QAD Adaptive Applications

User Guide

QAD EQMS Applications: APQP Libraries

70-3380-2025

QAD QMS Applications version 2025

March 2025

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APQP Libraries User Guide Change Summary

The following table summarizes significant differences between this document and previous versions.

Date/Version	Description	Reference	Changed By
APR 2019/v2019	Initial upload	--	RQT
SEPT 2019/v2019	Updated copyright, formatting, and links	--	RQT
JAN 2020/v2019	Updated linkage	--	RQT
MAR 2020/v2020	Rebranded for 2020; Updated Family Templates, Manufacturing Documents	p. 117, p. 135	RQT
OCT 2020/v2020.1	Rebranded for 2020.1; Added new processes (DFMEA Failure Analysis Library, DFMEA Structural Analysis Library, DFMEA Systems Library, FMEA Action Priority, PFMEA Structural Analysis Library, Project Identification Question DFMEA, Project Identification Question PFMEA); Renamed existing processes (Design Failure Mode Control Library >> DFMEA Control Methods, Control Methods >> PFMEA Control Methods, Library Process FMEA >> PFMEA Failure Analysis Library); Removed processes that no longer exist (Design FMEA Library Functions, Design FMEA Function Requirements Library); Added information about changes that support the harmonized 2019 AIAG/VDA FMEA Handbook DFMEA and PFMEA functionality (AIAG 4th Edition FMEA is still supported)	p. 104, p. 101, p. 85, p. 79, p. 109, p. 49, p. 50, p. 52, p. 52, p. 112, p. 117, p. 135, p. 20, p. 66, p. 83, p. 215	RQT
MAR 2021/v2021	Updated linkage; Updated PPAP Submissions.	p. 166	RQT
MAY 2021/v2021	Added a section for Commands.	p. 246	RQT

Date/Version	Description	Reference	Changed By
AUG 2021/v2021.1	Updated versioning; Added ITAR information to Processes, Library Specifications, PFMEA Structural Analysis Library, PFMEA Failure Analysis Library, Family Templates, and Manufacturing Documents	p. 87, p. 95, p. 109, p. 112, p. 117, p. 135	RQT
MAR 2022/v2022	Updated versioning; Added a section for the Graphical FMEA Tree View; Updated Manufacturing Documents.	p. 83, p. 135	RQT
SEPT 2022/v2022.1	Updated versioning; Added new processes (Project Identification Question FMEA-MSR; FMEA-MSR Monitoring Control Methods; FMEA-MSR System Responses; FMEA-MSR Frequency Criteria; FMEA-MSR Monitoring Criteria; FMEA-MSR Action Priority); Updated Manufacturing Documents	p. 51, p. 53, p. 59, p. 77, p. 78, p. 80, p. 135	RQT
MAR 2023/v2023	Updated versioning	--	RQT
MAR 2024/v2024	Updated versioning	--	RQT
SEPT 2024/v2024.1	Updated versioning; Updated Manufacturing Documents	p. 135	RQT
MAR 2025/v2025	Updated versioning; Updated Manufacturing Documents; Updated Commands	p. 135, p. 246	RQT

Chapter 1

Introduction

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Overview

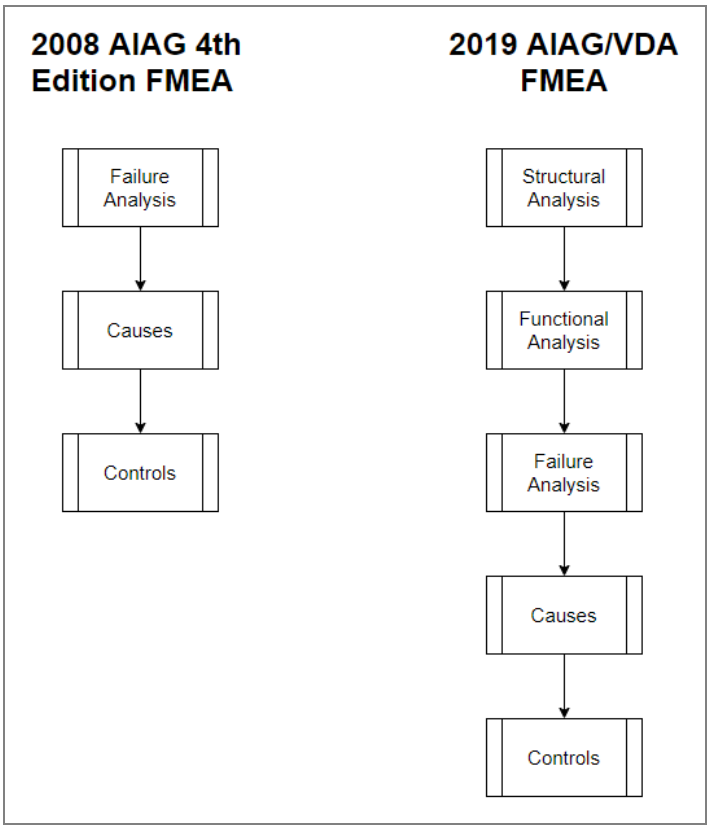
Advanced Product Quality Planning (APQP) is a structured method of defining and establishing the steps necessary to ensure that a product satisfies the customer's requirements for performance and timing. Communication should be facilitated with everyone involved to ensure that all required steps are completed on time. APQP depends on a company's top management commitment to the effort required in achieving customer satisfaction.

APQP is important because the bulk of a product's cost is committed to the early stages; creating an effective design and avoiding faulty decisions is essential to avoid incurring costs due to changes later. Not only is it costly to fix a design after product launch, but the opportunity costs of being late to market are very high. Additionally, cross-functional teams provide a better quality solution to complex product development problems than individuals.

Today, it is impossible to manage quality or meet Production Part Approval Process (PPAP) requirements using disconnected spreadsheets that are manually updated, printed, and stored in folders. Documentation needs to be linked to consistently reflect real-time data and communicate changes to stakeholders quickly. In addition, project management teams need the ability to track program status, measure against a project plan, and control new product development risks.

Some EQMS processes within the APQP module allow users to decide whether they want to work with the 2008 AIAG 4th Edition FMEA formats or the 2019 AIAG/VDA FMEA formats. The starting point for these two formats differ; 4th edition FMEAs begin at the Failure Analysis level, while FMEAs using the new AIAG/VDA mode begin at the Structural Analysis level and complete the Functional Analysis before moving on to the Failure Analysis. In both formats, after the analyses are complete, users proceed to Causes, then Controls. See "APQP Level 2 Libraries" on page 83 for a more detailed explanation of each workflow.

Fig. 1: Work flow comparison



About This Guide

This user guide focuses on:

- Setup required for the APQP module
- Different forms of document organization in the APQP module
- Security and roles for the APQP module
- Instructions for the various APQP tasks

The APQP module in the QMS system is separated into three categories: APQP, APQP Libraries, and APQP Setup. A majority of the processes that make up APQP are included in this user guide; however, a secondary user guide contains processes specifically for Project Management.

Note: This guide does not provide field descriptions for the APQP module fields. Field help is provided in the software.

APQP Module Setup Guide

This section describes the processes of the APQP module. The list below is arranged by the order in which the processes should be completed, starting with the setup operations and continuing with the main functions.

Setting Up the APQP Module

Frequency Event

Use Frequency Events to define the list of events that can be selected for event-based inspections. See "Frequency Event" on page 30.

Sample Sizes

Use Sample Sizes to define a list of standard sample sizes from both a numeric and an alphanumeric value. See "Sample Sizes" on page 30.

Units of Measure

Use Units of Measure to identify quantities when used throughout the module. See "Unit of Measures" on page 31.

Gauge Types

Use Gauge Types to categorize generic types of gauges that have similar characteristics. See "Gauge Types" on page 33.

Gauge Sub-Types

Use Gauge Sub-Types for more specific gauge categorization, which can include sizes, tolerances, calibers, and more. See "Gauge Sub-Types" on page 33.

Gauges

Use Gauges for asset tracking of individual gauges, as well as recording of calibrations and R&R studies for individual gauges. See "Gauges" on page 34.

Tooling and Equipment Types

Use Tooling and Equipment Types to categorize pieces of equipment that have similar characteristics and allow for standardized reporting on equipment categories. See "Tooling and Equipment Types" on page 34.

Tooling and Equipment

Use Tooling and Equipment to document the pieces of equipment in an organization. Typically, the equipment also contains the associated maintenance information, both preventive and reactive, for tracking purposes. See "Tooling and Equipment" on page 34.

Process Symbols

Use Process Symbols to create a library of process images or symbols that can be used on reports as an indicator of the process. See "Process Symbols" on page 37.

Special Symbols

Use Special Symbols to create unique images that are typically used to identify special characteristics or failure modes. See "Special Symbols" on page 38.

Drawing Types

Use Drawing Types to set up the default list of approvers for a type of drawing, such as Customer or Supplier drawings. See "Drawing Types" on page 39.

Item Types

Use Item Types to distinguish between different items, such as purchased versus manufactured. See "Item Types" on page 41.

Item Groups

Use Item Groups to subdivide product lines. For items that are purchased, item groups might be created for each commodity type. See "Item Groups" on page 43.

Product Lines

Use Product Lines to group items or products with similar characteristics. Marking usually breaks products into product lines to allow consumers to better understand their offerings or capabilities. See "Product Lines" on page 45.

Reaction Plans

Use Reaction Plans to define a list of standard reaction plans that can be used when defining controls for inspection. See "Reaction Plans" on page 46.

AQL Level

Use AQL Levels to define the list of numerical levels that can be selected on each AQL detail record. See "AQL Level" on page 47.

AQL

Use AQL to define a single table such as ANSI/ASQ Z1.4 and Z1.9, and all of the detail records that define that standard. See "AQL" on page 47.

Project Identification Question DFMEA

Use Project Identification Question DFMEA to provide questions that should be answered during the Planning and Preparation step of a design FMEA. See "Project Identification Question DFMEA" on page 49.

Project Identification Question PFMEA

Use Project Identification Question PFMEA to provide questions that should be answered during the Planning and Preparation step of a process FMEA. See "Project Identification Question PFMEA" on page 50.

Project Identification Question FMEA-MSR

Use Project Identification Question FMEA-MSR to provide questions that should be answered during the Planning and Preparation step of a FMEA-MSR. See "Project Identification Question FMEA-MSR" on page 51.

DFMEA Control Methods

Use DFMEA Control Methods to identify failure control methods that can be applied to a design FMEA. See "DFMEA Control Methods" on page 52.

PFMEA Control Methods

Use PFMEA Control Methods to identify failure control methods that can be applied to a process FMEA. See "PFMEA Control Methods" on page 52.

FMEA-MSR Monitoring Control Methods

Use FMEA-MSR Monitoring Control Methods to identify control methods that can be applied to a FMEA-MSR. See "FMEA-MSR Monitoring Control Methods" on page 53.

Specification Categories

Use Specification Categories to group specification by a common name, typically for presentation on a report such as a certificate of conformity or certificate of analysis. See "Specification Categories" on page 54.

Specification Names

Use Specification Names to provide consistency with specification naming to help avoid naming problems such as having many different values that really mean the same thing. See "Specification Names" on page 55.

Specification Date Ranges

Use Specification Date Ranges to define the acceptable number of days for specifications that use the type Date, such as a chemical with a shelf life. See "Specification Date Ranges" on page 56.

Inspection Types

Use Inspection Types to prompt an operator/inspector with the appropriate characteristics/specifications and sample sizes at the right frequencies for that type of inspection. See "Inspection Types" on page 57.

Inspection Stations

Use Inspection Stations to prompt an operator/inspector with the appropriate characteristics/specifications and sample sizes at the right frequencies for the location of the inspection. See "Inspection Stations" on page 58.

FMEA-MSR System Responses

Use FMEA-MSR System Responses to provide a library of ways in which a system may respond to a detected failure cause. See "FMEA-MSR System Responses" on page 59.

PPAP Requirement Status

Use PPAP Requirement Status to define the status of the link between a PPAP requirement and a PPAP level. See "PPAP Requirement Status" on page 60.

PPAP Requirements

Use PPAP Requirements to define a full list of requirements for PPAP submission. See "PPAP Requirements" on page 61.

PPAP Submission Requirement Sets

Use PPAP Submission Requirement Sets to define groups of PPAP requirements per customer. See "PPAP Submission Requirement Sets" on page 63.

Design FMEA Severity Criteria

Use the Design FMEA Severity Criteria table when creating a design FMEA. The severity ratings are a relative indication of how severe an effect is to the customer if it happens. See "Design FMEA Severity Criteria" on page 67.

Design FMEA Occurrence Criteria

Use the Design FMEA Occurrence Criteria table when creating a design FMEA. The occurrence ratings are a relative indication of how likely a failure mode is to happen. See "Design FMEA Occurrence Criteria" on page 68.

Design FMEA Detection Criteria

Use the Design FMEA Detection Criteria table when creating a design FMEA. The detection ratings are a relative indication of how likely a current control is going to detect a failure mode if it happens. See "Design FMEA Detection Criteria" on page 69.

Design FMEA Occurrence Zone

Use the Design FMEA Occurrence Zone to define all of the combinations of severity and occurrence and assign each a priority level. See "Design FMEA Occurrence Zone" on page 70.

Design FMEA Detection Zone

Use the Design FMEA Detection Zone to define all of the combinations of severity and detection and assign each a priority level. See "Design FMEA Detection Zone" on page 70.

Design FMEA Priority Levels

Use Design FMEA Priority Levels to define all of the combinations of the occurrence zone and detection zone and assign each a priority level. See "Design FMEA Priority Levels" on page 71.

Process FMEA Severity Criteria

Use the Process FMEA Severity Criteria table when creating a process FMEA. The severity ratings are a relative indication of how severe an effect is to the customer if it happens. See "Process FMEA Severity Criteria" on page 72.

Process FMEA Occurrence Criteria

Use the Process FMEA Occurrence Criteria table when creating a process FMEA. The occurrence ratings are a relative indication of how likely a failure mode is to happen. See "Process FMEA Occurrence Criteria" on page 73.

Process FMEA Detection Criteria

Use the Process FMEA Detection Criteria table when creating a process FMEA. The detection ratings are a relative indication of how likely a current control is going to detect a failure mode if it happens. See "Process FMEA Detection Criteria" on page 73.

Process Risk Priority Levels

Use Process Risk Priority Levels to define the list of risk levels that can be selected for the occurrence zone, detection zone, or overall priority level. See "Process Risk Priority Levels" on page 74.

Process FMEA Occurrence Zone

Use the Process FMEA Occurrence Zone to define all of the combinations of severity and occurrence and assign each a priority level. See "Process FMEA Occurrence Zone" on page 75.

Process FMEA Detection Zone

Use the Process FMEA Detection Zone to define all of the combinations of severity and detection and assign each a priority level. See "Process FMEA Detection Zone" on page 76.

Process FMEA Priority Levels

Use Process FMEA Priority Levels to define all of the combinations of the occurrence zone and detection zone and assign each a priority level. See "Process FMEA Priority Levels" on page 76.

FMEA-MSR Frequency Criteria

Use FMEA-MSR Frequency Criteria to provide a frequency rating representative of the effectiveness of preventive controls. This is used when building a FMEA-MSR. See "FMEA-MSR Frequency Criteria" on page 77.

FMEA-MSR Monitoring Criteria

Use FMEA-MSR Monitoring Criteria to provide a monitoring rating representative of the effectiveness of the diagnostic detection controls. This is used when building a FMEA-MSR. See "FMEA-MSR Monitoring Criteria" on page 78.

FMEA Action Priority

Use the FMEA Action Priority table to prioritize actions for risk reduction. See "FMEA Action Priority" on page 79.

FMEA-MSR Action Priority

Use the FMEA-MSR Action Priority table to describe a failure effect and assigns an action priority to determine the importance of taking action. See "FMEA-MSR Action Priority" on page 80.

Using The APQP Module

DFMEA Systems Library

Use DFMEA Systems Library to identify the systems or subsystems within your product lines. See "DFMEA Systems Library" on page 85.

Processes

Use Processes to document specific business or manufacturing processes that make up a process flow. See "Processes" on page 87.

Library Specifications

Use Library Specifications to document the acceptance criteria, including (where appropriate) the tolerances of an attribute or characteristic. See "Library Specifications" on page 95.

Control Library

Use Control Library to control quality related to product or process specifications. See "Control Library" on page 98.

DFMEA Structural Analysis Library

Use DFMEA Structural Analysis LIbrary to determine structural and functional examinations for design FMEAs. See "DFMEA Structural Analysis Library" on page 101.

DFMEA Failure Analysis Library

Use DFMEA Failure Analysis Library to determine failures that can generally occur in a design. See "DFMEA Failure Analysis Library" on page 104.

DFMEA Causes Library

Use DFMEA Causes Library to describe a potential cause of failure in a design FMEA. See "DFMEA Causes Library" on page 106.

PFMEA Structural Analysis Library

Use PFMEA Structural Analysis Library to determine structural and functional examinations for process FMEAs. See "PFMEA Structural Analysis Library" on page 109.

PFMEA Failure Analysis Library

Use PFMEA Failure Analysis Library to determine failures that can generally occur in a process. See "PFMEA Failure Analysis Library" on page 112.

PFMEA Causes Library

Use PFMEA Causes Library to describe a potential cause of failure in a process FMEA. See "PFMEA Causes Library" on page 114.

Family Templates

Use Family Templates to house the FMEA, process flow, controls plans, and specifications for a product family, which can be used as a starting point for new manufacturing documents. See "Family Templates" on page 117.

Drawings

Use Drawings to control the drawings typically associated with products or items. See "Drawings" on page 125.

Items

Use Items to identify things that you stock in inventory, purchase, manufacture, sell, or service. See "Items" on page 131.

Manufacturing Documents

Use Manufacturing Documents to provide controlled copies of documentation used to produce part-specific design and process control documentation. See "Manufacturing Documents" on page 135.

Design Verification Reports

Use Design Verification Reports to document the performance of the product against the Design Verification Plan. See "Design Verification Reports" on page 165.

PPAP Submissions

Use PPAP Submissions to track submissions to your customer as part of the PPAP. See "PPAP Submissions" on page 166.

Getting Started

Before you can begin using the APQP module, it is important to understand the basics of how to navigate and use the QMS system. The system is intuitive, but some layouts, features, and best practices require a more thorough understanding. See the User Interface user guide for additional information about the QMS software.

Chapter 2

Base Setup Tasks

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Introduction

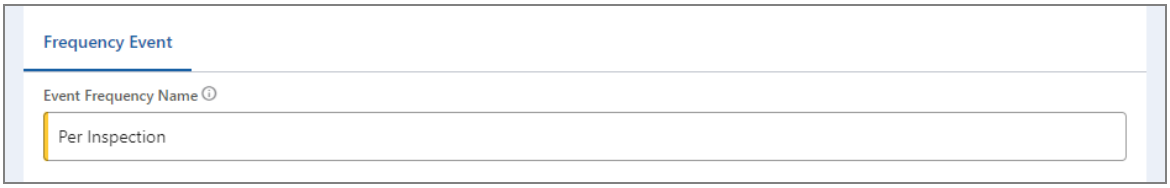
Some processes housed in the APQP module are used across multiple modules of the EQMS system. While these processes are important to APQP functions, they are not exclusive to this module. The Base Setup Tasks chapter covers the most common and basic processes within this category.

Some processes in this chapter belong primarily to another module, where they are explained more thoroughly with appropriate contexts and required setup tasks. These processes are introduced in this user guide, but users should refer to the corresponding user guide for more detailed information. A link to the appropriate user guide is supplied after each introduction.

