Effects of Gelatin on Electroplated Copper Through the Use of a Modified-Hydrodynamic Electroplating Test Cell

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We demonstrated the effects of gelatin in an electroplating bath on the morphology of electrodeposited copper through the use of a modified-hydrodynamic electroplating test cell (M-HETC). The proposed M-HETC is an electroplating test cell that provides a stable and reproducible flow field and controllable mass transfer. In addition, the M-HETC allows exploration of the variations in the surface appearance of electrodeposits over a wide range of current densities in a single electroplating test. Results indicate that this proposed time-efficient tool can be used to study the key factors that influence the surface morphology and properties of electrodeposited copper.

Keywords: electrochemical deposition; copper electroplating; electroplating test cell; gelatin

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