

# FMEA Scales for Severity, Occurrence & Detection

## Severity Scale for Failure Modes & Effects *(scale of 1 [least severe] to 10 [most severe] for each effect)*

Minor (Rank 1)	Low (Rank 2 - 3)	Moderate (Rank 4 - 6)	High (Rank 7 - 8)	Very High (Rank 9 - 10)
Unreasonable to expect that the minor nature of this failure will have any noticeable effect on item or system performance or subsequent process or assembly operation. Customer will most likely not be able to detect the failure.	Due to the nature of this failure, the customer experiences only slight annoyance. Customer will probably notice slight deterioration of the item or system performance or a slight inconvenience with a subsequent process or assembly operation, i.e. minor rework.	Failure causes some customer dissatisfaction which may include discomfort or annoyance. Customer will notice item or system performance deterioration. This may result in unscheduled rework/repair and/or damage to equipment.	High degree of customer dissatisfaction due to the nature of the failure, such as inoperable item or system. Failure does not involve safety or government regulation. May result in serious disruption to subsequent processing or assembly operations and/or require major rework.	Failure affects safety or involves noncompliance to government regulations. May endanger machine or assembly operator (9 with warning, 10 without warning)

## Occurrence Scale for Potential Root Causes *(scale of 1 [least frequent] to 10 [most frequent] for each root cause)*

Remote (Rank 1)	Very Low (Rank 2)	Low (Rank 3 - 5)	Moderate (Rank 6 - 7)	High (Rank 8 - 9)	Very High (Rank 10)
Failure unlikely. No failures ever associated with this process or almost identical processes (1=1:1.5M)	Only isolated failures associated with this process or almost identical processes (2=1:150K)	Isolated failures associated with similar processes (3= 1:30K; 4=1:4500; 5=1:800)	This process has occasional failures, but not in major proportions (6=1:150; 7=1:50)	This process or similar processes have often failed (8=1:9; 9=1:6)	Failure is almost inevitable (10=>1:3)

## Detection Scale for Failure Occurrence *(scale of 1 [always detected] to 10 [never detected] for each occurrence)*

Very High (Rank 1 - 2)	High (Rank 3 - 4)	Moderate (Rank 5 - 6)	Low (Rank 7 - 8)	Very low (Rank 9)	Absolutely No Detection (Rank 10)
Current controls almost certain to detect the failure mode. Reliable detection controls are known with similar processes. Process automatically prevents further processing.	Controls have a good chance of detecting failure mode, process automatically detects failure mode.	Controls may detect the existence of a failure mode.	Controls have a poor chance of detecting the existence of failure mode	Controls probably will not detect the existence of failure mode	Controls will not or can not detect the existence of a failure. No known controls available to detect failure mode.