Frequency Event

When identifying an inspection's occurrence frequency for a control plan item, there are two options: time-based and event-based. This process is used to define the list of events that can be selected for event-based inspections. Examples include per lot, per inspection, and per order.

Fig. 2: Frequency Event process screen



Frequency Event States

This section defines each state available in the workflow for the Frequency Event process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Frequency Event Tasks

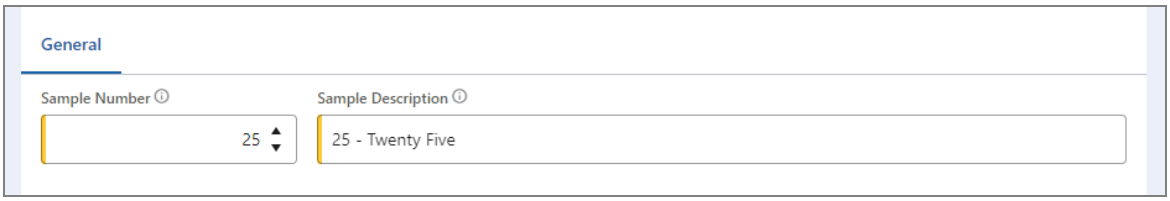
Adding a New Frequency Event

1. Select Frequency Event from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a name for the frequency event.
3. Click Save to save the new record.

Sample Sizes

Sample sizes is a simple process that allows you to define a list of standard sample sizes – both from a numeric value and an alphanumeric value – that can be used when defining controls for inspection.

Fig. 3: Sample Sizes process screen



Sample Sizes States

This section defines each state available in the workflow for the Sample Sizes process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Sample Sizes Tasks

Adding a New Sample Size

1. Select Sample Sizes from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Select a number value that defines the sample size.
3. Enter a description of the sample size.
4. Click Save to save the new record.

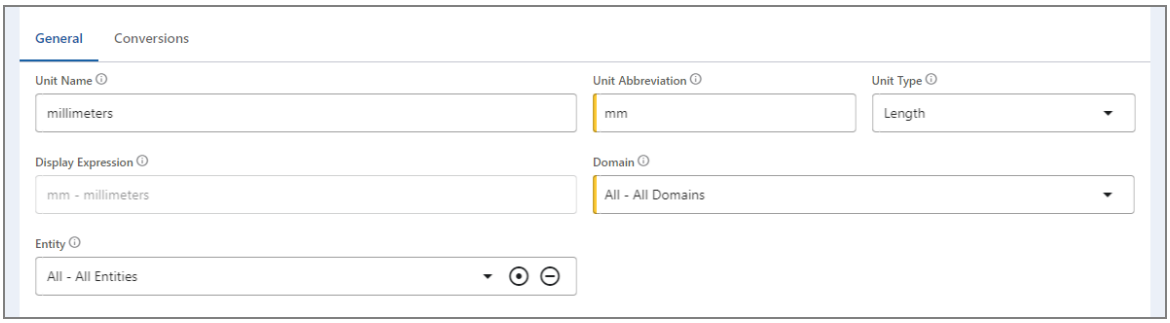
Unit of Measures

The Unit of Measures process helps identify quantities. A conversion table is also associated with each unit of measure, which defines the conversion factor when converting from one unit of measure to another.

Unit of measures is used in the following processes of the APQP module:

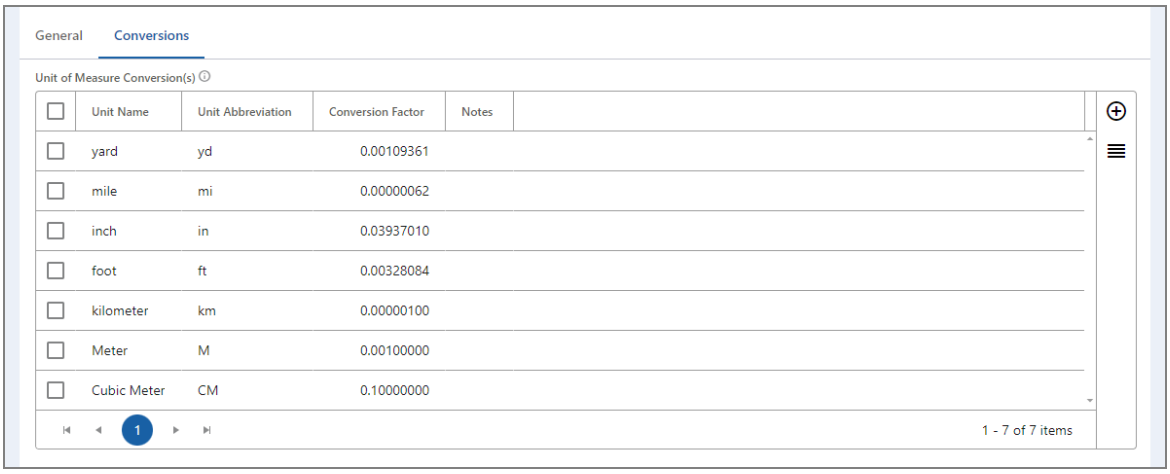
- By Library Specifications to determine the tolerance values of a specification. See "Library Specifications" on page 95.
- By Items to identify the quantity or measurement associated with a specific item. See "Items" on page 131.

Fig. 4: Unit of Measures screen, General tab



The General tab is used to define the basic information of a unit of measure.

Fig. 5: Unit of Measures screen, Conversions tab



The Conversion tab contains a list of other units of measure that the current unit of measure can be converted to, along with the conversion factor.

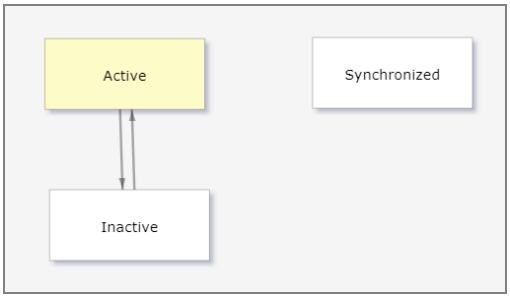
Unit of Measures States

This section defines each state available in the workflow for the Unit of Measures process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A unit of measure that is actively used.

Inactive. A unit of measure that is no longer in use.

Synchronized. The state is automatically set if the item is created or updated from integration with another system (e.g. ERP). Synchronized fields are read-only.



Unit of Measures Tasks

Adding a New Unit of Measure

1. Select Unit of Measures from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a unit name and abbreviation.
3. Select a unit type.
4. Select a domain that this unit belongs to.

Note: You can select All Domains if you want the unit to pertain to each domain in the system.

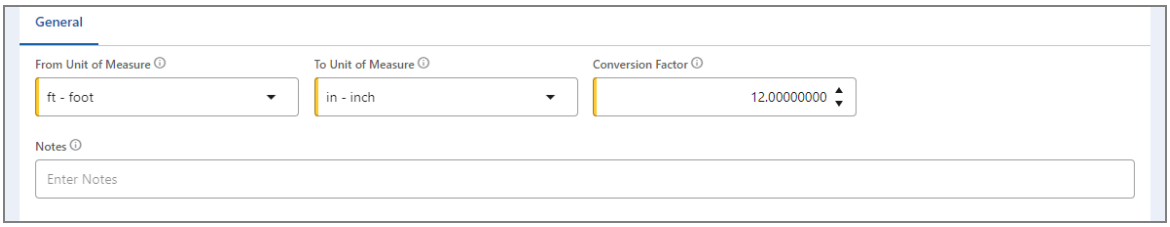
5. Click Save to save the new record. When selecting the next state, click Active.

   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the unit of measure cannot be used for new records.

Adding a New Conversion

1. In the Unit of Measures detail screen, navigate to the Conversion tab.
2. Click the Add New Item ⊞ button in the Unit of Measure Conversions field.
3. In the To Unit of Measure field, select the measurement that the current unit of measure can be converted to.
4. In the Conversion Factor field, enter the numerical factor used to convert the "from" unit of measure to the "to" unit of measure. See the figure below for an example.
5. Enter any notes about the conversion if necessary.
6. Click Save to save the record.

Fig. 6: Unit Conversions screen



Gauge Types

Gauge types allow you to categorize generic types of gauges that have similar characteristics. Examples of this general categorization could be micrometer, caliper, or plug gauge.

Within these types, you can configure calibration procedures and reference documentation. Gauge types are used in the Gauge module. See "Gauges" below.

Information about the Gauge Types process (including state transitions, security roles, tasks, and more) can be found in the Gauge Management user guide.

Gauge Sub-Types

Gauge sub-types exist for more specific categorization of gauges, which can include sizes, tolerances, calibers, and more. Gauges of the same sub-type should have the same calibration standards.

Gauge sub-types are used in the Gauge module and to configure calibrations. See "Gauges" below.

Information about the Gauge Sub-Types process (including state transitions, security roles, tasks, and more) can be found in the Gauge Management user guide.

Gauges

The Gauges process provides asset tracking of individual gauges and records calibrations, as well as bias, linearity, and R&R studies for individual gauges. With this process, you will know where a gauge came from, its purpose, where it is assigned and located, whether it is active or out of service, and more. Gauges are organized by type and sub-type.

Information about the Gauges process (including state transitions, security roles, tasks, and more) can be found in the Gauge Management user guide.

Tooling and Equipment Types

The first step to setting up pieces of equipment in the system is separating them into different types for better organization. The Tooling and Equipment Types process enables you to categorize pieces of equipment that have similar characteristics, such as conveyors, and allow for standardized reporting on tooling and equipment categories, which can optionally be broken down further into tooling and equipment sub-types. Tooling and equipment sub-types are more precise, such as flat-belt conveyor, and are typically used for tracking and categorizing purposes.

Information about the Tooling and Equipment Types process (including state transitions, security roles, tasks, and more) can be found in the Equipment Maintenance user guide.

Tooling and Equipment

Tooling and Equipment allows you to document the pieces of equipment in the organization. Typically the equipment also contains the associated maintenance information, both preventive and reactive for tracking purposes.

Information about the Tooling and Equipment process (including state transitions, security roles, tasks, and more) can be found in the Equipment Maintenance user guide.

Chapter 3

Setting Up the APQP Module

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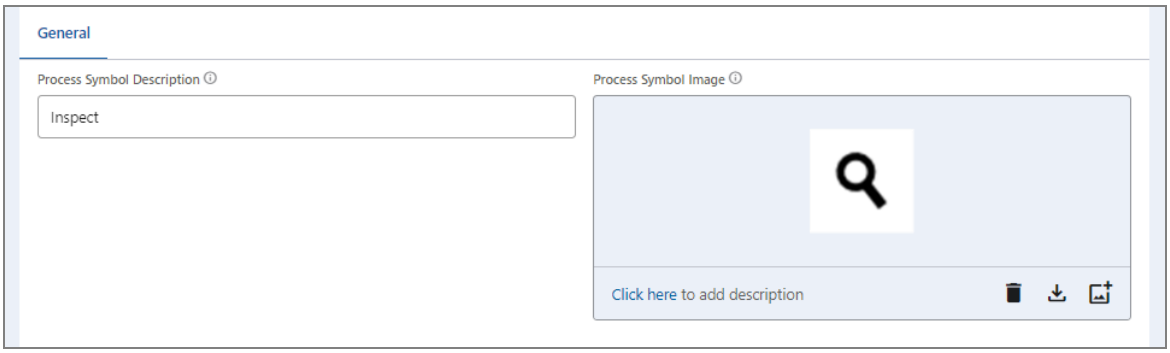
Process Symbols

Process symbols allow you to create a library of process images or symbols that can be used on reports as an indicator of the process, such as on the process flow report.

Process symbols are used in the Processes process. See "Processes" on page 87.

Fig. 7: Process Symbols process screen

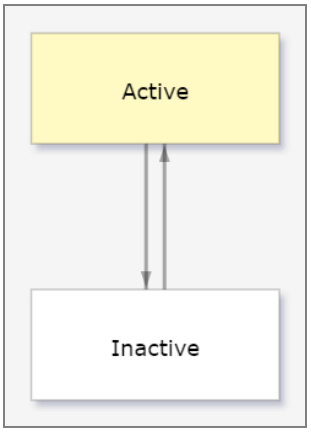


Process Symbols States

This section defines each state available in the workflow for the Process Symbols process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A process symbol that is actively used.

Inactive. A process symbol that is no longer in use.



Process Symbols Tasks

Adding a New Process Symbol

1. Select Process Symbols from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a brief description for the process symbol.
3. Click the Browse button in the Process Symbol Image field. A new window appears.

4. Navigate the files of your computer until you find the image that you want. Then select that image and click Open.
5. To save the image, click the Save Local button.
6. Click Save to save the new record. When selecting the next state, click Active.

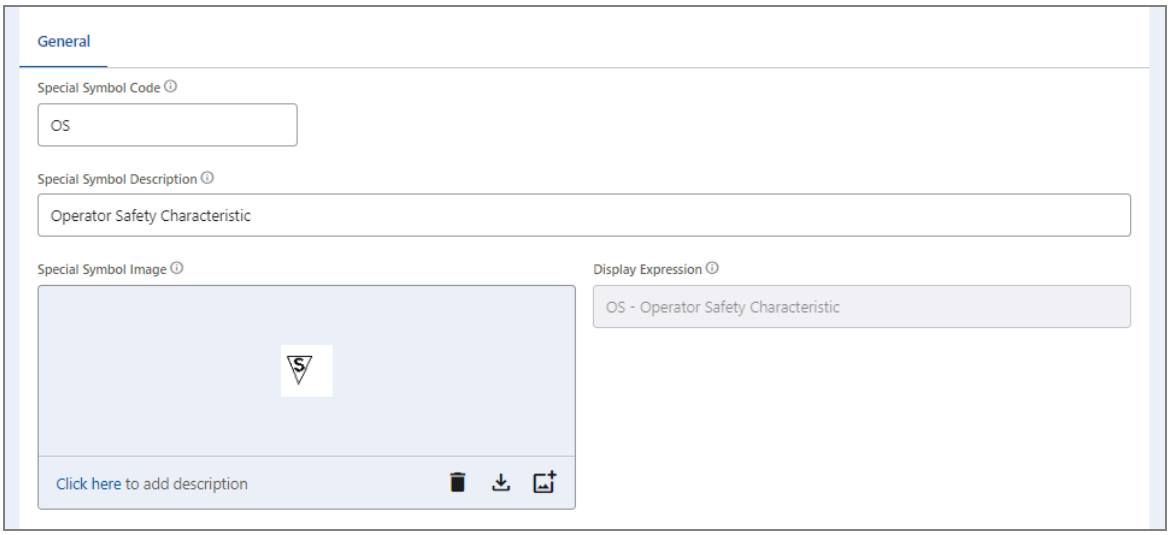
   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the process symbol cannot be used for new records.

Special Symbols

Special symbols allows users to create unique images that are typically used to identify special characteristics or failure modes.

Special symbols are used in the Library Specification process as a special classification as required by the customer. See "Library Specifications" on page 95.

Fig. 8: Special Symbols process screen

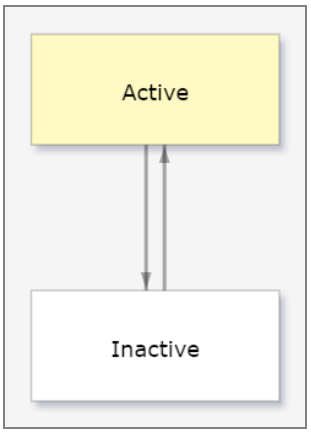


Special Symbols States

This section defines each state available in the workflow for the Special Symbols process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A special symbol that is actively used.

Inactive. A special symbol that is no longer in use.



Special Symbols Tasks

Adding a New Special Symbol

1. Select Special Symbols from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the special symbol code and name. Notice how the Display Expression field combines the two values; this is how users will look up this symbol.
3. Click the Browse button in the Special Symbol Image field. A new window appears.
4. Navigate the files of your computer until you find the image that you want. Then select that image and click Open.
5. To save the image, click the Save Local button.
6. Click Save to save the new record. When selecting the next state, click Active.

   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the symbol cannot be used for new records.

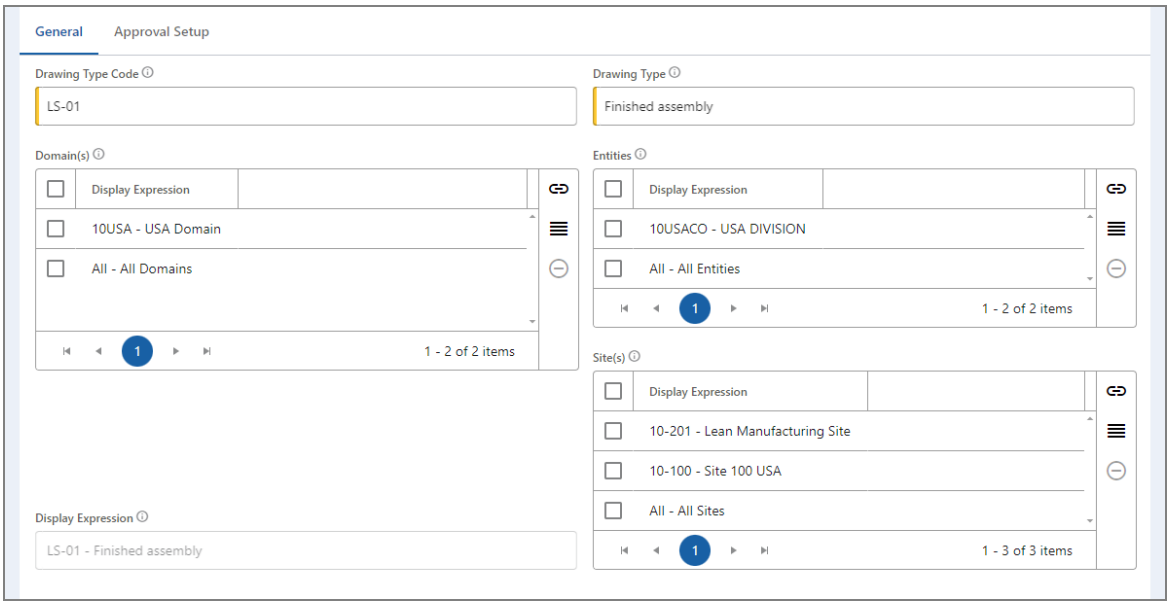
Drawing Types

Drawing types gather similar drawings together and are used to set up the default list of approvers for a type of drawing. Drawing types can be set up by the different types of products being created or even by the different areas of the engineering department. Another example for the use of drawing types is the source of the drawing, such as Customer or Supplier drawings.

Drawing types can be linked to one or several sites, which are filtered by the selected domain. If any of these sites contain an ITAR (International Traffic in Arms Regulation) requirement, then drawings created from this type can be ITAR restricted. This means only employees who are ITAR compliant can view, access, and interact with the drawing.

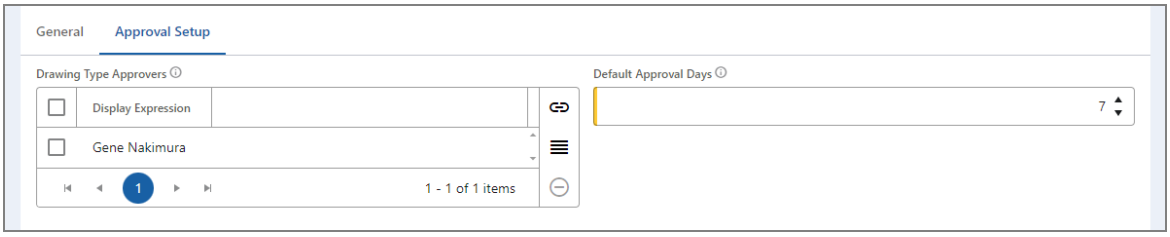
See "Drawings" on page 125 to learn more about the Drawings process.

