



AEM's Sn/Pb Conversion Process

- Includes both Sn/Pb plating and subsequent fusion processing to ensure that resultant component termination finishes are a homogenous mixture of Sn/Pb.
- Ensures that all areas of each component termination are converted to Sn/Pb (including termination locations in egress and wrap-around areas).
- Includes monitoring of component quality going into and out of the Sn/Pb conversion process (QA1/QA2/DPA – to verify solderability, leach resistance, and terminal adhesion strength).
- Ensures that converted component terminations contain a minimum of 5% Pb as verified by SEM/EDS and XRF inspection methods.
- May be followed by 100% electrical or customer specified up-screening activities. 100% visual inspection at 7X-10X magnification levels is performed by AEM on all Sn/Pb conversion lots.
- Included within the scopes of AEM's AS9100 and ISO 9001:2008 QMS Certifications.

As a leading producer of high-reliability passive components for use in military, aerospace and medical electronic devices, AEM, Inc. has devised an aerospace-qualified tin/lead (Sn/Pb) conversion process designed to virtually eliminate the formation of tin whiskers on surface-mount component terminations (including types with external terminals). The AEM proprietary plating process delivers superior quality while eliminating the potential damage to sensitive electronic devices caused by conventional hot-solder dipping. AEM's Sn/Pb conversion process is ideal for chip scale passive components including capacitors, inductors, resistors, ferrite chip beads, fuses, resistor arrays, capacitor arrays, bead arrays and many molded body passive and active surface mount component types.

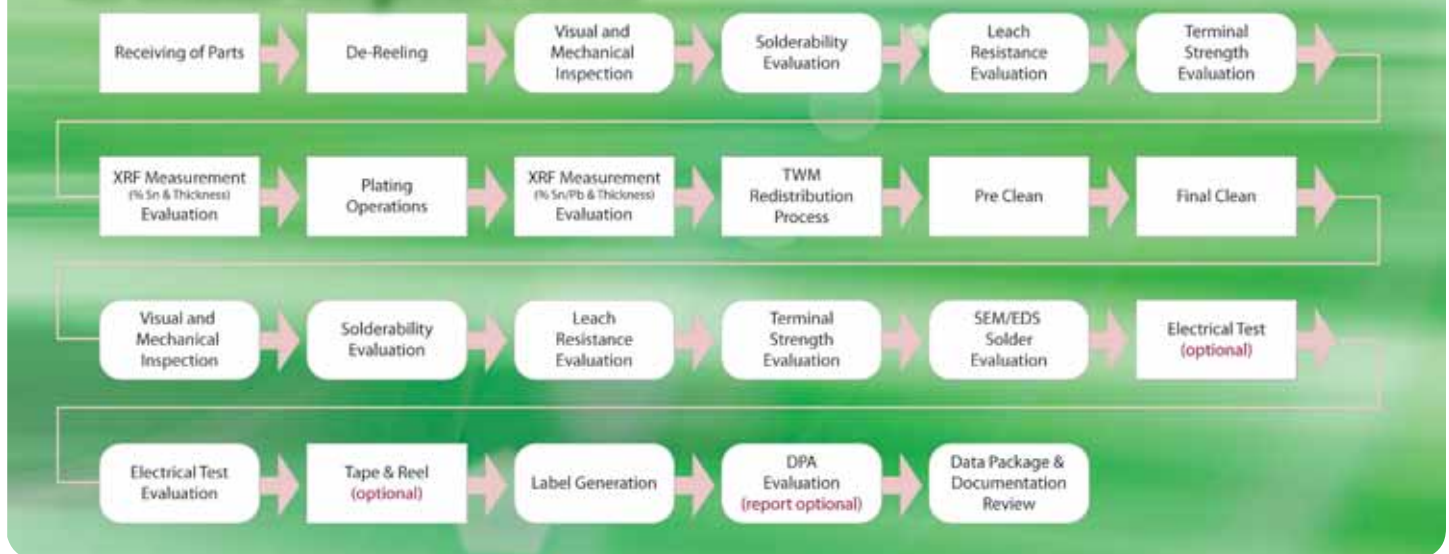
AEM Services

- Replating of most multi-layer chip components using AEM's Tin Whisker Mitigation (TWM) process
- Base part sourcing from approved OEM distributors
- Up-screening and QCI per military standards
- DPA Analysis on a sample from each TWM lot
- Full warranty on all Sn/Pb terminated components

AEM Facts

- AEM is the world's largest manufacturer of solid-body current limiting fuses and fusistors for the aerospace industry
- AEM is the world's sole manufacturer of high-reliability ferrite chip beads
- AEM's high-reliability fuses have been in orbit for 38 years with zero reported failures

Tin Whisker Mitigation Process



Parts Processed

Surface-Mount Capacitors
 Surface-Mount Resistors
 Surface-Mount Inductors
 Surface-Mount Chip Beads
 Surface-Mount Fuses
 Surface-Mount Varistors
 Leaded Components (consult factory)

Quality Control Laboratory

Incoming Inspection and Testing
 Process Control Inspection
 Product Reliability and Life Testing
 Environmental Stress Screening
 Product Traceability

Sampling of Manufacturer Parts Processed

AVX	KOA
Coiltronics	Ohmite
CTS	Panasonic
EBG	TDK
Fair-Rite	Venkel
Johanson Technology	Vishay Dale
Kemet	

Certifications and Standards

AS9100 / ISO 9001:2008 Certified by TÜV Rheinland
 MIL-PRF-23419/12 / MIL-STD-202 Certified Testing Laboratory
 MIL-STD-790 Inspection System – DSCC/DLA Audited/Approved
 SPC - Statistical Process Control implemented at critical process control points
 Raw Material Control & Traceability
 QPL listed for MIL-PRF-23419/12 (FM12), Hi-Rel Fuses
 Meets EIA & EIAJ Standards

Partial List of Key Customers

Avnet	Pemstar
Benchmark Electronics	Perkin Elmer
Boeing Company	Primus Technologies Corp.
Celestica Aerospace Technologies	Northrop Grumman
Diehl BGT Defence GmbH & Co.	Raytheon Company
EADS Deutschland GmbH	Raytheon Missile Systems
Harris Corporation	Raytheon IDS EDC
Irvine Electronics	Saab Ericsson Space
Irvine Sensors Corp	Sandia National Lab
JACO Electronics	Smart Electronics
KOA Speer	TT Electronics
L-3 Communications	Tyco Electronics