



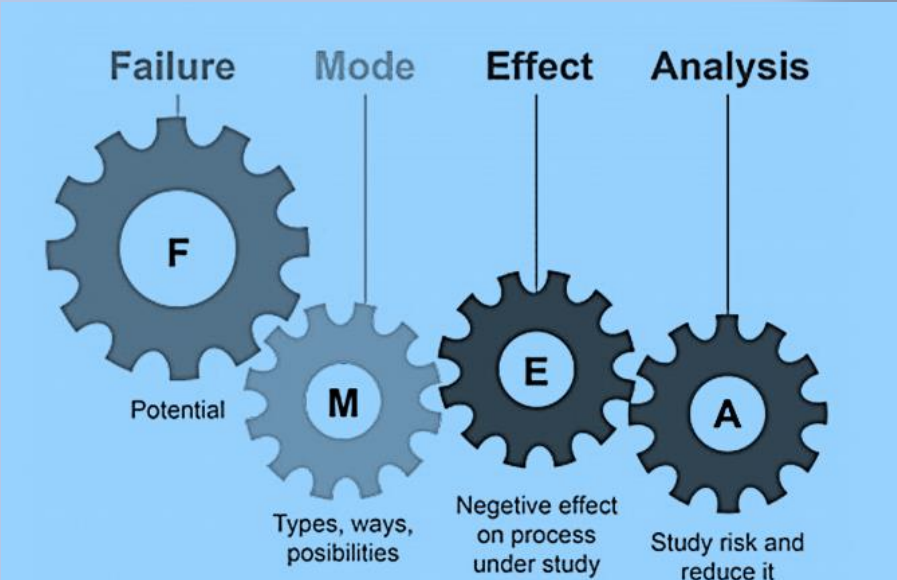
Design FMEA

6 insights



**Based on the discussions during the
Workshop in MRF - Chennai**

Design FMEA



6 insights

Sharing some of the key discussion points, came out during the Design FMEA workshop for the Young & Energetic Designers of **MRF Tyres, Chennai**



Design FMEA

6 insights

#	Statement	True	False
1	One form of Interface matrix will help us to know the interfaces over view in a complete way	True	False
2	FMEAs will help in cost reduction also	True	False
3	All CSRs are to be treated as “Regulatory” in nature	False	True
4	Recommended actions must first focus in to Process error proofing	False	True
5	New version of FMEA needs a 7 stepped analysis for both product Designs & Process designs (* next slide)	True	False
6	Sub-system level Failure Mode may become a Failure Cause in the System level	True	False

Design FMEA

Point ref. : 5

AIAG-VDA FMEA 7-Step Process



**S O P for the Workshop on
Design FMEA & the changes (as per IATF 16949) AIAG – VDA version**

Target participants : Engineers & above

Program Objectives

To familiarize the participants to apply the concepts & Practices of Failure Mode & Effects Analysis on Process FMEA, linking to APQP & IATF 16949 standard

To provide the skill sets on Design FMEA approach, identifying the Recommended actions (Action Priorities) and improving the manufacturing & assembly processes through structured application of Design FMEA

Also to provide the insights on various changes in the latest FMEA edition.

Performance Indicators

Short-term

- Performance during the team presentations
- Qualification Test Marks
- Exercise marks during the Program
- Program feed-back

Long-term

- Implementing the FMEA Methodology
- Better focus on Customer requirements
- Enhanced skill index

Process

- ▶▶ Class Room discussions
- ▶▶ Team Exercises (18 exercises)
- ▶▶ Group Presentations

Structure :

- ▶▶ Ice Breaking
- ▶▶ Accelerated, Recap & Concept building exercises
- ▶▶ The whole course to cover tall the preparatory tools and Process FMEAs with practical cases
- ▶▶ Evaluation during the sessions
- ▶▶ Situations analysis
- ▶▶ Word puzzle
- ▶▶ Qualification Test & Evaluation
- ▶▶ Verbal Feed Back
- ▶▶ Written Feed Back

Deliverables

- New FMEA structure (2019)
- Mapping of FMEA process wrt APQP & IATF 16949
- Linkages between Design FMEA & Process FMEA
- Key concepts of Product Design
- Vital tools (inputs for (D FMEA)
 - 5 T analysis
 - Block diagram
 - Structure & Function tree analysis
 - P Diagram
 - Inter-face matrix
 - Robust Checklist
 - DR Checklist
- Real case analysis on Design FMEA
- Changes in the FMEA approach (2019)
- Design Review Based FM analysis (DRBFM)
- Advanced learning on Design FMEA & sustenance of FMEA



Automotive Industry
Action Group



Verband der
Automobilindustrie

Failure Mode and Effects Analysis

FMEA Handbook

Design FMEA

Process FMEA

Supplemental FMEA for Monitoring & System Response

Failure Mode and Effects Analysis – FMEA Handbook

First Edition Issued June 2019

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1

Disclaimer :

- ❑ The very purpose of this document is to enhance the KNOWLEDGE but not to enhance the COMPETENCE.
- ❑ Competence shall be improved only by Implementing the knowledge gathered from our various initiatives.



Best wishes !

Knowledge test

Do you want to self-evaluate your knowledge on Design FMEA ?

Test Your Knowledge

--Choose your course--

- Failure Mode and Effects Analysis
- Process Failure Mode & Effects Analysis (AIAG - VDA)
- Measurement Systems Analysis
- Design Of Experiments
- Environmental Management System ISO 14001 : 2015
- 8D Problem Solving Methodology
- Auditing the Automotive Core Tools as per IATF 16949
- Advanced FMEA
- APQP & PPAP (as per IATF 16949 : 2016)
- DFMEA (AIAG-VDA)**
- Problem solving methodology

--Choose your stage--

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