Fig. 9: Drawing Types screen, General tab



The General tab contains the naming convention for the drawing type. If one of the sites listed in the Sites field are ITAR restricted, then the "ITAR Restricted" toggle field is automatically set to YES.

Fig. 10: Drawing Types screen, Approval Setup tab



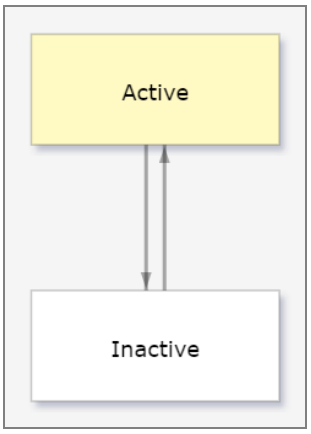
The Approval Setup tab allows you to assign employees as approvers for drawings of this type, as well as set the default number of days for approval.

Drawing Types States

This section defines each state available in the workflow for the Drawing Types process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A drawing type that is actively used.

Inactive. A drawing type that is no longer in use.



Drawing Types Tasks

Adding a New Drawing Type

1. Select Drawing Types from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the drawing type code and name. Notice how the Display Expression field combines the two values; this is how users will look up this drawing type.
3. Add the domains, entities, and sites associated with this drawing type.
    a. Click the Link button. A small window appears.
    b. Select all items that apply.
    c. Click OK.

    Note: If any of the selected sites contain an ITAR restriction, then the drawing type's "ITAR Restricted" check box automatically becomes selected.

4. Navigate to the Approval Setup tab. Select approvers for this drawing type in the Drawing Type Approvers field.
5. Select the default number of days that approvers should have to approve a drawing of this type. This number is just a default and can be changed per drawing.
6. Click Save to save the new record. When selecting the next state, click Active.

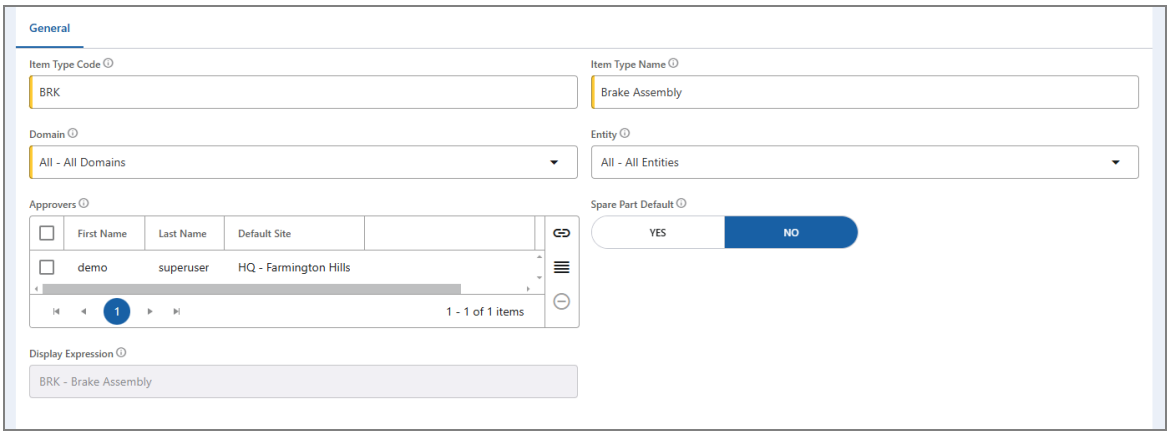
    Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the drawing type cannot be used for new records.

Item Types

Item types are the most general grouping level for items. Item types are generally used to distinguish between items that are purchased versus items that are manufactured, although there may be additional item types to help break down a very large item database. Examples of item types might be finished goods, component, purchased product, spare part, and so on.

Item types are used in the Family Templates and Items processes for categorization. See "Family Templates" on page 117 and "Items" on page 131.

Fig. 11: Item Types process screen



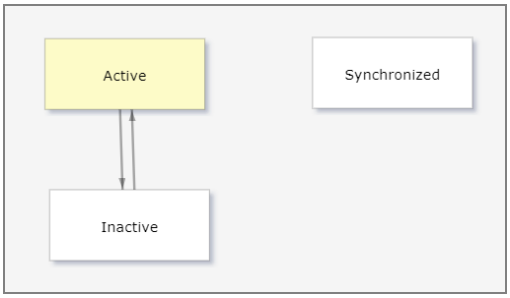
Item Types States

This section defines each state available in the workflow for the Item Types process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). An item type that is actively used.

Inactive. An item type that is no longer in use.

Synchronized. The state is automatically set if the item is created or updated from integration with another system (e.g. ERP). Synchronized fields are read-only.



Item Types Tasks

Adding a New Item Types

1. Select Item Types from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the item type code and name. Notice how the Display Expression field combines the two values; this is how users will look up this item type.
3. In the Approvers field, click the Link button. A new window appears.
4. Select the check box next to each user that should be a default approver for the item type. Then click OK.
5. If the item type will be used for maintenance spare parts, then select the "Spare Part

Default" check box.

6. Click Save to save the new record. When selecting the next state, click Active.

   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the item type cannot be used for new records.

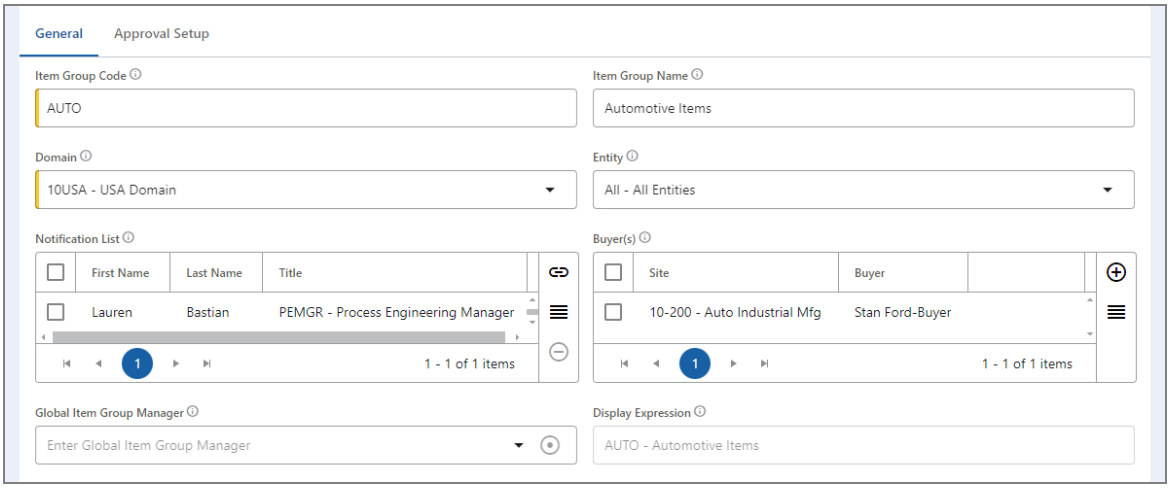
Item Groups

Item groups allow you to subdivide product lines. Items are often grouped based on similar characteristics, such as end user function. For items that are purchased, item groups might be created for each commodity type. Examples include round bar stock, tie rods, plate steel, bearings, and lug nuts.

Item groups are used in the following processes of the APQP module:

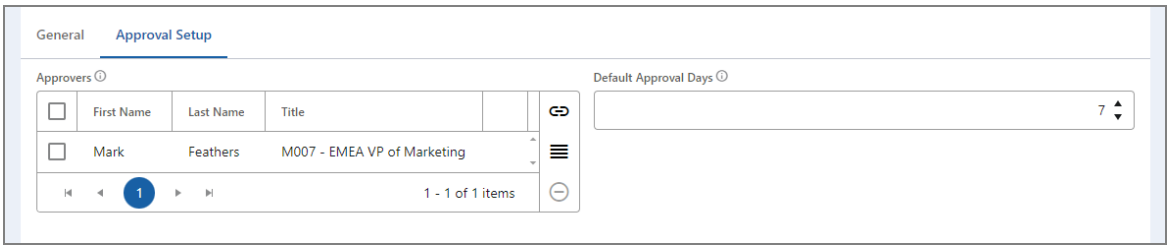
- By Library Specifications to categorize product specifications. See "Library Specifications" on page 95.
- By Family Templates to subdivide product lines. See "Family Templates" on page 117.
- By Items to categorize an item. See "Items" on page 131.

Fig. 12: Item Groups screen, General tab



The General tab contains the basic information of an item group, including the code and name, notification list, buyers list, and more.

Fig. 13: Item Groups screen, Approval Setup tab



The Approval Setup tab allows you to assign employees as approvers for items of this group, as well as set the default number of days for approval.

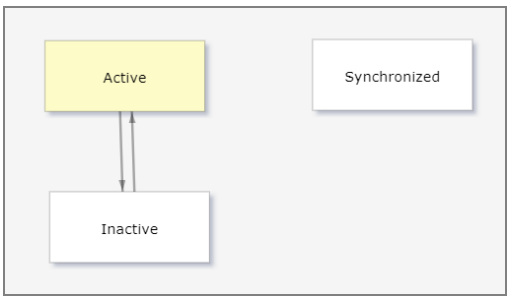
Item Groups States

This section defines each state available in the workflow for the Item Groups process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). An item group that is actively used.

Inactive. An item group that is no longer in use.

Synchronized. The state is automatically set if the item is created or updated from integration with another system (e.g. ERP). Synchronized fields are read-only.



Adding a New Item Group

1. Select Item Groups from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the item group code and name. Notice how the Display Expression field combines the two values; this is how users will look up this group.
3. In the Notification List field, click the Link button. A new window appears.
4. Select the check box next to each user that should be notified if a non-conformance is found for a safety-related item. Then click OK.
5. In the Buyers field, click the Add New Item button. A new tab opens.
6. Use the Site and Buyer drop-down fields to create a record that identifies the buyer for this item group. Click Save to save the record when finished.
7. Back at the Item Group process screen, click Save to save the new record. When selecting the next state, click Active.

> ***Note:*** You can toggle between Active and Inactive as needed. When the state is Inactive, the item group cannot be used for new records.

Adding Approval Setup to an Item Group

1. Select Item Groups from the left navigation panel. Then, double-click the record that you want to open.
2. Navigate to the Approval Setup tab and click on the Link button in the Approvers field. A new window opens.

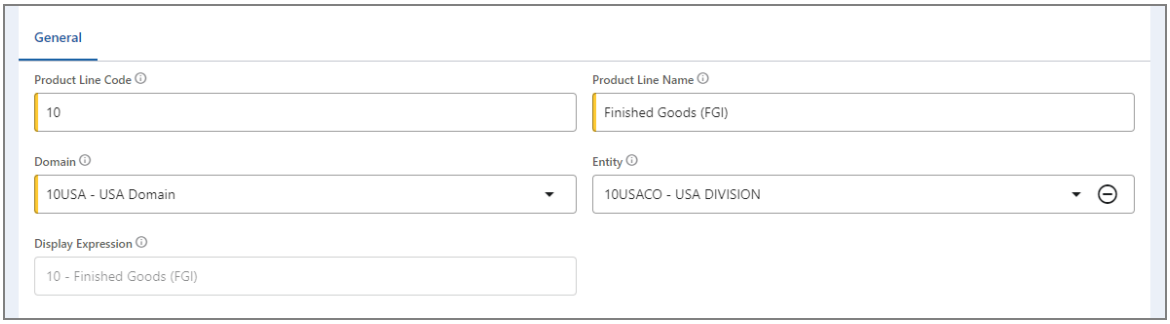
3. Select the check box next to each user that should be a default approver for the item type. Then click OK.
4. Select the default number of days that approvers have to approve manufacturing documents associated with this group.

Product Lines

Product lines are used to group items or products with similar characteristics. These products are usually grouped by similarities of manufacture, use, application, cost analysis, or revenue analysis. Marketing usually breaks products into product lines to allow consumers to better understand their offerings or capabilities.

Product lines are used in the Item process. See "Items" on page 131.

Fig. 14: Product Lines process screen



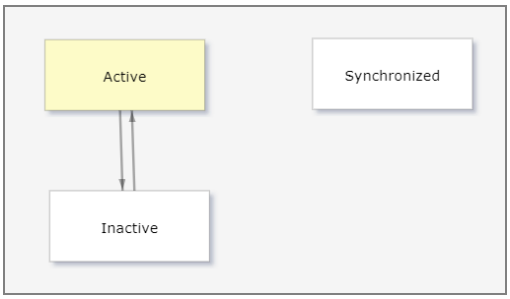
Product Lines States

This section defines each state available in the workflow for the Product Lines process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A product line that is actively used.

Inactive. A product line that is no longer in use.

Synchronized. The state is automatically set if the item is created or updated from integration with another system (e.g. ERP). Synchronized fields are read-only.



Product Lines Tasks

Adding a New Product Line

1. Select Product Lines from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter values for the product line code and name. Notice how the Display Expression field combines the two values; this is how users will look up this product line.
3. Click Save to save the new record. When selecting the next state, click Active.

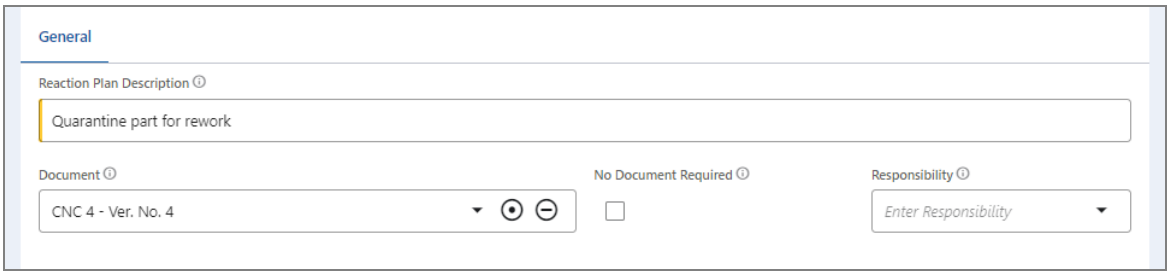
   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the product line cannot be used for new records.

Reaction Plans

The reaction plans process allows you to define a list of standard reaction plans that can be used when defining controls for inspection.

Reaction plans are used by the Control Library process to document what actions should be taken in a process begins to go out of control. See "Control Library" on page 98.

Fig. 15: Reaction Plans process screen



Reaction Plans States

This section defines each state available in the workflow for the Reaction Plans process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Reaction Plans Tasks

Adding a New Reaction Plan

1. Select Reaction Plans from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter a description of the reaction plan.
3. If the reaction plan requires a document, use the Document drop-down field to select the appropriate document.
4. If the reaction plan does not require a document, then select the "No Document Required" check box.

5. Select the individual responsible for implementing the action or referencing a document that details the plan.
6. Click Save to save the new record.

AQL Level

The AQL is the quality level considered to be the "worst tolerable". It represents the maximum number of defective units, beyond which a batch is rejected. See "AQL" below.

AQL levels are typically classified into three levels: critical, major, and minor. The more critical the defect, the smaller the number of acceptable defects within a batch. A minor defect may be as simple as some chipped paint; a major defect can affect its marketability or usability, such as a misspelled logo; a critical defect would render the product unsafe for users or fail mandatory regulations, such as broken glass or leaking fluid.

Fig. 16: AQL Level process screen

AQL Level States

This section defines each state available in the workflow for the AQL Level process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

AQL Level Tasks

Adding a New AQL Level

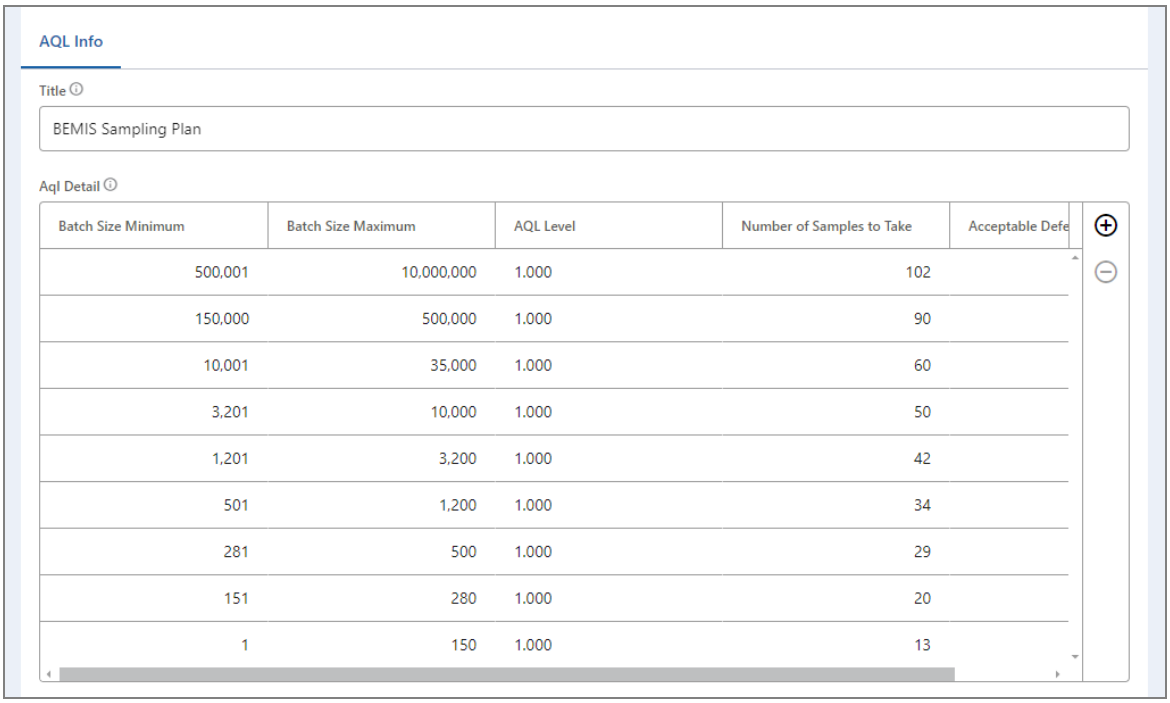
1. Select AQL from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a quality level name.
3. Enter a quality level number.
4. Click Save to save the new record.

AQL

Acceptable quality limit (AQL) defines the range between accepting and rejecting components of a product during the random sampling process of an inspection. When adding details to an AQL record, you must define the minimum and maximum size of a batch, how many samples should be taken from that batch, the AQL level, and the quantity of defects that is acceptable from those samples. See "AQL Level" above.

AQL Tables are used for control plans and inspection events. See "Control Library" on page 98.

Fig. 17: AQL process screen



AQL States

This section defines each state available in the workflow for the AQL process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

AQL Tasks

Adding a New AQL Table

1. Select AQL from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a title for the AQL table.
3. In the AQL Detail field, click the Add New Item button. A new row appears.
4. Use the first two number toggle fields to set the batch size minimum and maximum parameters.
5. Select the AQL level.
6. Select the number of samples that should be taken within the batch size parameters to be tested for quality.
7. Select the acceptable defect quantity, which determines how many samples are allowed to be defective before the whole batch is declared rejected.
8. Repeat steps 4-7 to add as many rows as are necessary.
9. Click Save to save the new record.

