



Senior Process Technician

Location: 5 Moss Road, Westmead, Pinetown

Department: Manufacturing

Reports To: Operations Director

Job Summary

The Senior Process Technician is responsible for process optimization, equipment validation, automation integration, line balancing, and continuous improvement within an electronic contract manufacturing environment. This role focuses on SMT, through-hole assembly, thermal profiling, defect analysis, wave soldering, X-ray inspection, lean manufacturing, and quality compliance. The technician will also manage pilot builds, customer returns, process documentation, and technical training to drive production efficiency, quality, and cost savings.

Key Responsibilities

Equipment & Technology Management

- Specify, validate, and integrate new manufacturing equipment and automation solutions.
- Work with maintenance teams to ensure optimal machine performance and minimal downtime.
- Stay updated with the latest electronic manufacturing technologies, SMT innovations, and Industry trends.
- Implement predictive maintenance and real-time process monitoring to improve machine reliability.

Process Engineering & Optimisation

- Develop and optimize solder reflow profiles based on component datasheets and IPC standards.
- Conduct thermal profile measurements and adjust parameters to ensure defect-free soldering.
- Implement line balancing strategies to enhance SMT efficiency and eliminate bottlenecks.
- Perform failure analysis (FMA) and PFMEA (Process Failure Mode and Effects Analysis).
- Resolve manufacturing throughput constraints to improve process cycle time and efficiency.

Process Documentation & Training

- Develop and maintain Standard Operating Procedures (SOPs), work instructions, and process control documentation.
- Train production staff on process improvements, defect prevention, and equipment best practices.
- Ensure knowledge transfer to maintain consistent and standardized manufacturing processes.
- Conduct technical workshops and cross-training programs to enhance workforce flexibility.

Continuous Improvement & Lean Manufacturing

- Implement continuous improvement projects to enhance productivity and reduce costs.
- Use FMEA, Value Stream Mapping, Root Cause Analysis, and 5S methodologies to drive process improvements.
- Lead Lean Six Sigma projects to eliminate waste and improve first-pass yield and defect rates.
- Drive automation initiatives to optimize SMT and assembly processes.
- Ensure process improvements yield annual cost savings of R500K or more.

Compliance & Quality Management

- Ensure 100% compliance with IPC-A-610, ISO 9001, ISO 13485, and customer-specific quality standards.
- Conduct process audits to assess conformance and implement necessary corrective actions.
- Work closely with the QA team to reduce defect rates, improve first-pass yield, and minimize rework costs.
- Ensure X-ray inspection control for BGA, LGA, and hidden solder joints, reducing process variability.

New Product Introduction (NPI) & Pilot Build Management

- Manage the Laboratory (Pilot Builds and Customer Returns) to ensure process validation before mass production.
- Produce New Product Introduction (NPI) reports, ensuring manufacturability and process efficiency.
- Control and report on all prototype and pre-production builds to ensure seamless factory integration.
- Interface with Test Engineering to improve test coverage, reduce test times, and optimize fault diagnostics.

Factory General & Site Maintenance

- Oversee general factory maintenance and ensure site facilities are well-maintained.
- Implement and oversee preventative maintenance schedules for all factory equipment and infrastructure.
- Ensure building maintenance tasks, such as plumbing, electrical, and structural upkeep, are managed efficiently.
- Work with external service providers and contractors to maintain compliance with safety and operational standards.

Management of Process Technicians & Maintenance Technicians

- Lead, mentor, and manage the team of process technicians and maintenance technicians.
- Ensure all team members follow best practices and standard operating procedures.
- Assign responsibilities and oversee work performance to ensure production and maintenance targets are met.
- Develop training plans for technicians to enhance their skills and support career growth.



HUMAN RESOURCES

SENIOR PROCESS TECHNICIAN

Required Qualifications & Experience

- BSc / BEng in Electronics, Industrial, or Mechanical Engineering (or equivalent).
- Minimum 5-7 years in process engineering within an electronics manufacturing environment (EMS).
- SMT, wave soldering, reflow soldering, and selective soldering process optimization.
- AOI programming, X-ray inspection, and defect analysis for high-reliability assemblies.
- DFM (Design for Manufacturing) and DFA (Design for Assembly) expertise.
- Lean Six Sigma, PFMEA, 5S, and root cause analysis methodologies.
- Experience with ERP/MES software and SMT line programming.
- Problem-solving and analytical thinking with a data-driven approach.
- Leadership in process improvement, automation, and cost reduction projects
- Strong communication skills for operator training and technical support.
- Project management skills to lead NPI, Lean, and automation initiatives.
- Attention to detail and commitment to continuous improvement.

Employee Acknowledgment:

I, _____, acknowledge that I have read and understood the responsibilities and expectations of the _____ role.

Employee Signature: _____

Date: _____