



PROCESS SCIENCES
INCORPORATED

Presents

SMT Master Training Bootcamp



This course was designed to provide in-depth practical process understanding to those individuals interested in ensuring quality in electronic assemblies. This course was *developed from a need to improve yields* on the production floor, and to provide practical process understanding to the individuals who produce SMT products daily. Students will leave this program with a *deeper technical understanding* of SMT processes, and the *confidence* to know how and where they fit in.

This is *not* a "how to" class that describes which button to push... and it's *not* a purely theoretical course that is difficult to apply to reality... It *is* a program which answers the question "why" the surface mount process works the way it does.

Simple.

Communication is one of the most fundamental limitations in many manufacturing environments today. Turnover and attrition make simple concepts difficult to maintain. Great efforts have been made to explain process issues in simple terms with diagrams, with an emphasis on yield improvement and an understanding of process variables.

Systematic.

This program provides a solid technical foundation, and a systematic understanding of SMT processes – promoting excellence, accelerated problem-solving, and enhanced communication at every level.

Targeted.

This course was designed for SMT operators, technicians and engineers. Quality managers – particularly those with limited experience in SMT production environments – will also benefit greatly from this material.

Course Outline:

SMT History & Process Overview:

History of SMT
Technical Issues
SMT Process Defined
SMT Components
Substrates (PC Boards)

Solder Paste & Stencil Printing:

Solder Paste Properties
Solder Paste Components
Stencil Printing Process and Variables
Common Problems and Solutions

Adhesive Dispensing:

Adhesive Defined
Adhesive Selection
Dispensing Methods
Adhesive Cure Profile
Handling Adhesives
Common Problems and Solutions

Pick & Place

Pick and Place Basics
How Pick and Place is Accomplished
Pick and Place Inspection Criteria

Soldering Theory

Solder Theory
Heat Transfer
Flux Classification
Cleaning Criteria

Reflow Soldering:

Reflow Soldering Equipment
Reflow Profiles
Reflow Defect Mechanisms
Common Questions

Wave Soldering & Cleaning:

Wave Solder Equipment
Wave Solder Process
Cleaning Equipment and Process

Rework:

Rework Philosophies
Rework Methods
BGA Rework

Material Handling:

ESD
Moisture Sensitive Devices
General Handling Criteria

The Process:

Pareto's Law
PCB Test Processes

Duration: 16 Hours
Cost: \$1050/per student

**For more information or to register for a class, please contact Alan
Couchman at 512-259-7070 x101, or email alan@process-sciences.com.**