Project Identification Question DFMEA

The Project Identification Question DMFEA process provides questions that should be answered during the Planning and Preparation step of a design FMEA. These questions populate the Project Identification field in the DFMEA Analysis tab of manufacturing documents. See "Manufacturing Documents" on page 135.

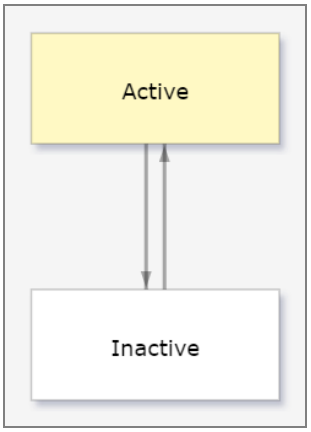
Fig. 18: Project Identification Question DFMEA process screen

Project Identification Question DFMEA States

This section defines each state available in the workflow for the Project Identification Question DFMEA process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A project identification question that is actively used.

Inactive. A project identification question that is no longer in use.



Project Identification Question DFMEA Tasks

Adding a New Project Identification Question DFMEA

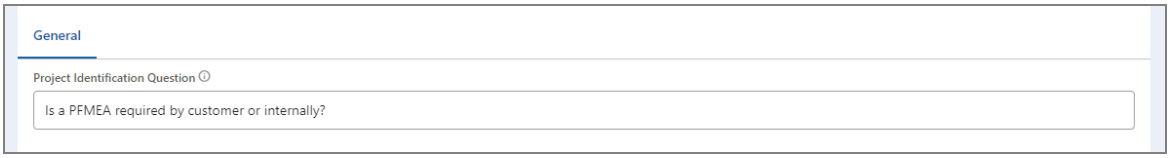
1. Select Project Identification Question DFMEA from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter the project identification question.
3. Click Save to save the new record. When selecting the next state, click Active.

Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the project identification question cannot be used for new records.

Project Identification Question PFMEA

The Project Identification Question PMFEA process provides questions that should be answered during the Planning and Preparation step of a process FMEA. These questions populate the Project Identification field in the PFMEA Planning tab of manufacturing documents. See "Manufacturing Documents" on page 135.

Fig. 19: Project Identification Question PFMEA process screen

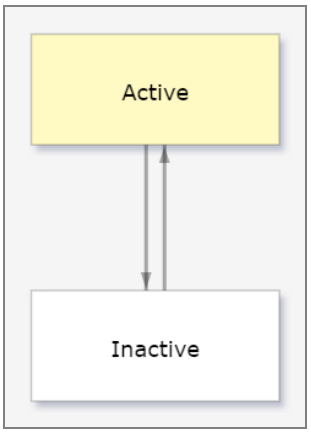


Project Identification Question PFMEA States

This section defines each state available in the workflow for the Project Identification Question PFMEA process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A project identification question that is actively used.

Inactive. A project identification question that is no longer in use.



Project Identification Question PFMEA Tasks

Adding a New Project Identification Question PFMEA

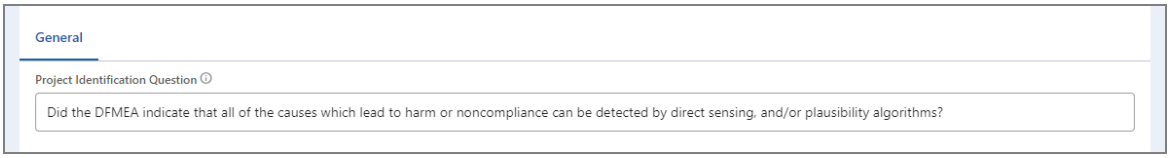
1. Select Project Identification Question PFMEA from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter the project identification question.
3. Click Save to save the new record. When selecting the next state, click Active.

Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the project identification question cannot be used for new records.

Project Identification Question FMEA-MSR

The Project Identification Question FMEA-MSR process provides questions that should be answered during the Planning and Preparation step of a FMEA-MSR. These questions populate the Project Identification field in the FMEA-MSR Analysis tab of manufacturing documents. See "Manufacturing Documents" on page 135.

Fig. 20: Project Identification Question FMEA-MSR process screen

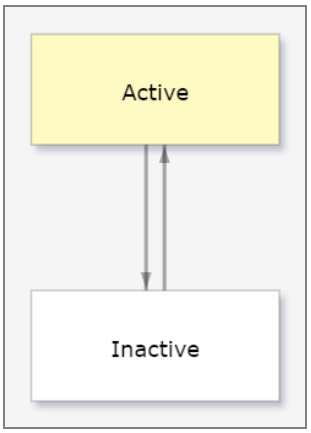


Project Identification Question FMEA-MSR States

This section defines each state available in the workflow for the Project Identification Question FMEA-MSR process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A project identification question that is actively used.

Inactive. A project identification question that is no longer in use.



Project Identification Question FMEA-MSR Tasks

Adding a New Project Identification Question FMEA-MSR

1. Select Project Identification Question FMEA-MSR from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter the project identification question.
3. Click Save to save the new record. When selecting the next state, click Active.

Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the project identification question cannot be used for new records.

DFMEA Control Methods

The DFMEA Control Methods process identifies control methods that can be applied to a design FMEA. Control methods can be used to detect a failure mode, to prevent a failure mode, or both.

Once a control method is created, it can be used when building a design FMEA in a manufacturing document. See "Manufacturing Documents" on page 135.

Fig. 21: DFMEA Control Methods screen, General tab

DFMEA Control Methods States

There are no states identified for this process.

DFMEA Control Methods Tasks

Adding a New DFMEA Control Method

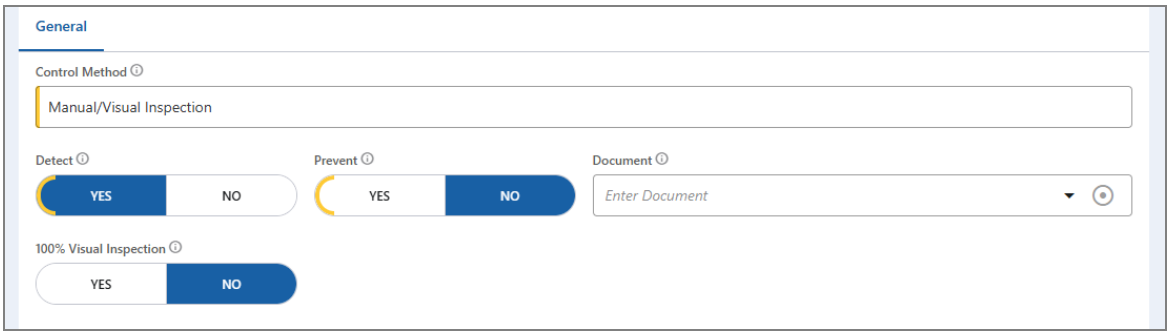
1. Select DFMEA Control Methods from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter a description of the control method.
3. Set the "Detection" and "Prevention" toggles to indicate whether this control method is used for detecting failures, preventing failures, or both.
4. Click Save to save the new record.

PFMEA Control Methods

The PFMEA Control Methods process identifies control methods that can be applied to a process FMEA. Control methods can be used to detect a failure mode, to prevent a failure mode, or both.

Once a control method is created, it can be used when building a process FMEA in a manufacturing document. See "Manufacturing Documents" on page 135. PFMEA control methods are also used in the Control Library process and the PFMEA Failure Analysis Library process to explain the method of detection or prevention of failure. See "PFMEA Failure Analysis Library" on page 112 and "Control Library" on page 98.

Fig. 22: PFMEA Control Methods process screen



PFMEA Control Methods States

This section defines each state available in the workflow for the PFMEA Control Methods process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

PFMEA Control Methods Tasks

Adding a New PFMEA Control Method

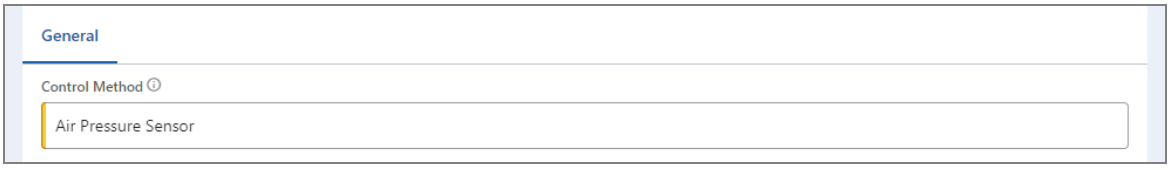
1. Select PFMEA Control Methods from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter a name for the control method.
3. Set the "Detection" and "Prevention" toggles to indicate whether this control method is used for detecting failures, preventing failures, or both.
4. Use the Document drop-down field to select a document associated with the control method.
5. Click Save to save the new record.

FMEA-MSR Monitoring Control Methods

The FMEA-MSR Monitoring Control Methods process identifies control methods that can be applied to a FMEA-MSR. These control methods should be monitored for the cause or mode of a failure.

Once a control method is created, it can be used when building a FMEA-MSR in a manufacturing document. See "Manufacturing Documents" on page 135.

Fig. 23: FMEA-MSR Monitoring Control Methods screen



FMEA-MSR Monitoring Control Methods States

There are no states identified for this process.

FMEA-MSR Monitoring Control Methods Tasks

Adding a New FMEA-MSR Monitoring Control Method

1. Select FMEA-MSR Monitoring Control Methods from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter a description of the control method.
3. Click Save to save the new record.

Specification Categories

Specification categories allow you to group specifications by a common name, typically for presentation on a report such as a certificate of conformity or certificate of analysis. Examples of categories include electronic properties, electrical properties, physical properties, or chemical properties.

Fig. 24: Specification Categories process screen

Specification Categories States

This section defines each state available in the workflow for the Specification Categories process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Adding a New Specification Category

1. Select Specification Categories from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter values for the category code and name. Notice how the Display Expression field combines the two values; this is how users will look up this category.
3. Click Save to save the new record.

Specification Names

Specification names provide consistency with specification titles in order to avoid naming problems such as having many different values that really mean the same thing. For example, it is common to see a value such as width be entered as width, widths, wd, or w. To help avoid this problem the specification names process was created to provide a level of security control over who can create specification names.

Specification names should be specific. For instance, if you are making a motor shaft, there are likely several outer diameters. Each unique diameter should have its own unique name. This allows for unique control of each diameter and better matching with the Drawing Features.

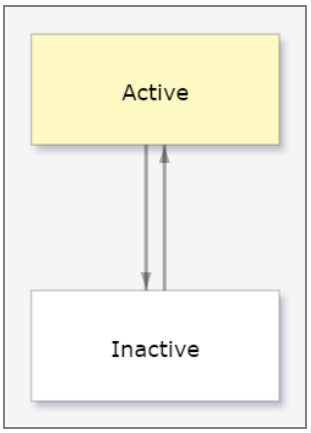
Fig. 25: Specification Names process screen

Specification Names States

This section defines each state available in the workflow for the Specification Names process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A specification name that is actively used.

Inactive. A specification name that is no longer in use.



Specification Names Tasks

Adding a New Specification Name

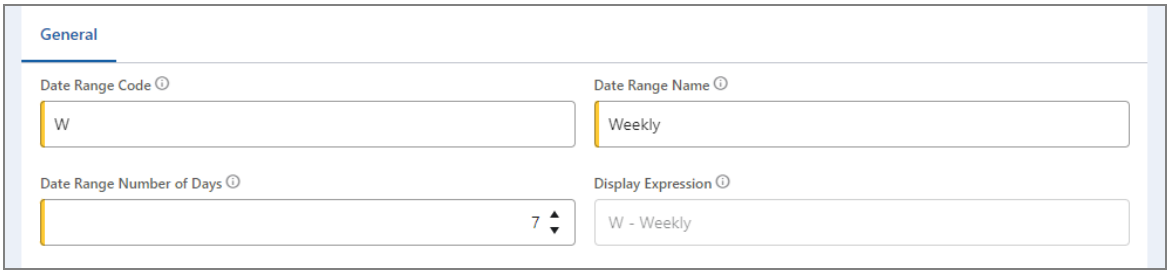
1. Select Specification Names from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a name for the specification.
3. Select a category that the specification belongs to.
4. Click Save to save the new record. When selecting the next state, click Active.

   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the specification name cannot be used for new records.

Specification Date Ranges

Specification date ranges are used to define the acceptable number of days for specifications that use the type Date. For example, the name of the range might be "1 Year" and the number of days would be 365.

Fig. 26: Specification Date Ranges process screen



Specification Date Ranges States

This section defines each state available in the workflow for the Specification Date Ranges process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Specification Date Ranges Tasks

Adding a New Specification Date Range

1. Select Specification Date Ranges from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the date range code and name. Notice how the Display Expression field combines the two values; this is how users will look up this range.
3. Enter a numerical value in the Date Range Number of Days field that represents the date range. For example, if the date range is Weekly, then enter 7 days.
4. Click Save to save the new record. When selecting the next state, click Active.

Inspection Types

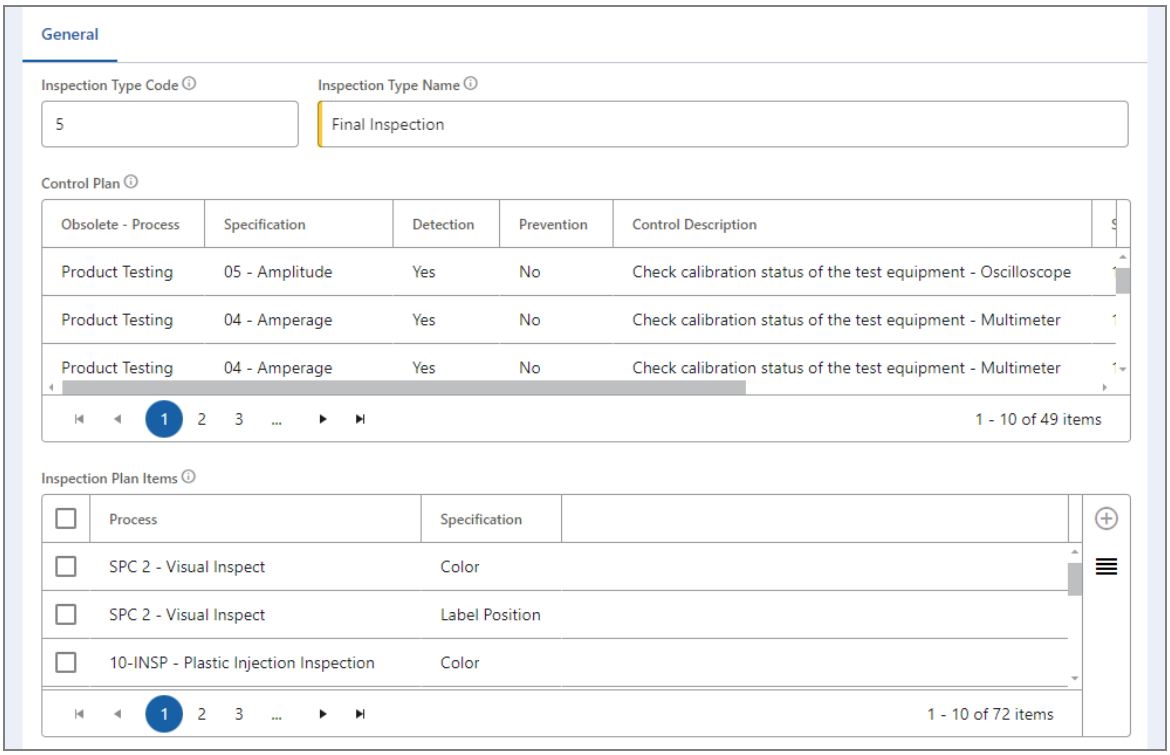
Inspection types make up a list of possible types of inspections that may be conducted, such as setup, in-process, or FAI (first article inspection). They are used to present an inspector with the appropriate specifications to verify based on the type of inspection they are performing.

Within the APQP module, inspection types are linked to library controls to default on family template and manufacturing document control plans in order to specify if the control plan item will appear on inspections related to the type of inspection. The control plans that an inspection type is linked to will appear in the Control Plan cross-reference field.

- See "Control Library" on page 98.
- See "Family Templates" on page 117.
- See "Manufacturing Documents" on page 135.

An additional cross-reference field displays which, if any, inspection plan items are connected to the inspection type. Inspection plans are part of the Inspection & SPC module. See the Inspection & SPC user guide for more information.

Fig. 27: Inspection Types process screen



Inspection Types States

This section defines each state available in the workflow for the Inspection Types process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Inspection Types Tasks

Adding a New Inspection Type

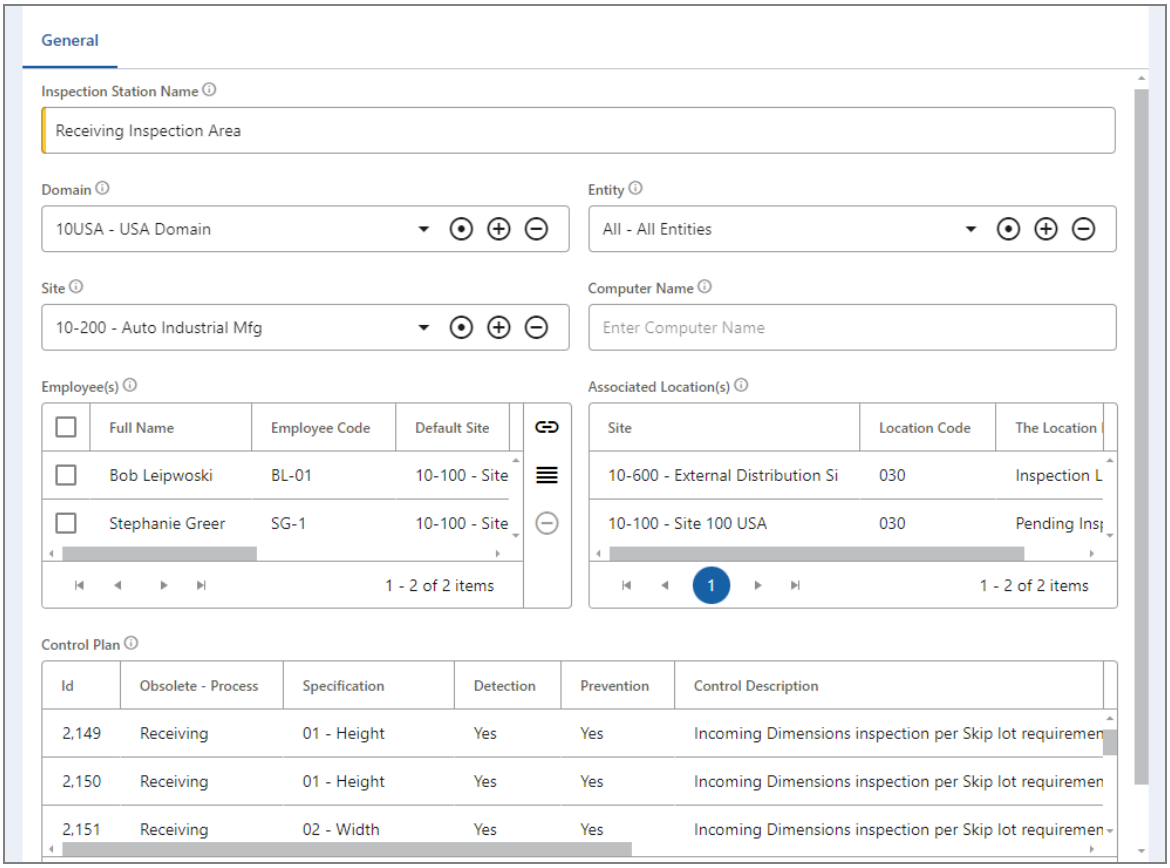
1. Select Inspection Types from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the inspect type name and code.
3. Click Save to save the new record.

