

The Component Quality Challenge

- Firewall your inventory and manufacturing from the infiltration of sub standard components
- Ensure authenticity, record traceability and prevent the introduction of reliability concerns
- Assure long term viability of critical and EOL components to avoid moisture absorption, corrosion and contamination
- Verify RoHS compatibility and the process to eliminate manufacturing concerns

Services from EQuality Process

- Quality inspection services to Military specification Mil-STD-883TM2015, JESD22-B107C, ISO9001-2000 and Mil-PRF-38535H detect counterfeit, remarked and reworked components
- Storage in secure and a monitored dry cabinet environment for important EOL components for up to 20 years
- EDXRF Spectrometer analysis to determine RoHS compliance
- Decapsulation analysis to verify die level integrity and compliance

Quality, Reliability and EOL Availability Issues

As supply chain relationships become more complex, and sources proliferate around the world, it becomes increasingly difficult to determine the validity and quality of incoming devices. Additionally, the requirement to continue the manufacture of complex systems for extended periods, often for years or even more than a decade, in the face of component obsolescence, strains even the most proactive materials organization. EQuality Process was founded to provide custom material inspection and storage solutions to solve these critical electronic component issues.



REMARKED PRODUCT CAUGHT

Hidden original marking revealed in black beneath the counterfeit lettering.

Quality and Reliability Assurance Service at Incoming Inspection

As presented at the NASA Quality Leadership Forum in March of 2007 in a study entitled "Avoiding Counterfeit Electronic Components", the most reliable mechanism to ascertain the integrity of component products is to conduct a compliance verification (authenticity analysis) including visual inspection, testing and physical analysis. EQuality Process inspection is designed to detect component conformance issues prior to receiving into inventory or release to manufacturing. Our quality screening targets reworked components to avoid latent reliability issues from being introduced into your system. In addition, EQuality Process provides a detailed quality report with photos and test results to facilitate material analysis and to use in working with your supply base. Our systems are continuously refined to detect the evolving methods of producing counterfeit and remarked products. We have attained ISO9001-2000 and ESD certification to ANSI/ESD-S20.20-2007 and our facilities have been audited by major military and aerospace customers for products used on approved FAA and Military programs. We can provide quality services on the products you purchase from our firm or as a standalone service on products procured from any source around the world.

Long Term Component Storage

Moisture Sensitive Level (MSL) Concerns and Long Term Storage

The increasing use of commercial products in high reliability military, aerospace, medical, telecommunications and sensitive industrial applications, together with a growing concern over elevated temperatures for lead-free processing, has placed renewed emphasis on moisture control. Specifically, (1) higher reflow temperatures associated with lead-free solder; (2) continued reductions in package body thickness and lead pitch; (3) increased use of plastic instead of higher cost hermetic body materials; and (4) the use of high humidity manufacturing sites necessitates focusing on a moisture sensitivity level strategy to eliminate moisture risks while preserving part quality and functionality. Without properly addressing MSL issues, popcorning, cracking, warping and delamination can occur and result in damage which may not be detectable at occurrence and may introduce a long term reliability risk. EQuality Process can assist in reducing this latent risk.

In conjunction with our customers, EQuality Process has developed a plan to prevent moisture contamination in Moisture Sensitive Devices (MSD). EQuality Process provides handling and storage solutions to safeguard MSDs from moisture exposure and eliminate baking cycles which can affect component quality, functionality and reliability. Baking, used to prevent moisture damage during the solder reflow,

adds expense and processing time to the assembly process. In addition, baking alters the component solderability and grows the intermetallic compounds layer, and therefore could affect functionality and reliability. To prevent this, EQuality Process integrates the use of desiccant dry cabinets (single and multi desiccators with or without heat) to best suit the specific requirements of MSDs in a reliable and cost effective manner. Dry storage programs implemented by EQuality Process prevent moisture exposure and purge existing moisture contamination for moisture sensitive devices.

Multiple Location Secured Components in Dry Air Cabinets at less 5%<RH and 25 deg C to extend storage life and eliminate baking requirements.



manufacturing plan calls for assembly.

EQuality Process has invested in the storage facilities and process flow that enables us to store moisture sensitive devices to **IPC/JEDEC standard (J-STD-033B)**, ensuring all components will be in as received condition, or better, whenever your

EQuality Process Lifecycle Managed Services

- Long Term Supply Contracts
- EOL Programs including financing, procurement and storage of components for 3 to 20 years
- Virtual Warehousing
- Quality Inspection
- Counterfeit Detection
- RoHS Certification
- Online Component Life Cycle History and Documentation
- Obsolete Component Sourcing and Inspection
- Stock Storage and Buy Back Financing

Call us at:

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www.equalityprocess.com