

Understanding Core Tools: Design Failure Modes and Effects Analysis (DFMEA) and Design Validation Plan & Report (DVP&R)



Course Duration: 1 Day - 8 Hours/day

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Seminar Content

This one-day overview addresses the use of Design Failure Mode and Effects Analysis and Design Verification Planning in new products to ensure a successful launch of new products/processes and capable serial production.

The approaches discussed and employed in this course are consistent with the intent and guidelines in the APQP 2nd Edition, FMEA 4th Edition, and PPAP 4th Edition manuals issued by GM, Ford, and FCA through the AIAG.

Learning Objectives

Understand how to develop and use DFMEA and DVP&R to identify and address design risk during the product development process and in support of the manufacturing process development process

Seminar Outline

APQP Phases: Key Phase Deliverables (Outputs)

DFMEA Introduction

- ❖ DFMEA Purpose
- ❖ DFMEA Objectives
- ❖ New Products
- ❖ Linkages

DFMEA Preparation

- ❖ Define the Customer
- ❖ Identify Specific Functions and Requirements
- ❖ Robust Designs
- ❖ Breakout Exercise 1: Boundary (Block) Diagram

- ❖ Breakout Exercise 2: Parameter (P) Diagram

- ❖ Other Inputs to DFMEA

Developing the DFMEA

- ❖ Starting the DFMEA Form
- ❖ Design Failure Modes
- ❖ Potential Design Causes
- ❖ Potential Controls & Prevention
- ❖ Potential Effect & Severity
- ❖ Action Planning
- ❖ Evaluating and Maintaining DFMEAs
- ❖ Breakout Exercises 3-8: Developing the DFMEA

Design Verification Plan & Report (DVP&R)

- ❖ Objectives of DVP&R
- ❖ DVP Format & Flow
- ❖ Management Responsibility for DVP
- ❖ Challenges to Development

Who Should Attend

- ❖ Program Managers
- ❖ Design, Quality, and Manufacturing Engineers
- ❖ Persons who have direct responsibility for preparation, assembly or review of PPAP components or packages.
- ❖ Auditors and those responsible for subcontractor PPAP documentation.

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Seminar Materials

Each participant will receive a seminar manual that includes breakout exercises.

Pre-Requisite

Participants should possess a general knowledge of quality systems.

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