Inspection Stations

Inspection stations are used to identify locations where inspections take place. Control plan items can be assigned one or more inspection stations and then be used to limit which control plan items show up for an inspection event based on a selected station.

Inspection stations are used in the Control Library process to filter SPC collection events for inspection stations. See "Control Library" on page 98 for more information.

Fig. 28: Inspection Stations process screen



Inspection Stations States

This section defines each state available in the workflow for the Inspection Stations process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Inspection Stations Tasks

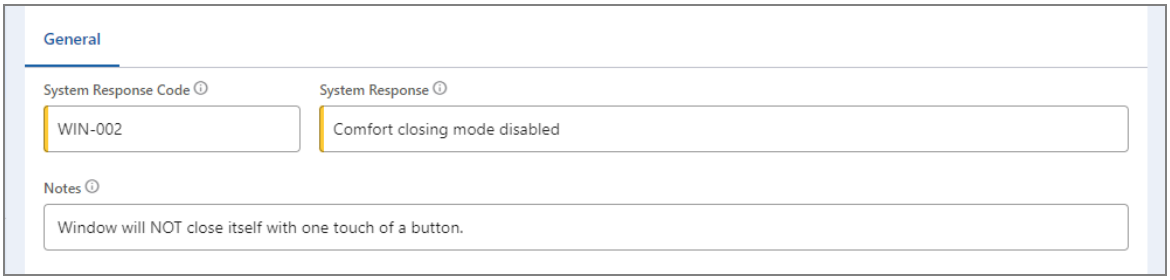
Adding a New Inspection Station

1. Select Inspection Stations from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a name for the inspection station and select the appropriate domain and site.
3. Enter the network name of the computer for the station.
4. In the Employees field, click the Link button. A new window appears.
5. Select the check box beside each employee that you want to assign to the station. Then click OK.
6. Click Save to save the new record.

FMEA-MSR System Responses

The FMEA-MSR System Responses process provides a library of ways in which a system may respond to a detected failure cause.

Fig. 29: FMEA-MSR System Responses process screen

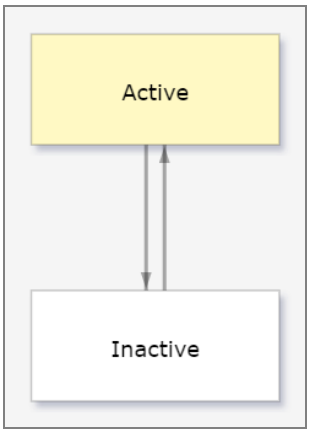


FMEA-MSR System Responses States

This section defines each state available in the workflow for the FMEA-MSR System Responses process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A system response that is actively used.

Inactive. A system response that is no longer in use.



FMEA-MSR System Responses Tasks

Adding a New FMEA-MSR System Response

1. Select FMEA-MSR System Responses from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter a code and name for the system response.
3. Enter any notes about the system response, if necessary.
4. Click Save to save the new record. When selecting the next state, click Active.

   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the specification name cannot be used for new records.

PPAP Requirement Status

Production Part Approval Process (PPAP) is an approach that supports a customer's decision-making process when determining if a supplier:

- Understands the customer's product requirements and specifications
- Is ready to supply product at the required quality and rate

PPAP requirement statuses are used to define the status of the link between a PPAP requirement and a PPAP level. Examples include:

- S = the organization shall submit
- R = the organization shall retain
- * = the organization shall retain and submit upon request

PPAP requirement statuses are used in the PPAP Submissions process. See "PPAP Submissions" on page 166.

Fig. 30: PPAP Requirement Status process screen

PPAP Requirement Status States

This section defines each state available in the workflow for the PPAP Requirement Status process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

PPAP Requirement Status Tasks

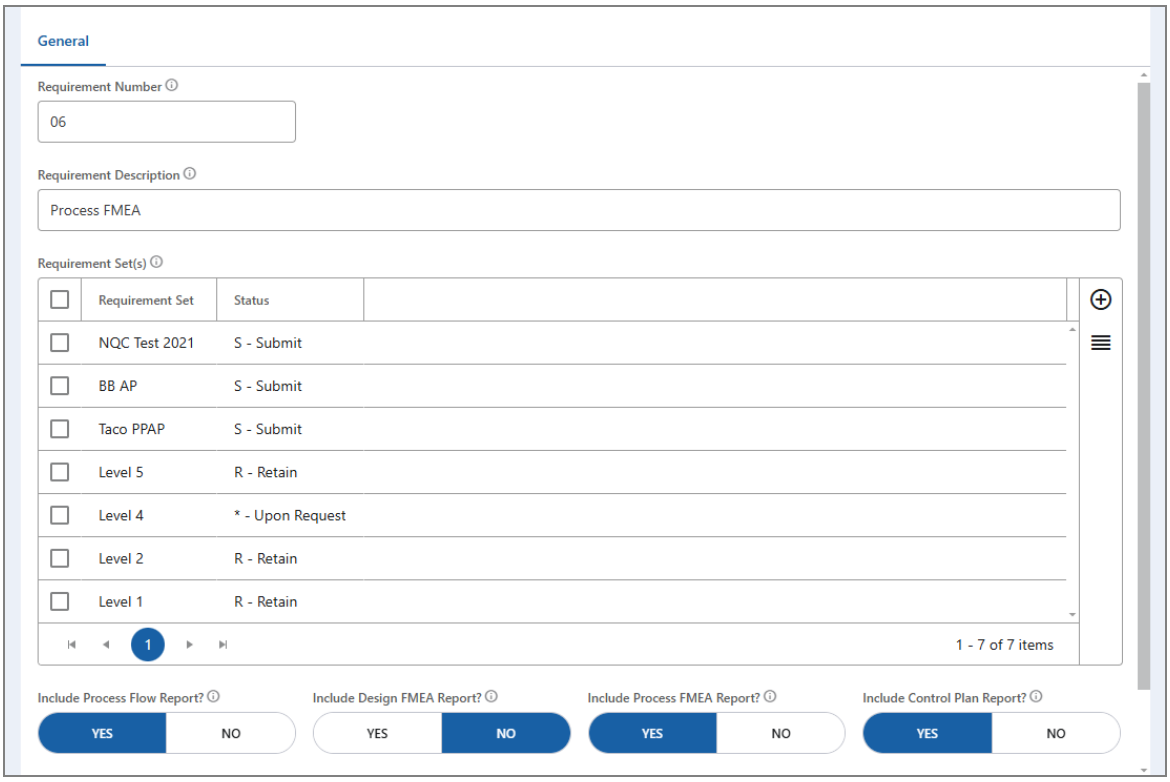
Adding a New PPAP Requirement Status

1. Select PPAP Requirement Status from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter values for the requirement status code and name. Notice how the Display Expression field combines the two values; this is how users will look up this status.
3. Enter a full description of the requirement status.
4. Click Save to save the new record.

PPAP Requirements

PPAP requirements define a full list of requirements for PPAP submission. The default list comes from the AIAG (Automotive Industry Action Group) PPAP manual, but customer-specific requirements can be added to the list as required.

Fig. 31: PPAP Requirements process screen



PPAP Requirements States

This section defines each state available in the workflow for the PPAP Requirements process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

PPAP Requirements Tasks

Adding a New PPAP Requirement

1. Select PPAP Requirements from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter the requirement number.

   Note: This field is alphanumeric. If you want a proper sort, then pad the numbers with leading zeros.

3. Enter a full description of the requirement.
4. Click the Add New Item button in the Requirement Submission Levels field. A new tab opens.
5. In the new tab, enter the sequence of the requirement/submission level combination. The sequence is for sorting purposes only.
6. Select the submission level and appropriate submission status for this relationship.

7. Click Save to save the requirement submission level.
8. Back in the PPAP Requirement screen, use the toggle fields to determine which reports should be included in the PPAP requirement. These reports include:
    a. Process Flow
    b. Design FMEA
    c. Process FMEA
    d. Control Plan
    e. Work Instruction

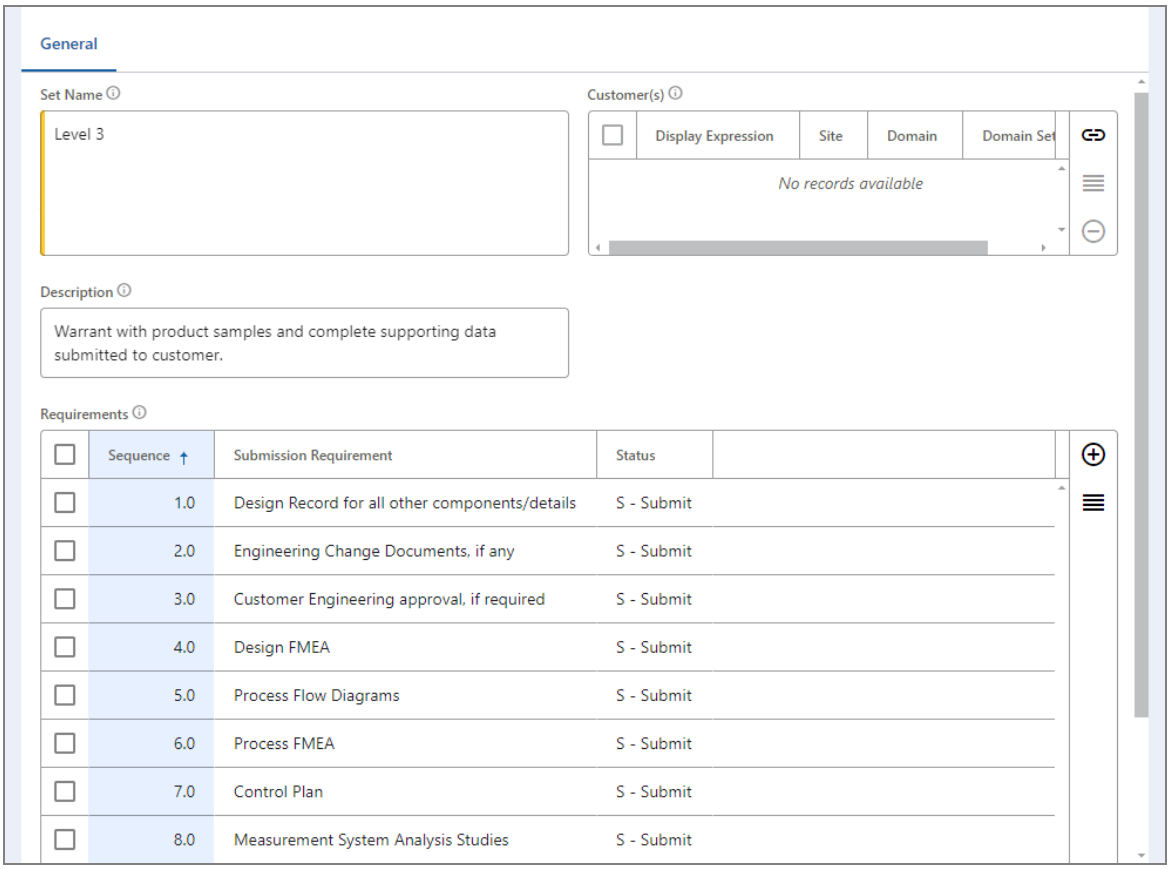
    Note: At least one report should be selected to fulfill the PPAP requirement.

9. Click Save to save the new record.

PPAP Submission Requirement Sets

PPAP submission requirement sets define groups of PPAP requirements per customer. These sets are used by PPAP Submissions to determine the set of requirements needed for a PPAP. See "PPAP Submissions" on page 166.

Fig. 32: PPAP Submission Requirement Sets screen

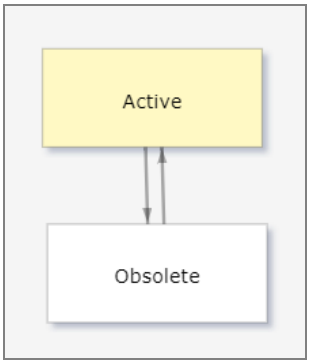


PPAP Submission Requirement Sets States

This section defines each state available in the workflow for the PPAP Submission Requirement Sets process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A PPAP submission requirement that is actively used.

Obsolete. The PPAP submission requirement set has expired or is obsolete.



PPAP Submission Requirement Sets Tasks

Adding a New PPAP Submission Requirement Set

1. Select PPAP Submission Requirement Set from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter a value for the set name. This is often the submission level.
3. Enter a description of the PPAP submission level.
4. Click the Add New Item ⊕ button in the Requirements field. A new screen opens.
5. Select the sequence, status, and submission requirement. The submission level defaults.
6. Click Save to save the requirement.
7. Back in the main process screen, click Save to save the new record. When selecting the next state, click Active.

Chapter 4

Failure Modes and Effects Analysis

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Introduction to FMEA

Failure Mode and Effects Analysis (FMEA) is a design tool for assessing risk associated with the different ways, or modes, in which a part or system can fail; identifying the effects of those failures; and providing a structure for revising the design, process, or controls to mitigate risk where necessary. Essentially, the FMEA asks, "If this failure occurred, then what would happen? And how can we reduce the risk of this failure?"

Design FMEA concerns the design of a part (pre-production), while Process FMEA concerns the process of creating a part (production). See examples of these in the tables below.

The AIAG & VDA FMEA Handbook defines seven steps in the FMEA process:

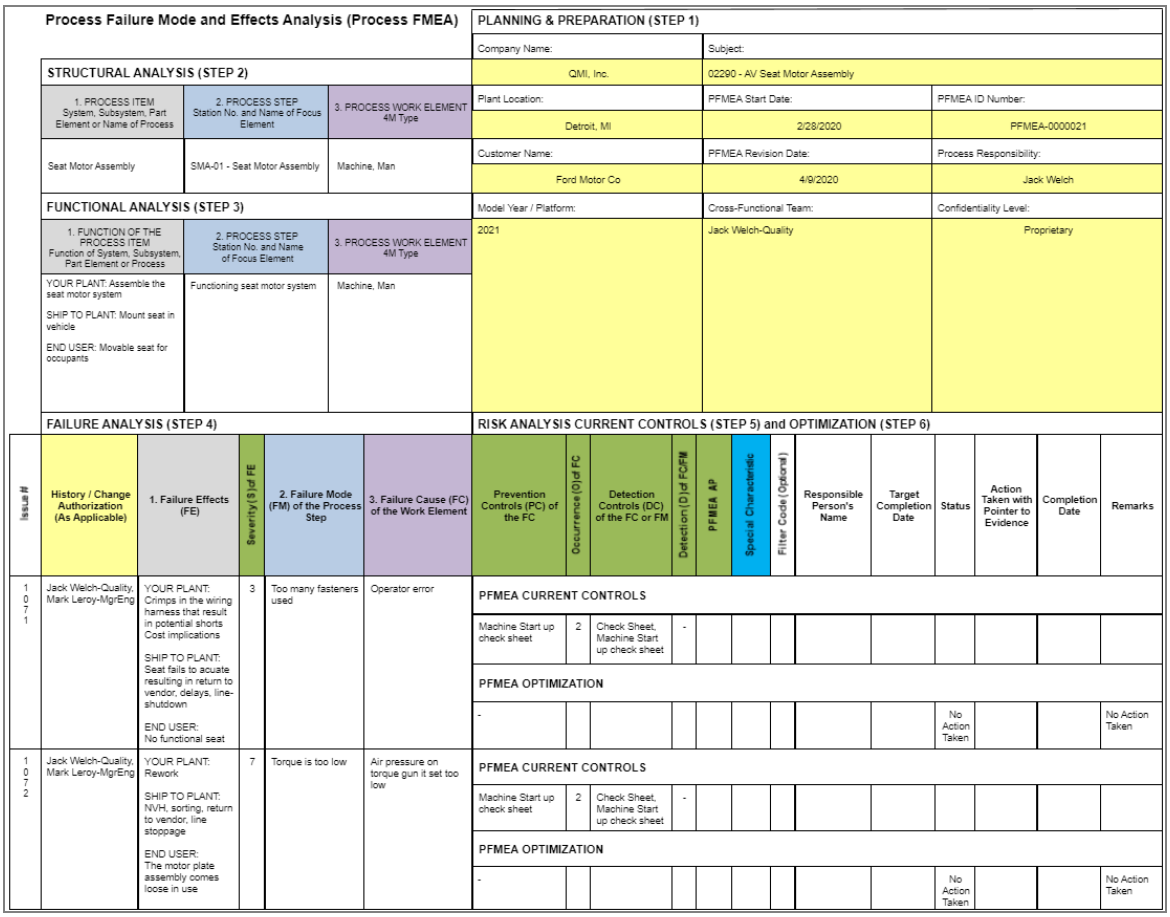
1. **Planning and Preparation.** Why, When, Who, What, How.
2. **Structure Analysis.** Breakdown of the structural items/systems in the design.
3. **Functional Analysis.** Breaks down the function of the different systems.
4. **Failure Analysis.** Defines the potential failures that could occur as a result of the design.
5. **Risk Analysis.** Assigning controls and assessing risk.
6. **Optimization.** Identify actions to reduce risk (using action priority as a guide).
7. **Results Documentation.** Summarize the results of the FMEA activity.

