Organic Metal® based Immersion Tin Processes

ORMECON® CSN Classic

ORMECON® CSN Classic is a series of extremely stable immersion tin processes. Based on a patented organic metal® pre-dip, the tin processes are production-proven to reduce copper-tin diffusion speed by as much as 65% and catalyze the tin deposition. As a result, exceptional solderability and appearance, even after multiple lead-free assembly reflows, is achieved.

Each ORMECON CSN Classic process makes use of an organic nanometal® that is contained in the ORMECON pre-dip. The pre-dip catalyzes the tin deposition before the ORMECON immersion tin coating is applied. The resulting large tin grain structure significantly slows copper-tin intermetallic diffusion and provides the industry's longest shelf life. The organic metal pre-dip makes the tin layer highly resistant to oxidation, while reducing copper diffusion and whisker formation by initiating a unique crystal structure.

Process Flow

- CLEANER
- MICROETCH
- PRE-DIP
- ORMECON CSN Classic
- RAD Rinse Aid
- RPT Rinse Post Treatment

Ideally suited for press fit technology, backplanes and fine pitch applications, ORMECON CSN Classic processes may be used with either MSA or sulfuric acid-based systems, providing the most flexible plating systems on the market.

Deposit Quality

LEFT: ORMECON CSN Classic highly crystalline tin layer lowers copper diffusion speed. **RIGHT**: Tin deposit using competitive process reduces shelf life and performance.

enthone®

ORMECON®
CSN Classic

PCB Fabrication

Feataures	Benefits
• Extremely stable immersion tin process	• Proven and specified by leading OEMs
• Patented organic metal® pre-dip and coating process outperforms competitive immersion tin • Separate whisker reducing agent	• Improves stability and increases bath life • Reduces maintenance requirements • Reduces scrap • Bright uniform deposit • Improves bath control and reliability
• Organic Metal pre-dip yields enhanced tin structure	• Slower copper migration through tin coating • Stable plating rate
• Improved solder mask compatibility • Homogeneous layer thickness; superior surface planarity. • Excellent dimension stability. • Consistently high plating rate maintained over time	• Highest first-pass yields
• Sulfuric acid-based system available	• Low power and water consumption

PCB Assembly / OEM

Features	Benefits
• Exceptional lead-free solderability	• Able to withstand multiple heat cycles with consistent solder joint quality
• Organic Metal Pre-Dip	• Industry's longest immersion tin shelf life • Less copper oxidation for enhanced appearance • Decreases stress in tin coating, reduces whisker formation • Provides more free tin available for soldering applications • Greatest utilization of materials purchased
• Excellent hole fill soldering, solder spread and solder joint strength • Halogen-free, visible coating • Low thermal stress on PWB laminates • Creep corrosion resistant	• Highest reliability in assembly • No ICT problems
• Low density and viscosity	• Good processability of blind vias and microvias
• Co-planar surface finish for precise solder paste deposits	• High yields • Reduces rework and scrap
• Excellent coating stability after thermal excursions	• Consistent color through product life cycle • No returns for tarnish or staining

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