Effect of sulfide ions on accelerating the process of direct copper plating

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ABSTRACT

The effect of sodium sulfide on the rate of direct copper plating using Pd/Sn activator was studied. It was found the applied voltage decreased in a two-tier pattern as plating progressed. This is attributed to different resistance responses from the lateral copper growth over the surface and vertical growth of copper deposit.

Similar phenomena were also found in direct plating systems with pure palladium catalyst protected with organic coating or graphite colloids. They could all be explained in terms of a dual-reaction model previously developed in this laboratory