Fig. 33: DFMEA Example

Design Failure Mode and Effects Analysis (Design FMEA)			PLANNING & PREPARATION (STEP 1)		
			Company Name:	Subject:	
STRUCTURAL ANALYSIS (STEP 2)					
1. Next Higher Level	2. Focus Element	3. Next Lower Level or Characteristic Type	Engineering Location:	DFMEA Start Date:	DFMEA ID Number:
				2/25/2020	DFMEA-0000020
Seat Motor Assembly - Seat Motor Assembly	Seat Motor Assembly - Seat Motor Assembly	Motor and Motor Plate	Customer Name:	DFMEA Revision Date:	Change Responsibility:
					Andy Leroy
FUNCTIONAL ANALYSIS (STEP 3)			Model Year / Platform:	Cross-Functional Team:	Confidentiality Level:
1. Next Higher Level Function and Requirement	2. Focus Element Function and Requirement	3. Next Lower Level Function and Requirement or Characteristic	2021	Jack Welch-Quality	
Seat motion	Ensure Motion is transferred to seat without twisting	Motor positioned/held			

FAILURE ANALYSIS (STEP 4)					DFMEA RISK ANALYSIS (STEP 5) and DFMEA OPTIMIZATION (STEP 6)												
Issue #	History / Change Authorization	1. Failure Effects (FE) to the Next Higher Level Element and/or Vehicle End User	Severity (S) of FE	2. Failure Mode (FM) of the Focus Element	3. Failure Cause (FC) of the Next Lower Element or Characteristic	Prevention Controls (PC) of the FC	Occurrence (O) of FC	Detection Controls (DC) of the FC or FM	Detection (D) of FC/FM	DFMEA AP	Filter Code (Optional)	Responsible Person's Name	Target Completion Date	Status	Action Taken with Pointer to Evidence	Completion Date	Remarks
30	Jack Welch-Quality, Jack Welch-Quality	Seat will lock in position and will not be able to move	4	Plate twists when exposed to forces less than 1000Nm	Plate hardness not to spec	DFMEA CURRENT CONTROLS											
						Metal plate spec based on ASTM-D 19919192-0	2	Test per Test Spec MP-128537	3	L							
						DFMEA OPTIMIZATION											
						-	-	-	-					No Action Taken			No Action Taken

Fig. 34: PFMEA Example



Process Failure Mode and Effects Analysis (Process FMEA)

PLANNING & PREPARATION (STEP 1)

Company Name:	Subject:	
QMI, Inc.	02290 - AV Seat Motor Assembly	
Plant Location:	PFMEA Start Date:	PFMEA ID Number:
Detroit, MI	2/28/2020	PFMEA-0000021
Customer Name:	PFMEA Revision Date:	Process Responsibility:
Ford Motor Co	4/9/2020	Jack Welch
Model Year / Platform:	Cross-Functional Team:	Confidentiality Level:
2021	Jack Welch-Quality	Proprietary

STRUCTURAL ANALYSIS (STEP 2)

1. PROCESS ITEM System, Subsystem, Part Element or Name of Process	2. PROCESS STEP Station No. and Name of Focus Element	3. PROCESS WORK ELEMENT 4M Type
Seat Motor Assembly	SMA-01 - Seat Motor Assembly	Machine, Man

FUNCTIONAL ANALYSIS (STEP 3)

1. FUNCTION OF THE PROCESS ITEM Function of System, Subsystem, Part Element or Process	2. PROCESS STEP Station No. and Name of Focus Element	3. PROCESS WORK ELEMENT 4M Type
YOUR PLANT: Assemble the seat motor system SHIP TO PLANT: Mount seat in vehicle END USER: Movable seat for occupants	Functioning seat motor system	Machine, Man

FAILURE ANALYSIS (STEP 4) / **RISK ANALYSIS CURRENT CONTROLS (STEP 5) and OPTIMIZATION (STEP 6)**

Issue #	History / Change Authorization (As Applicable)	1. Failure Effects (FE)	Severity (S) of FE	2. Failure Mode (FM) of the Process Step	3. Failure Cause (FC) of the Work Element	Prevention Controls (PC) of the FC	Occurrence (O) of FC	Detection Controls (DC) of the FC or FM	Detection (D) of FC/FM	PFMEA AP	Special Characteristic	Filter Code (Optional)	Responsible Person's Name	Target Completion Date	Status	Action Taken with Pointer to Evidence	Completion Date	Remarks
1071	Jack Welch-Quality, Mark Leroy-MgrEng	YOUR PLANT: Crimps in the wiring harness that result in potential shorts Cost implications SHIP TO PLANT: Seat fails to acuate resulting in return to vendor, delays, line-shutdown END USER: No functional seat	3	Too many fasteners used	Operator error	PFMEA CURRENT CONTROLS												
						Machine Start up check sheet	2	Check Sheet, Machine Start up check sheet	-									
						PFMEA OPTIMIZATION												
						-									No Action Taken			No Action Taken
1072	Jack Welch-Quality, Mark Leroy-MgrEng	YOUR PLANT: Rework SHIP TO PLANT: NVH, sorting, return to vendor, line stoppage END USER: The motor plate assembly comes loose in use	7	Torque is too low	Air pressure on torque gun it set too low	PFMEA CURRENT CONTROLS												
						Machine Start up check sheet	2	Check Sheet, Machine Start up check sheet	-									
						PFMEA OPTIMIZATION												
						-									No Action Taken			No Action Taken

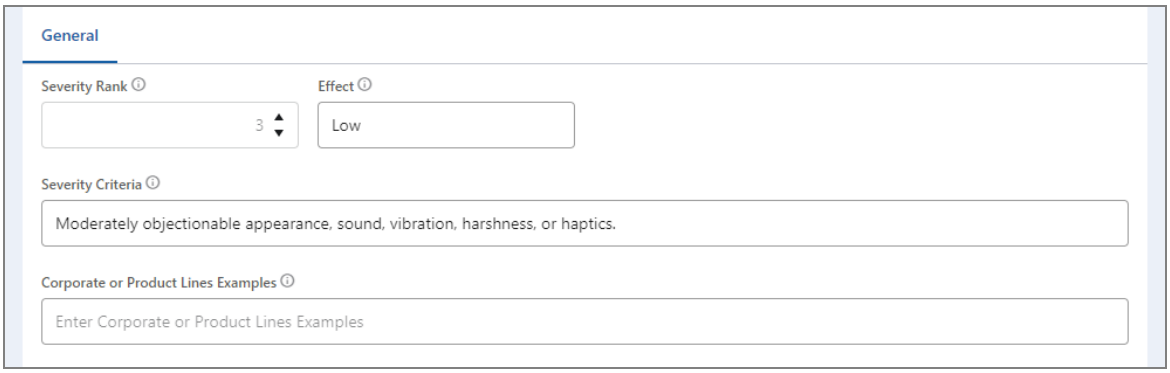
The processes in this chapter are level 1 libraries – that is, they are very simple and are used to populate level 2 libraries or reports. See "APQP Level 2 Libraries" on page 83 for more information about these level 2 libraries and how they use FMEA. Note that the system comes populated with AIAG criteria for both Design FMEA and Process FMEA.

Design FMEA Severity Criteria

The design FMEA severity criteria table is used when creating a design FMEA in a manufacturing document. The severity ratings are a relative indication of how severe an effect is to the customer if it happens.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of severity to help others better understand that level.

Fig. 35: Design FMEA Severity Criteria process screen



Design FMEA Severity Criteria States

This section defines each state available in the workflow for the Design FMEA Severity Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Design FMEA Severity Criteria Tasks

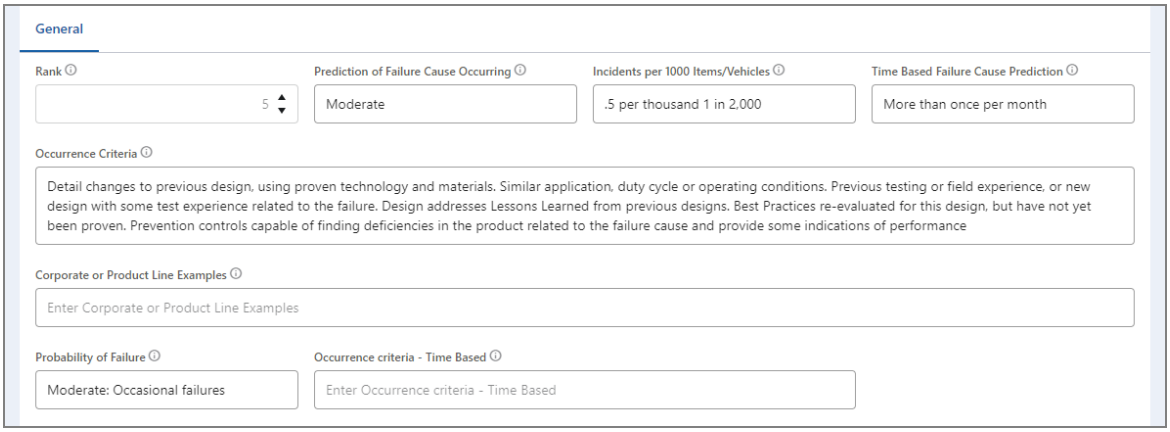
There are no tasks for this process.

Design FMEA Occurrence Criteria

The design FMEA occurrence criteria table is used when creating a design FMEA in a manufacturing document. The occurrence ratings are a relative indication of how likely a failure mode is to happen.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of occurrence to help others better understand that level.

Fig. 36: Design FMEA Occurrence Criteria process screen



Design FMEA Occurrence Criteria States

This section defines each state available in the workflow for the Design FMEA Occurrence Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Design FMEA Occurrence Criteria Tasks

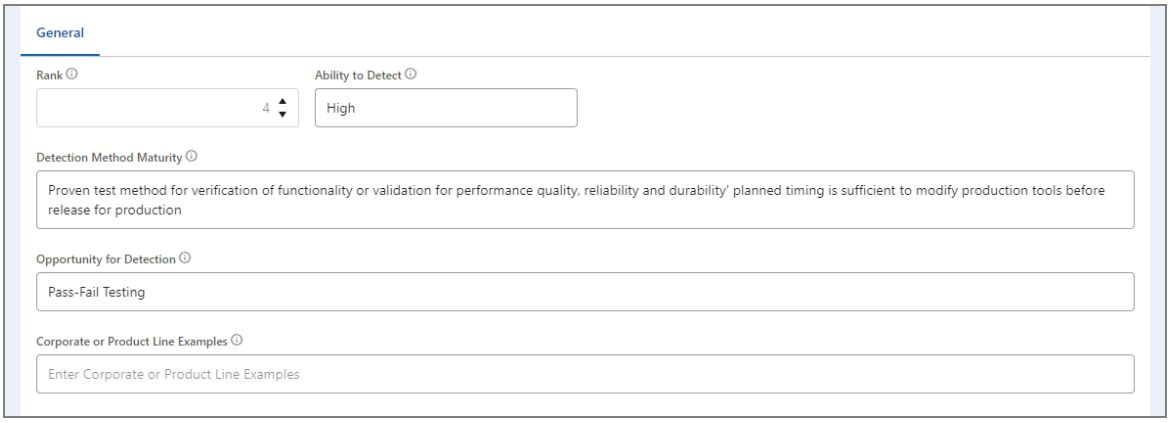
There are no tasks for this process.

Design FMEA Detection Criteria

The design FMEA detection criteria table is used when creating a design FMEA in a manufacturing document. The detection ratings are a relative indication of how likely a current control is going to detect a failure mode if it happens.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of detection to help others better understand that level.

Fig. 37: Design FMEA Detection Criteria process screen



Design FMEA Detection Criteria States

This section defines each state available in the workflow for the Design FMEA Detection Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Design FMEA Detection Criteria Tasks

There are no tasks for this process.

Design FMEA Occurrence Zone

Associated with the RPL method of identifying risk, this process defines all of the combinations of severity and occurrence and assigns each a priority level.

Fig. 38: Design FMEA Occurrence Zone process screen

Design FMEA Occurrence Zone States

This section defines each state available in the workflow for the Design FMEA Occurrence Zone process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Design FMEA Occurrence Zone Tasks

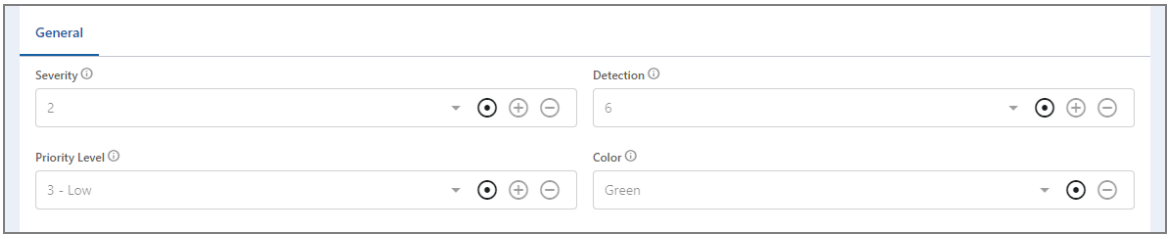
Adding a New Design FMEA Occurrence Zone

1. Select Design FMEA Occurrence Zone from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Select a numerical value to gauge the severity of the occurrence zone.
3. Select a numerical value to gauge the occurrence of the occurrence zone.
4. Select the priority level that represents the occurrence zone.
5. Select the color that represents the occurrence zone.
6. Click Save to save the new record.

Design FMEA Detection Zone

Associated with the RPL method of identifying risk, this process defines all of the combinations of severity and detection and assigns each a priority level.

Fig. 39: Design FMEA Detection Zone process screen



Design FMEA Detection Zone States

This section defines each state available in the workflow for the Design FMEA Detection Zone process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Design FMEA Detection Zone Tasks

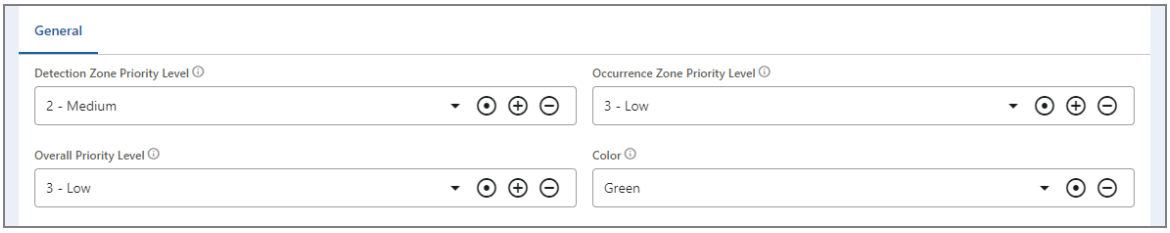
Adding a New Design FMEA Detection Zone

1. Select Design FMEA Detection Zone from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Select a numerical value to gauge the severity of the detection zone.
3. Select a numerical value to gauge the occurrence of the detection zone.
4. Select the priority level that represents the detection zone.
5. Select the color that represents the detection zone.
6. Click Save to save the new record.

Design FMEA Priority Levels

Associated with the RPL method of identifying risk, this process defines all of the combinations of the occurrence zone and detection zone and assigns each a priority level. The result of identifying where in this matrix that a failure falls is the assigned RPL.

Fig. 40: Design FMEA Priority Levels process screen



Design FMEA Priority Levels States

This section defines each state available in the workflow for the Design FMEA Priority Levels process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Design FMEA Priority Levels Tasks

Adding a New Design Priority Levels Zone

1. Select Design FMEA Priority Levels from the left navigation panel. Then, click the Add Item button in the toolbar.

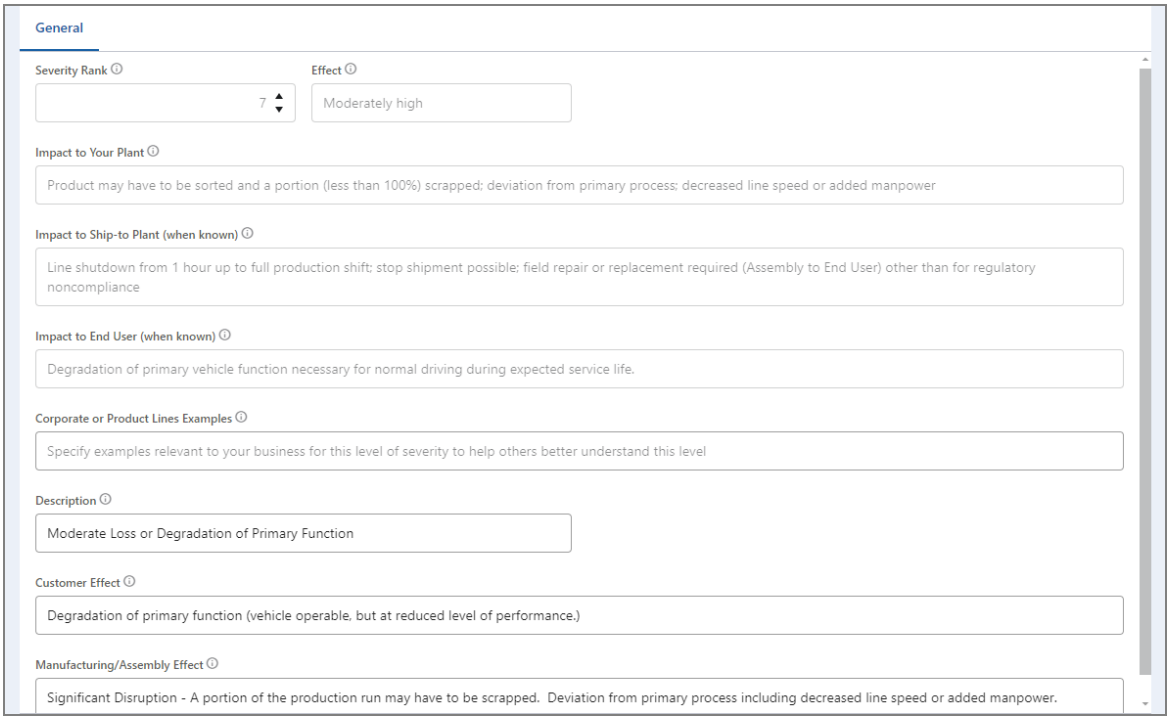
2. Select a numerical value to gauge the detection zone priority level that represents this item.
3. Select a numerical value rank to set the occurrence zone priority level that represents this item.
4. Select the overall priority level of this item.
5. Select the color that represents this item.
6. Click Save to save the new record.

Process FMEA Severity Criteria

The process FMEA severity criteria table is used when creating a process FMEA. The severity ratings are a relative indication of how severe an effect is to the customer if it happens.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of severity to help others better understand that level.

Fig. 41: Process FMEA Severity Criteria process screen



Process FMEA Severity Criteria States

This section defines each state available in the workflow for the Process FMEA Severity Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Process FMEA Severity Criteria Tasks

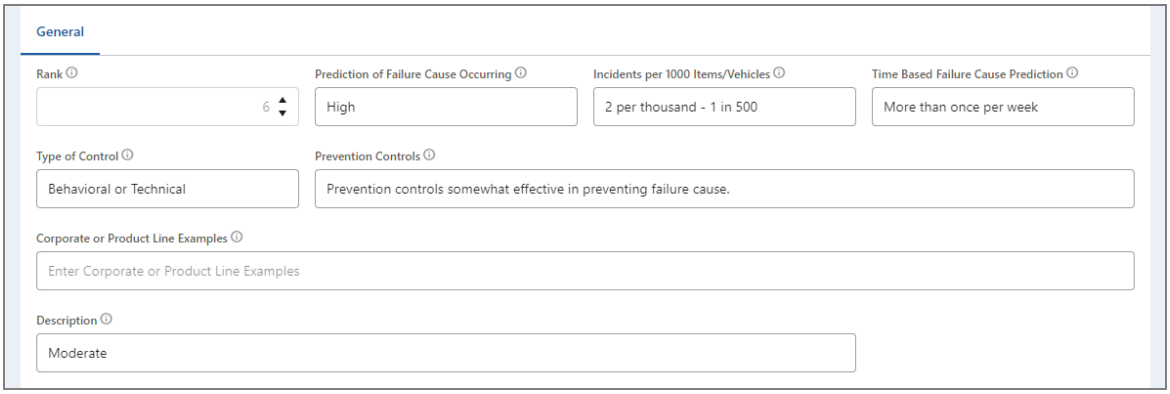
There are no tasks for this process.

Process FMEA Occurrence Criteria

The process FMEA occurrence criteria table is used when creating a process FMEA. The occurrence ratings are a relative indication of how likely a failure mode is to happen.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of occurrence to help others better understand that level.

