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電気銅めっきにおける添加剤のフィリング能の電析時間依存性

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Plating Time Dependence of Filling Ability with Additives by Copper Electroplating

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Abstract

Copper filling of the vias for the construction of build-up multilayer has been realized to produce the high-density interconnection. Via filling is already achieved by the selection of additives such as Bis(3-sulfopropyl)disulfidedisodium (SPS) as brightner, Janes green B (JGB) as leveller and polyethylene glycole (PEG) as polymer in the copper electroplating bath. However, the filling ability of these additives was decreased with the plating time. Accordingly, the depletion or decomposition of additives was evaluated from the electrochemical analysis and the observation of filling ability. As the result, SPS was the most rapidly deteriorated and followed by the JGB. PEG was the most durable among the evaluated additives.

Key Words: *Copper, Via-Filling, Additives, Electroplating, Filling Ability*