the product

High Performance Oxide Replacement

AlphaPREP® PC-7030

AlphaPREP® PC-7030 oxide replacement system has been specially formulated for low etch/high capacity operations. The next generation system produces a highly bondable brown conversion coating on copper innerlayers using horizontal equipment by removing only minimal amounts of copper. The process is based on peroxide-sulfuric chemistry.

AlphaPREP technologies have led a revolution in the global PWB fabrication market since 1997 and continue to be the oxide replacement systems by which all others are benchmarked. The AlphaPREP PC-7030 system is the most recent advancement in the world's most widely used oxide replacement technology.

The AlphaPREP PC-7030 organo-metallic conversion coating can be applied in two simple steps using an alkaline conditioner followed by the AlphaPREP PC-7030 treatment. The process can also be preceded by a simple microetch cleaner to effectively handle innerlayers that have been stored, soiled or tarnished.

Process Sequence	Temperature	v/v	Time
Enthone PC-7077 Microetch – Optional	27°C (80°F)	20%	20-60 sec
Cascade Rinses (Ambient)	16-27°C (60-80°F)		
Enthone PC-7096 Alkaline Condition	**43°C (110°F)**	**5-10%**	**20-60 sec**
Cascade DI Rinses (Ambient)	16-27°C (60-80 °F)		
Enthone PC-7030 Pre-Dip – Optional*	29°C (85°F)	100%	20-30 sec
AlphaPREP PC-7030	**32-35°C (90-95°F)**	**100%**	**30-50 sec**
Cascade DI Rinses (Ambient)	16-27°C (60-80 °F)		
Hot Air Dry			

Note: * If Pre-dip is fitted to equipment it can be filled with DI water or run dry to reduce water drag-in to the AlphaPREP® stage.

Features	Benefits
• Increased copper capacity of 50 g/L	• Significant 50-60% reduction in consumption and waste treatment provides both ecological and economical advantages • Less frequent bath changes with increased up-time
• Low copper etch factors of 0.9–1.1µ (35–45 micro-inch µ")	• Reduced copper loss from fine lines/thin copper; improved performance on controlled impedance • 35-40% less copper digested reduces consumption and increases profitability
• Improved surface topography	• Increased peel strengths on high Tg Dielectrics • Improved yields and reliability
• Improved organic bath stability	• Uniform texturing irrespective of bath age provides consistently high peel strengths and T260 values • Sludge-free process with reduced cleaning increases up-time
• Simple replenishment and control	• Minimal laboratory analysis • Reduced chemical handling • Can be controlled and auto-dosed by panel or area counter
• Short, very fast process sequence	• Reduced cycle time increases output and yields • Smaller equipment reduces capital cost and saves space • Reduced water and waste treatment costs

Left: DST foil treated with AlphaPREP

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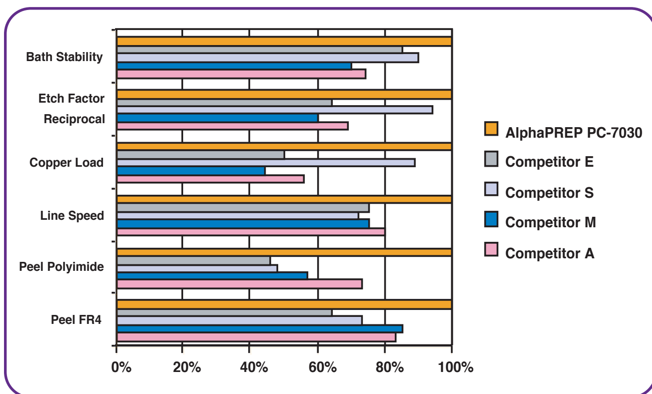
AlphaPREP® PC-7030

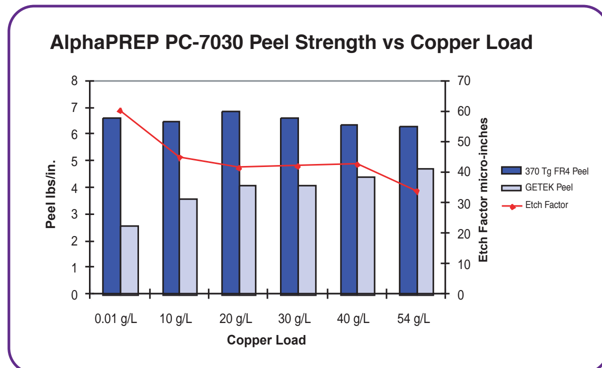
Best in Class Performance

AlphaPREP® PC-7030 outperforms competitive oxide replacement processes. The system maintains outstanding bath stability that enables it to operate at 45 –50 g/L copper loading with consistently high peels on low and high T_g materials, and at low etch factors. Due to a short, very fast process sequence, AlphaPREP PC-7030 users have increased productivity up to 40% after converting from a competitive process.



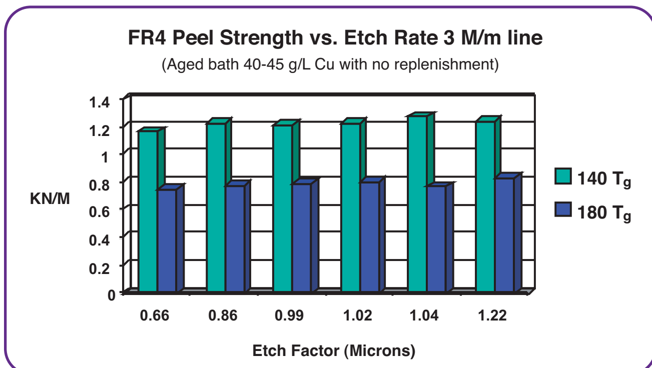
Increased Peel Strengths on High Tg Dielectrics

AlphaPREP PC-7030 outperforms competitive oxide replacement processes. The system maintains outstanding bath stability that enables it to operate at 45 –50 g/L copper loading with consistently high peels on low and high T_g materials, and at low etch factors. A short, very fast process sequence, AlphaPREP PC-7030 users have increased productivity up to 40% after converting from a competitive processes.



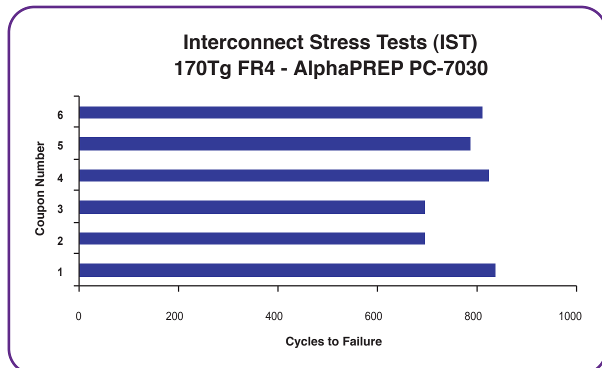
Improved Performance on Controlled Impedance Products

AlphaPREP PC-7030 delivers unparalleled bonding performance throughout the operating life of the bath. Lower etch factors result in reduced copper line width loss. This greatly aids in enhanced performance on controlled impedance type product and other critical high-density circuitry.



Interconnect Stress Testing

Interconnect Stress Testing (IST) of AlphaPREP PC-7030 treated production boards has demonstrated excellent performance, even when compared to the previous generation of AlphaPREP products.



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FS-Alpha PC-7030: NA