

Failure Analysis and Reliability Testing in Electronics Manufacturing

Overview

The objective of this course is to prepare the participant to make informed decisions when troubleshooting a manufacturing problem or collaborating with an analytical laboratory. The course is designed so that case studies will provide a forum for problem formulation, investigation and resolution.

Three-Day Course Outline

- ◆ Analytical tools used to investigate failures
- ◆ Laboratory: Demonstration and hands-on use of analytical test equipment to evaluate actual failures:
 - Scanning Electron Microscopy
 - Energy Dispersive X-Ray
 - Fourier Transform Infrared Spectroscopy
 - Ion Chromatography
 - Differential Scanning Calorimetry
- ◆ Contamination: ionic and non-ionic
- ◆ Common failure modes and reliability
 - Mechanical
 - Electrical
 - Chemical
- ◆ Laboratory: Micro-sectioning:
 - Plating thickness
 - Cracks
 - Voids and other failures
- ◆ How to logically approach complex problems
- ◆ Case Studies: Put your new skills to work. Attendees will be guided through case studies and then will solve a problem using what they have learned and the equipment available in the laboratory.

What you will learn

- ◆ Communicating with the test lab and interpreting test results
- ◆ Analytical test methods and equipment
 - Capabilities
 - Limitations
 - Selection
- ◆ Reliability Testing methods and equipment
 - Choosing the right test
 - Interpreting the results
- ◆ Common failure methods and root causes in electronics manufacturing

Attendees are encouraged to bring sample problems from their companies to use as examples for the case studies.

Information & Registration

Contact the EMPF Learning Center at:
phone: (610) 362-1320
email: registrar@empf.org
website: www.empf.org



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