

FAILURE ANALYSIS IN PRACTICE

Professional Training Course

Location: Microsolder Kft. Training Room, 1037 Budapest, Kiscsillag u. 18. and BME ETT
1111 Budapest, Egry József u. 18.

Course Objective:

To provide knowledge for professionals working in technology, production, and quality management at electronics manufacturing and assembly plants, helping them to more effectively choose analytical methods for uncovering the root causes of detected failures and to more accurately interpret test reports and the validity of results.

Course Method:

Theoretical training in Hungarian, with slide presentations and case studies. Includes a visit to the BME (Budapest University of Technology and Economics) laboratory.

Participants will also have the opportunity to discuss practical issues they encounter.

Who Is It For?

Any staff member, regardless of position, who is involved in the analysis of failures detected during production or reported from the field, and in the process of determining root causes.

Curriculum (Total Duration: 2 Days, 14 Hours)

- Overview of commonly used inspection equipment and methods in electronics failure analysis
 - Capabilities and limitations of the equipment
 - Conclusions that can be drawn from test results

Techniques covered:

- Optical and X-ray microscopy, CT scanning
- Scanning electron microscopy (SEM) and X-ray fluorescence spectroscopy (SEM-EDX)
- Scanning acoustic microscopy
- Cross-section sample preparation
- Infrared spectroscopy
- Thermal analysis methods



Understanding failure analysis reports:

- Interpreting reports
- Identifying “weak points” in reports
- Effective communication with the laboratory

Case Studies:

- Common soldering defects and their causes
- Investigation and identification of contamination
- Causes and detection of electrochemical migration
- Coating defects on PCBs and components, coating qualification, wetting problems
- Examination of other PCB failures
- Delaminations and their detection
- Examination of BGA component soldering defects

Knowledge Assessment and Certification:

Written final test, minimum passing score: 70%.

Participants who meet the requirements will receive a written certificate of course completion.

The course is organized in cooperation between EFI Services Kft. and Microsolder Kft.