

## APQP, FMEA, Control Plan & Error Proofing

### Course Description

This course provides a detailed look at Advanced Product Quality Planning and provides a focus on preventive measures that can be used to assure product integrity.

Four major elements are covered in this program:

**APQP (Advanced Product Quality Planning)** - introduces a five stage product quality planning process supported by the Plan-Do-Check-Act cycle.

**FMEA (Potential Failure Mode and Effects Analysis)** - a team-based technique that recognizes and evaluates the potential failure of a product or process and identifies actions that could eliminate or reduce the chance of the failure occurring. FMEA is a core tool of the APQP process.

**Control Plan Methodology** - an integral part of the APQP process whose purpose is to aid in the manufacture of quality products according to customer requirements. It provides a structured approach for the design, selection and implementation of value-added control methods.

**Error Proofing** - is making it impossible for errors to be passed to the next operation. Error prevention deals with stopping mistakes before they occur.

### Learning Objectives

Through a combination of presentation and exercises participants will gain an understanding of the following major elements and the interrelationships between them:

#### APQP

- Program Definition and Planning
  - Identification of customers and their needs and expectations
  - Developing the product quality plan
- Product Design and Development
  - Development of design features and characteristics
  - Reviewing engineering and other technical requirements
  - Preliminary manufacturing feasibility analysis
- Process Design and Development
  - Major features in developing an effective manufacturing system
- Product and Process Validation
  - Major features of evaluating the manufacturing process
  - Significant production run
- Feedback Assessment and Corrective Action
  - Evaluating the effectiveness of the quality planning effort

### FMEA

- Understanding the role of FMEA in quality planning
- Basic steps in an FMEA
- Developing and using the Design FMEA
- Developing and using the Process FMEA

### Control Plan Methodology

- Introduction to control plans
- Control plan development and construction
- Maintenance and use of control plans throughout the product life cycle.

### Error Proofing

- Benefits of error proofing and prevention
- Types of human error
- Defect types
- Error/defect relationship
- Error proofing systems
- Principles of error proofing
- Steps to error proofing

### **Who Should Attend**

Quality Managers, Quality Team Leaders, and individuals / team members wanting a better understanding of the quality planning process.

### **Location**

On-Site

### **Course Length**

3 to 4 Days (depending on experience of trainees and depth of material)