** ..... **427/240, 385.5, 427/162**

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**4 Claims, 5 Drawing Sheets**