Fig. 42: Process FMEA Occurrence Criteria process screen



Process FMEA Occurrence Criteria States

This section defines each state available in the workflow for the Process FMEA Occurrence Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Process FMEA Occurrence Criteria Tasks

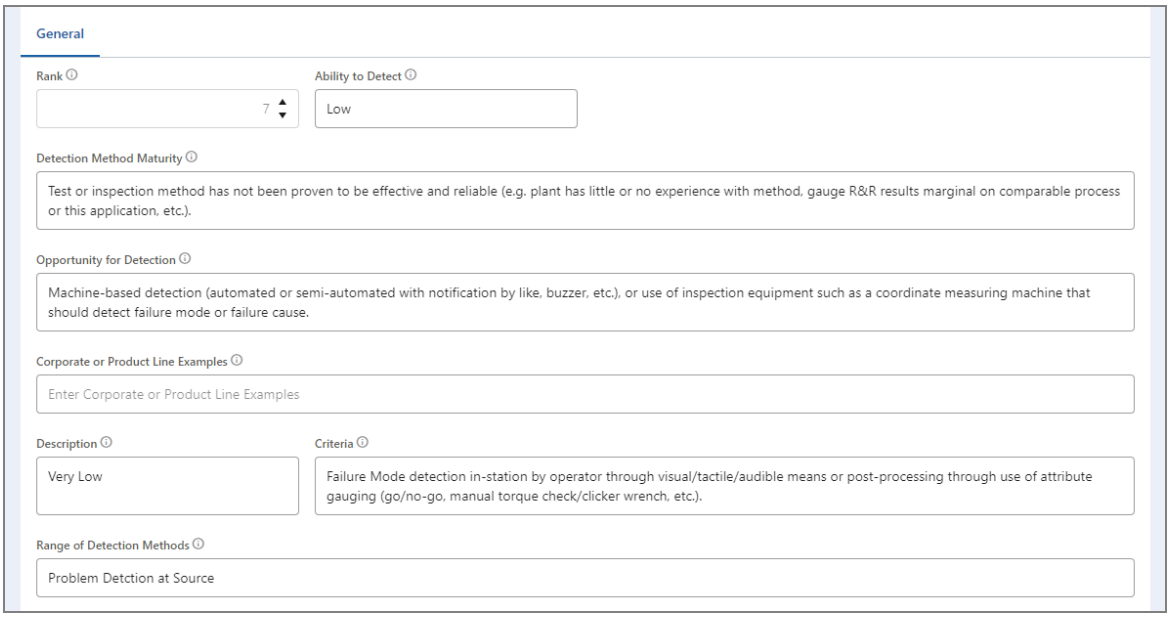
There are no tasks for this process.

Process FMEA Detection Criteria

The process FMEA detection criteria table is used when creating a process FMEA. The detection ratings are a relative indication of how likely a current control is going to detect a failure mode if it happens.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of detection to help others better understand that level.

Fig. 43: Process FMEA Detection Criteria process screen



Process FMEA Detection Criteria States

This section defines each state available in the workflow for the Process FMEA Detection Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Process FMEA Detection Criteria Tasks

There are no tasks for this process.

Process Risk Priority Levels

Risk Priority Level (RPL) is an alternative method for identifying opportunities to reduce risk. This process defines the list of risk levels that can be selected for the occurrence zone, detection zone, or overall priority level.

Fig. 44: Process Risk Priority Levels process screen

Process Risk Priority Levels States

This section defines each state available in the workflow for the Process Risk Priority Levels process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Process Risk Priority Level Tasks

Adding a New Process Risk Priority Level

1. Select Process Risk Priority Levels from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Select a numerical rank for the priority level. Generally this is either 1, 2, or 3.
3. Enter a description of the priority level.
4. Enter any notes about the priority level.
5. Click Save to save the new record. When selecting the next state, click Active.

Process FMEA Occurrence Zone

Associated with the RPL method of identifying risk, this process defines all of the combinations of severity and occurrence and assigns each a priority level.

Fig. 45: Process FMEA Occurrence Zone process screen

Process FMEA Occurrence Zone States

This section defines each state available in the workflow for the Process FMEA Occurrence Zone process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Process FMEA Occurrence Zone Tasks

Adding a New Process FMEA Occurrence Zone

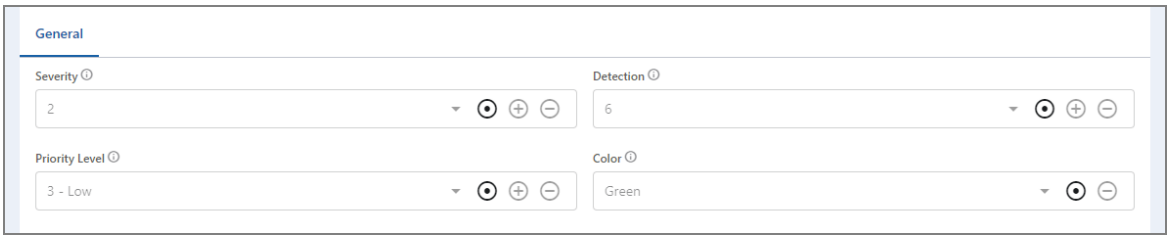
1. Select Process FMEA Occurrence Zone from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Select a numerical value to gauge the severity of the occurrence zone.
3. Select a numerical value to gauge the occurrence of the occurrence zone.

4. Select the priority level that represents the occurrence zone.
5. Select the color that represents the occurrence zone.
6. Click Save to save the new record.

Process FMEA Detection Zone

Associated with the RPL method of identifying risk, this process defines all of the combinations of severity and detection and assigns each a priority level.

Fig. 46: Process FMEA Detection Zone process screen



Process FMEA Detection Zone States

This section defines each state available in the workflow for the Process FMEA Detection Zone process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Process FMEA Detection Zone Tasks

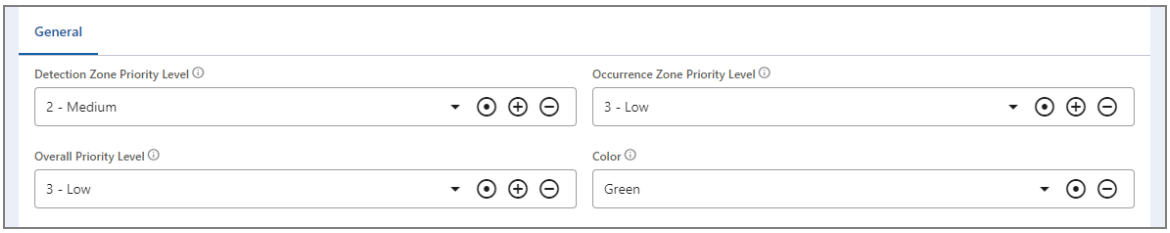
Adding a New Process FMEA Detection Zone

1. Select Process FMEA Detection Zone from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Select a numerical value to gauge the severity of the detection zone.
3. Select a numerical value to gauge the occurrence of the detection zone.
4. Select the priority level that represents the detection zone.
5. Select the color that represents the detection zone.
6. Click Save to save the new record.

Process FMEA Priority Levels

Associated with the RPL method of identifying risk, this process defines all of the combinations of the occurrence zone and detection zone and assigns each a priority level. The result of identifying where in this matrix that a failure falls is the assigned RPL.

Fig. 47: Process FMEA Priority Levels process screen



Process FMEA Priority Levels States

This section defines each state available in the workflow for the Process FMEA Priority Levels process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

Process FMEA Priority Levels Tasks

Adding a New Process Priority Levels Zone

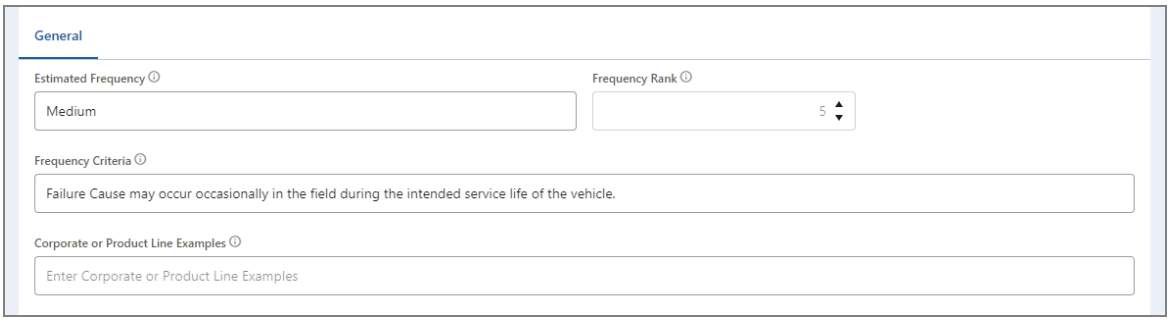
1. Select Process FMEA Priority Levels from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Select a numerical value to gauge the detection zone priority level that represents this item.
3. Select a numerical value rank to set the occurrence zone priority level that represents this item.
4. Select the overall priority level of this item.
5. Select the color that represents this item.
6. Click Save to save the new record.

FMEA-MSR Frequency Criteria

The FMEA-MSR frequency criteria provides a frequency rating representative of the effectiveness of preventive controls. This is used when building a FMEA-MSR.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of frequency to help others better understand that level.

Fig. 48: FMEA-MSR Frequency Criteria process screen



FMEA-MSR Frequency Criteria States

This section defines each state available in the workflow for the FMEA-MSR Frequency Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

FMEA-MSR Frequency Criteria Tasks

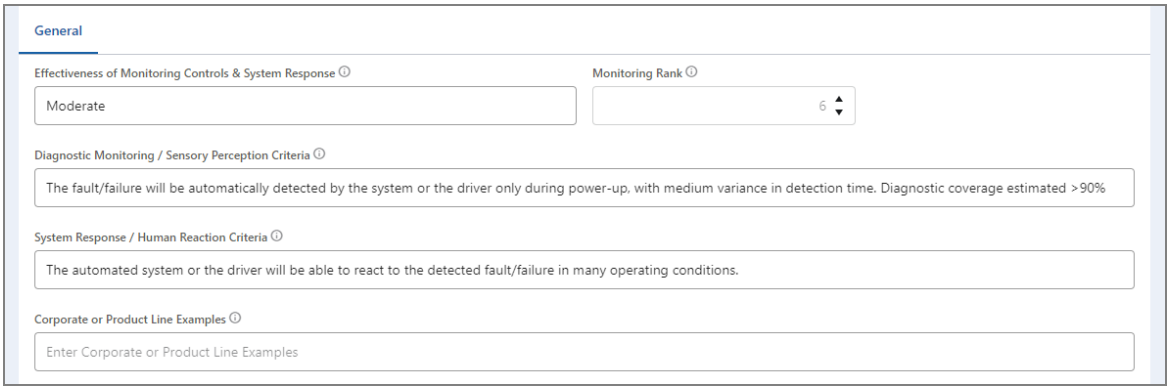
There are no tasks for this process.

FMEA-MSR Monitoring Criteria

The FMEA-MSR monitoring criteria provides a monitoring rating representative of the effectiveness of the diagnostic detection controls. This is used when building a FMEA-MSR.

This process is locked to prevent records from being added or deleted; however, current records can be edited. You can provide examples relevant to your business for each level of monitoring to help others better understand that level.

Fig. 49: FMEA-MSR Monitoring Criteria process screen



FMEA-MSR Monitoring Criteria States

This section defines each state available in the workflow for the FMEA-MSR Monitoring Criteria process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

FMEA-MSR Monitoring Criteria Tasks

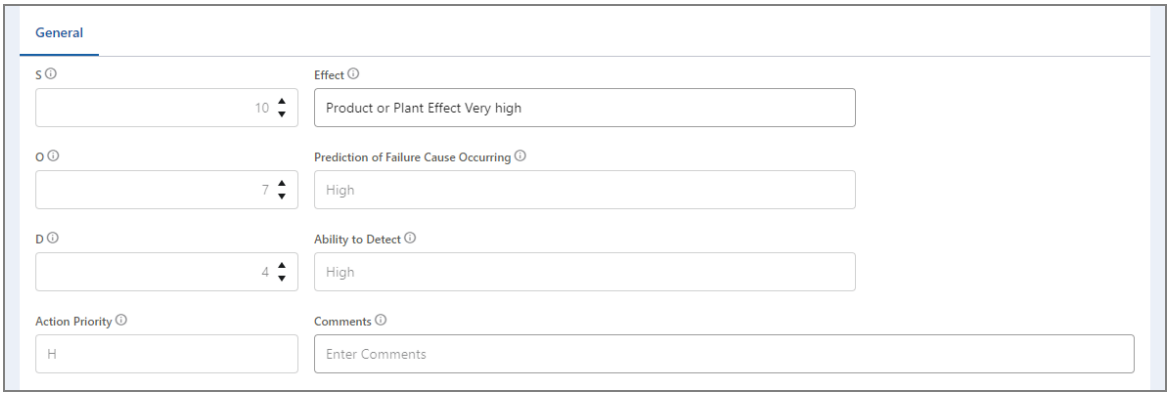
There are no tasks for this process.

FMEA Action Priority

The FMEA Action Priority process describes a failure effect and assigns an action priority to determine the importance of taking action. Action priority is based on combinations of severity, occurrence, and detection ratings in order to prioritize actions for risk reduction.

The action priority calculations and effect are pre-populated to reflect AIAG & VDA FMEA standards. However, you can comment to provide examples relevant to your business to help others better understand the action priority.

Fig. 50: FMEA Action Priority process screen



FMEA Action Priority States

This section defines each state available in the workflow for the FMEA Action Priority process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

FMEA Action Priority Tasks

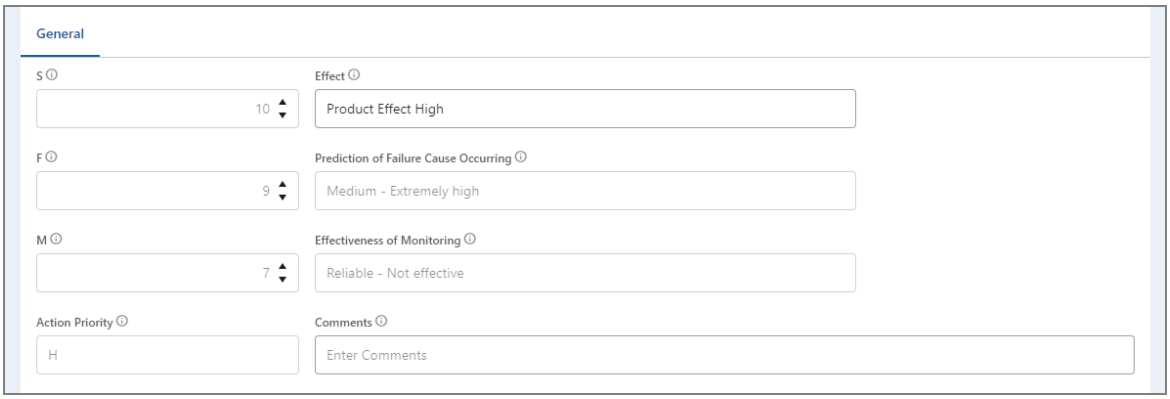
There are no tasks for this process.

FMEA-MSR Action Priority

The FMEA-MSR Action Priority process describes a failure effect and assigns an action priority to determine the importance of taking action. Action priority is based on combinations of severity, frequency, and monitoring ratings in order to prioritize actions for risk reduction.

The action priority calculations and effect are pre-populated to reflect AIAG & VDA FMEA standards. However, you can comment to provide examples relevant to your business to help others better understand the action priority.

Fig. 51: FMEA-MSR Action Priority process screen



FMEA-MSR Action Priority States

This section defines each state available in the workflow for the FMEA-MSR Action Priority process. See "State Change Security" on page 208 to learn more about how these states transition.

There are no states available.

FMEA-MSR Action Priority Tasks

There are no tasks for this process.

Chapter 5

APQP Library

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APQP Level 2 Libraries

Libraries in the APQP module are separated into two groups: Level 1 and Level 2. Level 1 libraries host information that populates Level 2 libraries, which then organize this information in preparation for use in manufacturing documents. Level 2 libraries are separated into the APQP Libraries section of the APQP module within EQMS.

An overview of the APQP Libraries begins with developing a process flow, in which you determine each step that must be completed to produce a part. Once this flow is developed, the libraries can be compiled. This begins with detailing each step (Processes), acceptance criteria (Library Specifications), and quality controls (Control Library).

After all processes, specifications, and controls are established, it is time to conduct the structure, functional, failure, and risk analyses for the process and design FMEAs. These steps identify the basic structure of a system; the functions and what they may affect; the potential failure effects, modes, and causes; and the precise controls that can be used to prevent or detect failures.

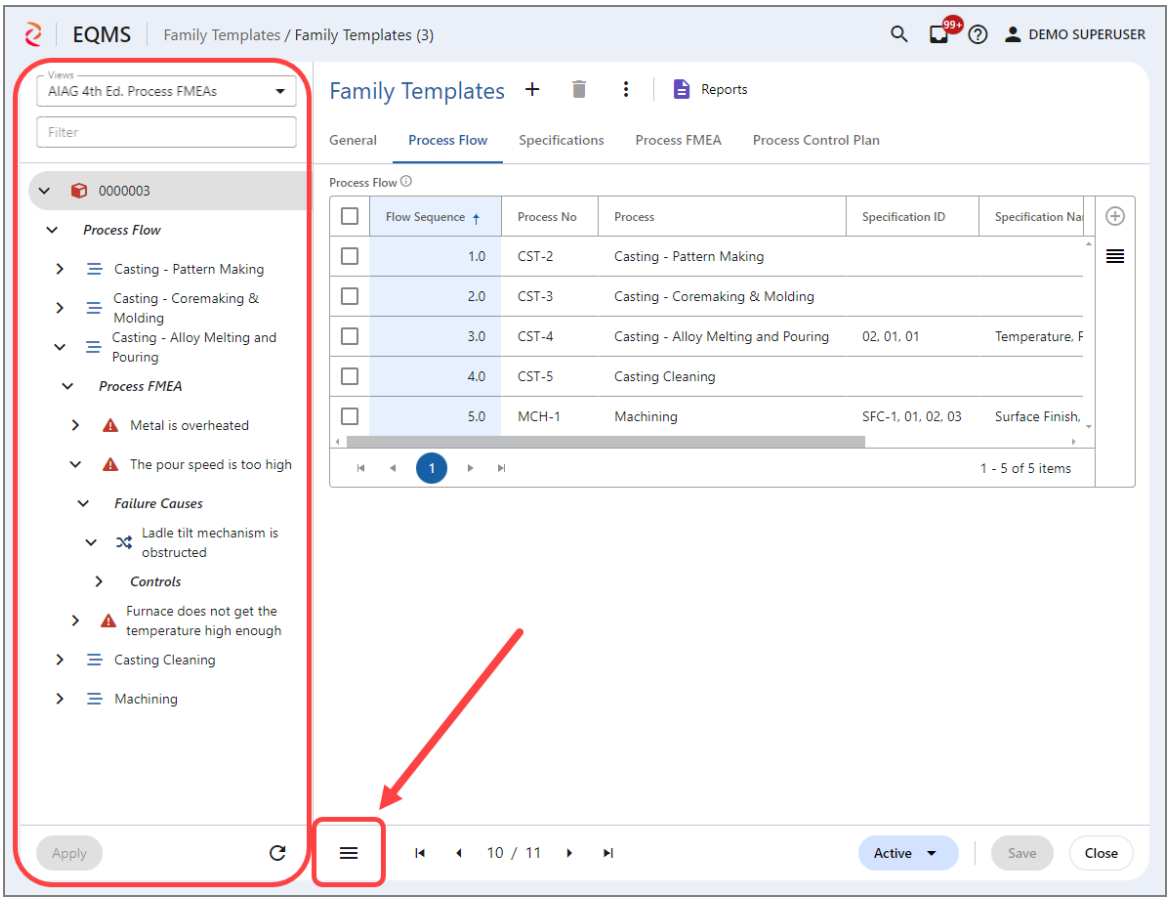
When all library processes have been completed, they are connected to a family template or manufacturing document. Note that design FMEAs can only be linked to manufacturing documents.

Graphical FMEA Tree View

FMEA is an intricate concept that can be complex to manage within software, especially during the brainstorming stage. To ease this difficulty, the Family Templates and Manufacturing Documents processes contain a graphical FMEA tree view, which allows users to add, edit, delete, link, and sort FMEA records within a visual context. See "Family Templates" on page 117 and "Manufacturing Documents" on page 135.

