Table of Contents

Failure Mode and Effects Analysis (FMEA) Template

What is Failure Mode and Effects Analysis (FMEA) Template?

Failure Mode and Effects Analysis (FMEA) is a proactive risk assessment method used in various industries, including aerospace, automotive, healthcare, and manufacturing, to identify potential failures or errors in a process, product, or system. The FMEA template helps teams analyze the severity, occurrence, and detectability of these failures to prioritize mitigation efforts.

A standard FMEA template typically includes the following sections:

1. **Process/Part Description**: A brief description of the process, part, or system being analyzed.
2. **Failure Modes**: Identification of potential failure modes (i.e., ways in which the process, part, or system can fail).
3. **Effects of Failure**: Analysis of the effects of each failure mode on the product, customer, or process.
4. **Severity**: Rating of the severity of each failure mode, usually on a scale from 1-10, where:
    - 1-3: Low severity (e.g., minor inconvenience)
    - 4-6: Medium severity (e.g., moderate impact)
    - 7-10: High severity (e.g., critical or catastrophic)
5. **Occurrence**: Rating of the likelihood of each failure mode occurring, usually on a scale from 1-10:
    - 1-3: Low occurrence (e.g., unlikely to happen)
    - 4-6: Medium occurrence (e.g., possible but not likely)
    - 7-10: High occurrence (e.g., likely or probable)
6. **Detectability**: Rating of the ease of detecting each failure mode, usually on a scale from 1-10:
    - 1-3: Low detectability (e.g., difficult to detect)
    - 4-6: Medium detectability (e.g., possible but not easy)
    - 7-10: High detectability (e.g., easily detected)
7. **Risk Priority Number (RPN)**: A calculation that multiplies the severity, occurrence, and detectability ratings to provide a risk priority number for each failure mode.
8. **Mitigation Strategies**: Identification of potential mitigation strategies or actions to reduce the risk associated with each failure mode.

The FMEA template helps teams:

1. Identify potential failures and their effects
2. Prioritize mitigation efforts based on risk
3. Develop targeted solutions to reduce risks
4. Improve process controls, design, and testing

By using an FMEA template, organizations can proactively identify and mitigate potential failures, reducing the likelihood of errors, defects, or accidents, and ultimately improving

> product quality, customer satisfaction, and business performance.

problem, risk, assessment, fmea, reliability, quality, assurance, manufacturing, aerospace, automotive, healthcare

Failure Mode and Effects Analysis (FMEA) Template

Project Information

- **Project Name:**
- **Date:**
- **Prepared By:**
- **Reviewed By:**

FMEA Team Members

FMEA Table

Definitions

- **Severity (S):** Scale of 1-10 (1 = insignificant, 10 = catastrophic)
- **Occurrence (O):** Scale of 1-10 (1 = unlikely, 10 = inevitable)
- **Detection (D):** Scale of 1-10 (1 = certain to detect, 10 = impossible to detect)
- **Risk Priority Number (RPN):** RPN = Severity (S) x Occurrence (O) x Detection (D)

Recommended Actions

Action Results

Conclusion

- **Summary of Findings:**
- **Next Steps:**

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