



New Materials and Impact to CMP for Advanced Node Integration Schemes
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As integrated circuit manufacturing technology reaches beyond the limits of Moore's Law scaling, new and creative integration schemes using varied new materials are being implemented throughout IC devices. Driven by the need for enhanced performance and functionality new transistor architectures, memory densities, and ultrafine interconnect dimensions are driving the demand for novel materials and processes. As a result, there are increasing demands for film thickness and selectivity control which require advances in Chemical Mechanical Planarization (CMP) technology in order to meet the demands of integration complexity while meeting cost and yield targets. Topography and selectivity control with various new materials in the FEOL and BEOL, pad/slurry/process technologies for defectivity improvements, and increased focus on cost / performance control and quality / reproducibility are all factors that formulated slurry providers are faced with in order to supply products that enable manufacturability for leading edge device manufacturing technology companies. This presentation will review the advanced technology requirements for slurries and post-CMP cleans as they relate to successful manufacturing of advanced node devices.

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