



TENSOR-APX SERIES

CMP SLURRY MODIFYING ADDITIVES FOR ADVANCED PLANARIZATION PROCESSES

TENSOR-APX Series Products are chemical formulations that are added to CMP slurries to enhance the performance of the slurry for specific metal stacks and/or design layouts. These application specific additives can:

- Modify the selectivity between different films.
- Increase or decrease the removal rate of a particular film.
- Enhance the uniformity of a CMP process
- Protect the interconnect metal from corrosion after CMP
- Protect liner materials from corrosion
- Decrease or eliminate the need for typical oxidizer chemistry
- Enable lower slurry flow rates
- Eliminate abrasive packing and ease maintenance issues.
- Allow for much faster and easier Post-CMP cleaning

Benefits:

- Reduction in dishing of larger W local interconnects
- Elimination of liner corrosion during W CMP
- Elimination of oxide formation Post Al CMP
- Complete removal of Pt from field areas in Pt CMP
- Smoothing of Tantalum barrier metal and elimination of cleaning issue
- Enhanced topographic selectivity for 1st step Cu CMP
- Decreased dishing to < tantalum thickness in “stop on barrier step”
- Eliminating W(x) liner corrosion during advanced Cu CMP
- Reduce slurry consumption in Cu CMP process

Directions and Recommendations:

TENSOR-APX Series Products may be used by themselves or with additional oxidizers. These Slurry Modifying Additives may be specified for use with any commonly used slurry brand or in-house formulation. The TENSOR APX Series Products are even more readily matched to Intersurface Dynamics' TENSOR AP Series CMP Slurries, AP/4, AP/6, AP/7 and AP/8. Starting recommendations begin with IDI's understanding of:

- The brand or type of slurry being used
- The brand or type of polishing pad employed
- The composition of the metal stack to be planarized
- The design layout of the product to be polished
- The performance metrics of the project

All final recommendations are based on results obtained in IDI's Process Simulation Laboratory. By using our production type CMP polishers and test equipment, the customer is assured accurate recommendation regarding the best APX Series and its optimum method of use.

Additional Information:

Intersurface Dynamics manufactures 3 product lines, TENSOR, VECTOR and CHALLENGE Series Products. Visit our web site at www.isurface.com for more information.

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