



Design for Manufacturability (DFM)/Design for Assembly (DFA)/

Value Engineering (VE) Training

Onsite or Virtual – 2 Days, 8 Hours/day – Optimum class size, 6-8 Participants

Training Description

This two-day training will teach participants about different cost-saving and efficient manufacturing processes such as Design for Manufacturability, Design for Assembly, and Value Engineering. Classroom discussions will include analyzing current and past manufacturing processes, along with the benefits and drawbacks of each. In this training, participants will learn how Design for Manufacturability (DFM) leads to finding the most cost-effective manufacturing processes that meet the customer's specifications and utilizing the 3 F's (Form, Fit, and Function). In addition, participants will learn how the Design for Assembly methodology can be used to develop the most cost-effective and productive way to design products for assembly. This training will also teach participants about Value Engineering and how it minimizes costs while maintaining functionality. This training is most beneficial to design engineers and engineering personnel; however, all levels of the company would benefit. This training can be delivered onsite or virtually.

Training Objective

This DFM/DFA/VE class will teach participants the benefits of different manufacturing processes and the effect of cost, based on the manufacturing process and tooling consideration. This training will also teach participants the process for designing products for assembly as well as how to consider cost versus functionality of a product.

Skill Attainment

The participants will understand the steps of the DFM, DFA, and Value Engineering processes. They will also develop a clear understanding of different manufacturing processes and the benefits and drawbacks of each. Participants will develop an understanding of how the manufacturing process, tooling consideration, and labor content affect overall cost-effectiveness.

These skills are transferable within the company, industry and are highly desirable by any manufacturer.

Training Agenda

- Introduction to DFM/DFA/Value Engineering
- Functional Analysis – 3F's (Form, Fit, Function)
- Design for Manufacturing (DFM) Process
- Types of Manufacturing processes (Machining, Casting, Forging, Molding, Extrusion, 3D Printing, Welding, Sheet Metal Forming)
- Tooling Considerations and Tooling Case Study



- Different Types of Material Testing
- Design for Assembly (DFA) Process
- Practical walk through of DFA with company product(s)
- Value Engineering (VE) Process
- Tools and Templates (digital workbook included)