

## Copper Electroless Deposition on Iridium and Tungsten for diffusion barrier of next generation IC chips

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Iridium has very desirable such as high melting point, hardness, electrical resistance. In view of these properties, we have successfully developed electroless copper plating bath and checked the physical properties of the plated films. Ideal diffusion barriers should have good adhesion to both copper and interlayer dielectrics, in addition to affording a conductive Cu-plating platform. Pd ALD has been successful on diffusion barrier such as Ta, TaN, W, Ir, and tetrasulfide self-assembled monolayer. We suggest Ir is a promising candidate to be used as a new diffusion barrier material for Cu interconnect.