FMEA starter worksheet

PRODUCT / PROCESS | DESIGN OR PROCESS FMEA | TEAM | REVISION & DATE

Item / step	Function	Failure mode	Effect	S	Cause	Prevention controls	O	Detection controls	D	RPN	Recommended action	Owner	Due	After the action			
														S	O	D	RPN

RPN = S × O × D. Rate severity first; a high severity needs an action even when the RPN is low. Every recommended action gets **one owner and a due date**, and the row is re-rated once the action is done.

How to fill it in

Work row by row with the people who know the part or the process: design, manufacturing, quality, and someone who has seen it fail. Agree your company's rating scales before you start and use them every time.

1. **Item and function.** What the part or step is, and what it has to do, measurably (“seals at 40 psi”, not “seals”).
2. **Failure mode.** How it could fail to do that: leaks, cracks, wrong torque, missing label.
3. **Effect and severity (S).** What the customer or the next operation would see, and how bad it is.
4. **Cause and occurrence (O).** Why it would happen, and how likely it is with today’s prevention controls.
5. **Detection (D).** How well today’s tests and inspections would catch it before it ships.
6. **Action, owner, due date.** One person agrees to a date. When it is done, re-rate the row so the record shows the risk came down.

Rating	Severity (S)	Occurrence (O)	Detection (D)
9–10	Safety or a legal requirement is affected	Expected to happen; little or no prevention	No check in place, or it can’t catch it
7–8	The product stops doing its main job	Has happened often on similar parts	Spot checks or visual inspection only
4–6	Works, but worse; the customer notices	Has happened now and then	Gauged or tested, but not every part
2–3	Minor annoyance; most people won’t notice	Rare on similar parts	Tested on every part, or error-proofed downstream
1	No effect anyone would notice	Prevented by design	Can’t be made wrong (error-proofed at the source)

A starting point in plain words. If your customers require a specific FMEA handbook or rating tables, use theirs.

Where FMEAs usually go wrong: the actions. They sit in a column nobody reads after the review. In Vector Engineer the FMEA lives in the project: every recommended action is real work with an owner and a date, a high-risk row holds its gate until the action is done and re-rated, and each released revision is frozen with who released it. Bring this worksheet in from Excel.