

## Understanding Core Tools: (APQP/PPAP, DFMEA & DVP&R, PFMEA/Control Plan, SPC and MSA)



Course Duration: 5 Days - 8 Hours/day

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## Seminar Content

Collectively, this five-day series of seminars are intended to provide a basic understanding of the Advanced Product Quality Planning (APQP) Core Tools and their use in New Product Development to ensure a successful launch and capable serial production. These Core Tools play a significant role in the planning, development, and launch of new products and processes.

These Core Tools include the following:

- ❖ The five phases of APQP itself
- ❖ Production Part Approval Process (PPAP)
- ❖ Design Failure Modes and Effects Analysis (DFMEA) and Design Verification Plan & Report (DVP&R)
- ❖ Process Failure Mode Effects Analysis (PFMEA) and Control Plans
- ❖ Statistical Process Control (SPC)
- ❖ Measurement Systems Analysis (MSA)

## Learning Objectives

- ❖ Understand the five phases of APQP for New Product Development and its relationship to program management and the knowledge and skills needed to participate in an APQP team
- ❖ Understand the PPAP protocol, elements, deliverables and submission/approval process
- ❖ 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

- ❖ Understand how to achieve robust and comprehensive process control, process standardization and process improvement using Process Flow Diagrams, PFMEA and Process Control Plans
- ❖ Understand the use of SPC to monitor and measure variation in manufacturing processes and to identify and correct problems where they arise
- ❖ Understand MSA and the statistical tests employed to determine measurement variation and measurement uncertainty for the effective management of measurement systems

## Seminar Outline

- ❖ APQP
- ❖ Production Part Approval Process (PPAP)
- ❖ DFMEA/DVP&R
- ❖ Process Flow
- ❖ Process FMEA
- ❖ Control Plans
- ❖ Work Instructions
- ❖ SPC
- ❖ MSA

## Who Should Attend

This seminar is designed for Internal Auditors, Management Representatives, ISO 9001 and IATF 16949 Implementation Teams, and others who would like to develop judgment and decision-making in ISO 9001, IATF 16949 and to learn how to effectively audit the New Product Development activities.

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## Seminar Materials

Each participant will receive a seminar manual. All concepts will be introduced using examples. Group exercises will make use of an example product and process.

## Pre-Requisite

Participants should possess a working knowledge of, as well as some experience in ISO-based quality management systems, as well as a firm understanding of basic quality tools.

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