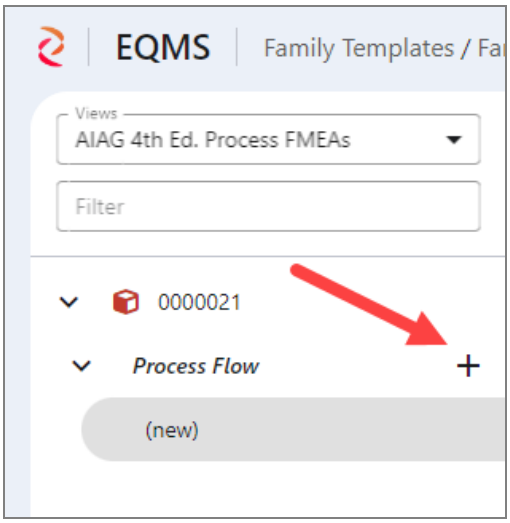
The tree view button appears when a process is saved to the Draft state for the first time. To open the tree view, click the triple line icon ≡ in the lower left corner of the screen. The tree view slides out, but does not cover the process screen.

Fig. 52: Family Templates screen, Tree View



To begin, choose the format in which you will be working: AIAG 4th Ed. Process FMEAs or AIAG/VDA Process FMEAs (or Design FMEA, for manufacturing documents). Then click the plus icon beside the Process Flow line item. A new line item appears, and the process screen transitions to a blank process flow screen.

Fig. 53: Tree View, adding a new process flow



As you build and save each step of the FMEA, a new line item will appear and allow you to add the next step. Double-click a line item to open its detail screen, or drag-and-drop a line item to rearrange the order within the process. You can search for keywords within the tree view, which can be useful as the number of records grows.

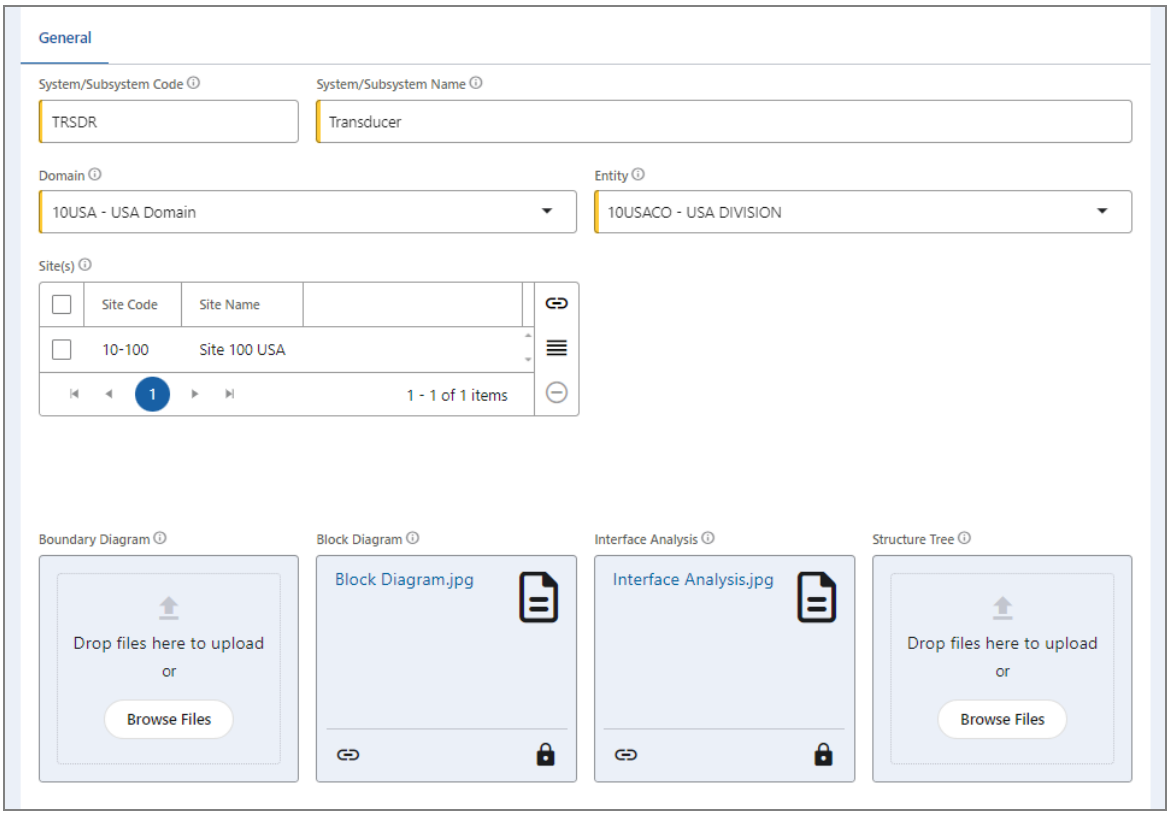
> ***Note:*** All APQP FMEA reports will sort in the order as they are displayed in the tree view.

DFMEA Systems Library

The DFMEA Systems Library process identifies the systems or subsystems within your product lines. An example of a system might be an electric window actuator system for a vehicle or an infusion pump system for a medical device. After the DFMEA system is added to the library, you can define the structural, functional, and failure analysis of that system in a foundation or family DFMEA. See "DFMEA Structural Analysis Library" on page 101.

On a specific part's manufacturing document, you can specify the systems in play for that part and link the DFMEA structural, functional, and failure analysis so you do not have to reinvent it. See "Manufacturing Documents" on page 135.

Fig. 54: DFMEA Systems Library screen, General tab

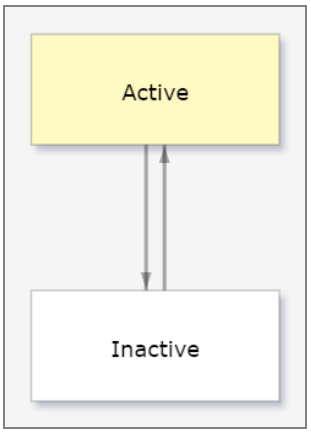


DFMEA Systems Library States

This section defines each state available in the workflow for the DFMEA Systems Library process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A DFMEA system that is actively used.

Inactive. A DFMEA system that is no longer in use.



DFMEA Systems Library Tasks

Adding a New DFMEA Systems Library

1. Select DFMEA Systems Library from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a name and a code for the system or subsystem.
3. Select a domain and entity.
4. Select one or more sites.
    a. Click the Link button. A new window opens.
    b. Select one or more sites.
    c. Click OK.
5. If you have a diagram, interface analysis, or structure tree for the system structure, then drag and drop or upload the file to the applicable field.
6. Click Save to save the new record. When selecting the next state, click Active.

    Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the DFMEA systems library cannot the used for new records.

Processes

Use process records to document specific business or manufacturing processes that make up a process flow. Documenting a process provides benefits in several areas, including auditing, product design, product development, product corrective action, and non-conformance.

Process records are the main repository for information on your organization's business and manufacturing processes, and are used by the Auditing, CAPA, Inspection & SPC, and APQP modules. In the Auditing module, processes are used to identify which processes have been audited and when, which is important to track given the process-based auditing approach. In the APQP module, the list of processes serves as a way to standardize the name of processes used on manufacturing-related documentation. The information from a process that has been documented in one module can be re-used in another module.

Generally, processes fall into three categories:

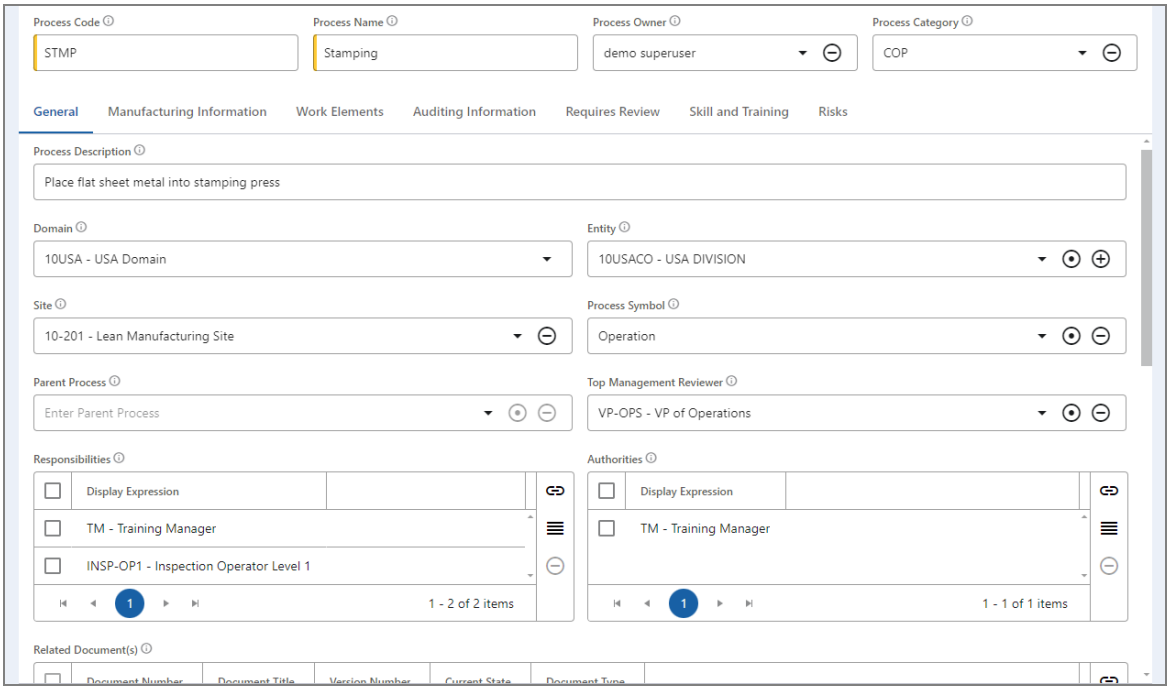
- **Customer-oriented processes.** Core processes to the business such as design and development, order management, and production.
- **Management-oriented processes.** Processes that define areas of management responsibility and, typically, have an indirect impact on the customer such as quality policy and objectives, resource management, and planning.
- **Support-oriented processes.** Processes that enable other processes such as purchasing, finance, and information technology.

Processes may be linked to a responsible site with an ITAR (International Traffic in Arms Regulation) requirement. If this is true, then a new field appears on the General tab titled ITAR Restricted. Setting this toggle to YES means that only employees who are ITAR compliant can view, access, and interact with the process.

Processes are used in the following processes of the APQP module:

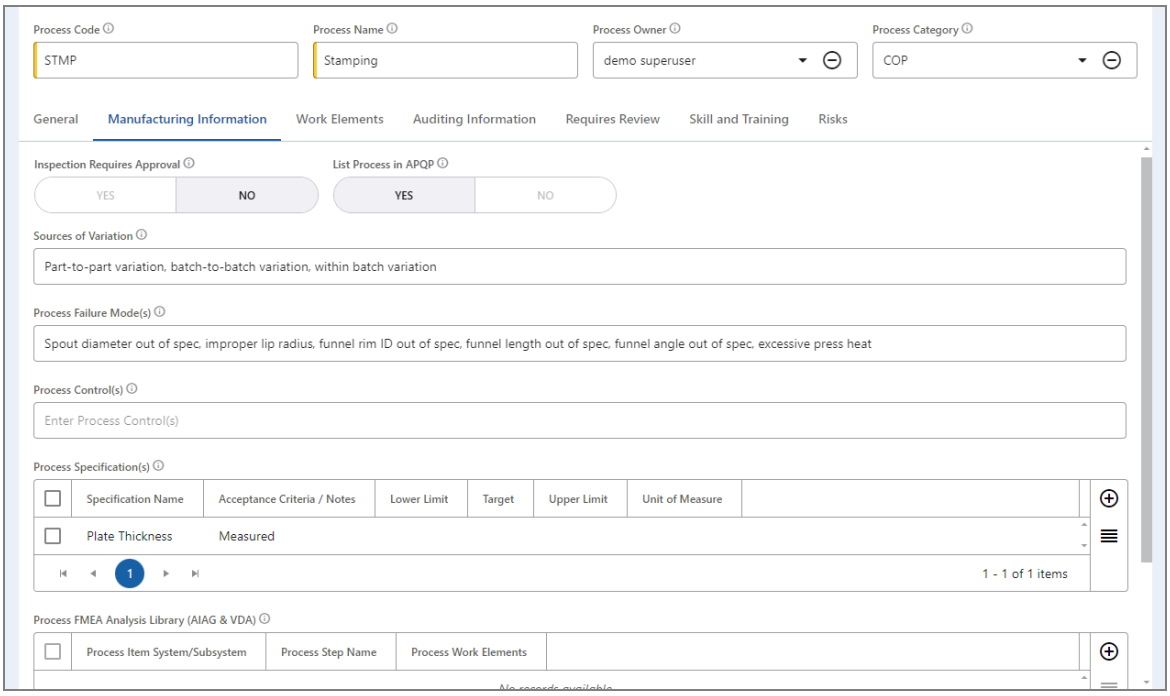
- By Family Templates and Manufacturing Documents to build the process flow, which represents the flow of processes used to manufacture a product. See "Family Templates" on page 117 and "Manufacturing Documents" on page 135.
- By Library Specifications to link a process specification to a process. This link is essential to build a family template. See "Library Specifications" on page 95.
- By PFMEA Failure Analysis Library, which is linked to a process and determines what can go wrong during that process. See "PFMEA Failure Analysis Library" on page 112.

Fig. 55: Processes screen, General tab



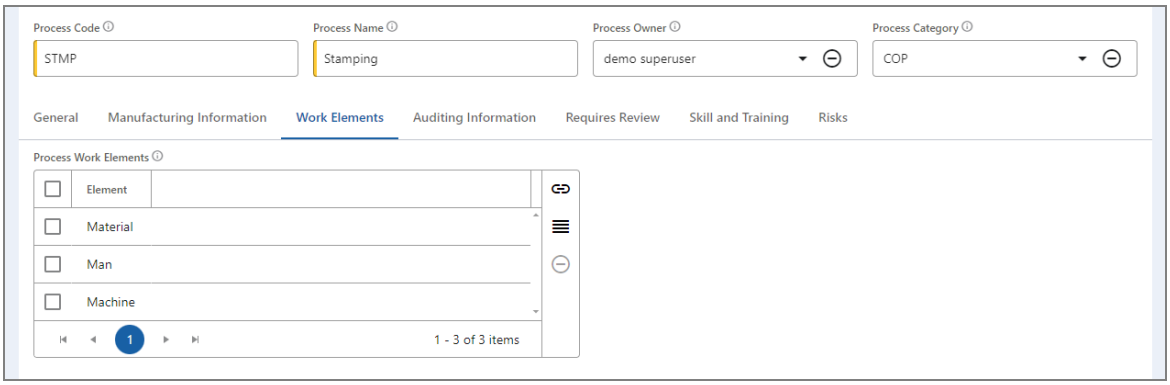
The General tab is used to define the basic details of a process, including the description, parent process, process owner, responsibilities, and more.

Fig. 56: Processes screen, Manufacturing Information tab



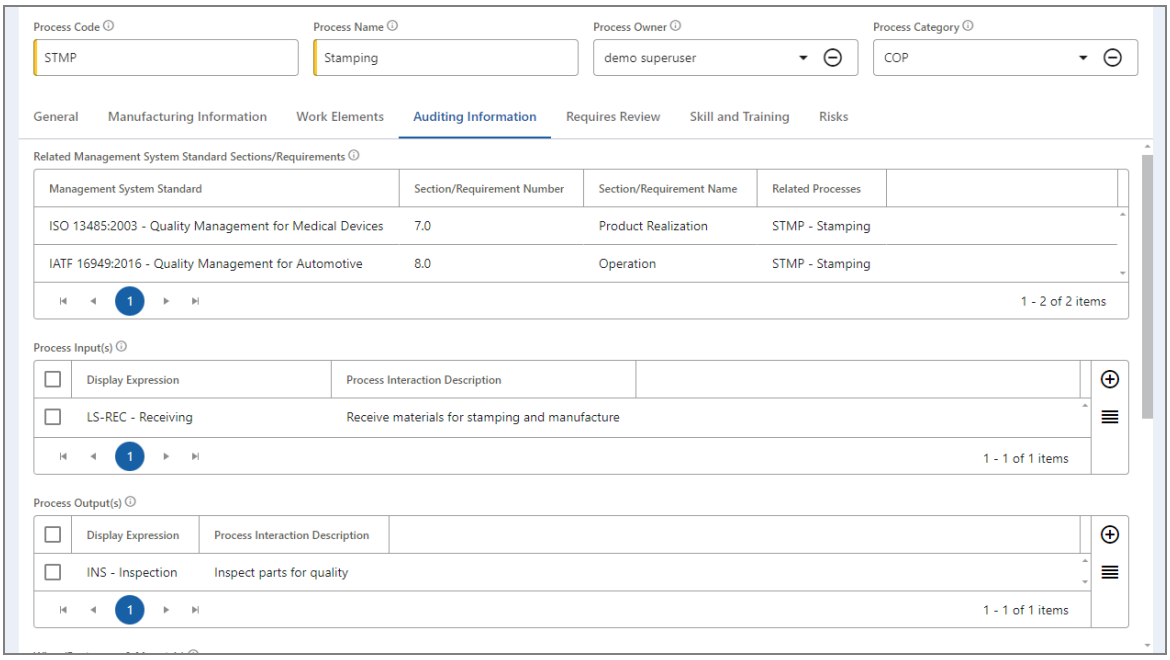
Use the Manufacturing Information tab to link the process to process specifications and library process FMEAs. This tab contains a "List Process in APQP" toggle field; this toggle must be set to YES in order for this process to be linked in a family template or manufacturing document via the Actions button.

Fig. 57: Processes screen, Work Elements tab



The Work Elements tab allows you to link work elements to the process that should be considered when contemplating potential failures and controls. These elements include Man, Machine, Material, Environment, Method, and Measurement.

Fig. 58: Processes screen, Auditing Information tab

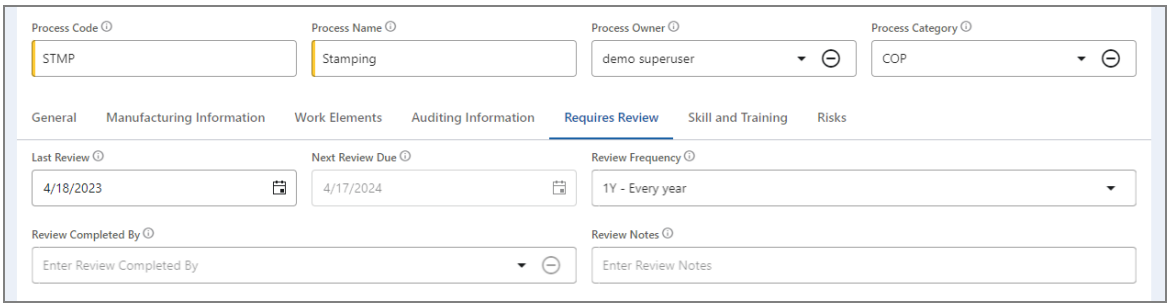


Use the Auditing Information tab to record auditing information for the process, such as:

- **Process Category.** Indicate whether the process is customer-oriented or another type of process.
- **Process Inputs.** These are the processes that the manufactured item goes through before it reaches the process currently being defined.
- **Process Output.** The next process that the item moves to after the process currently being defined.
- **Equipment.** The equipment used in the process.

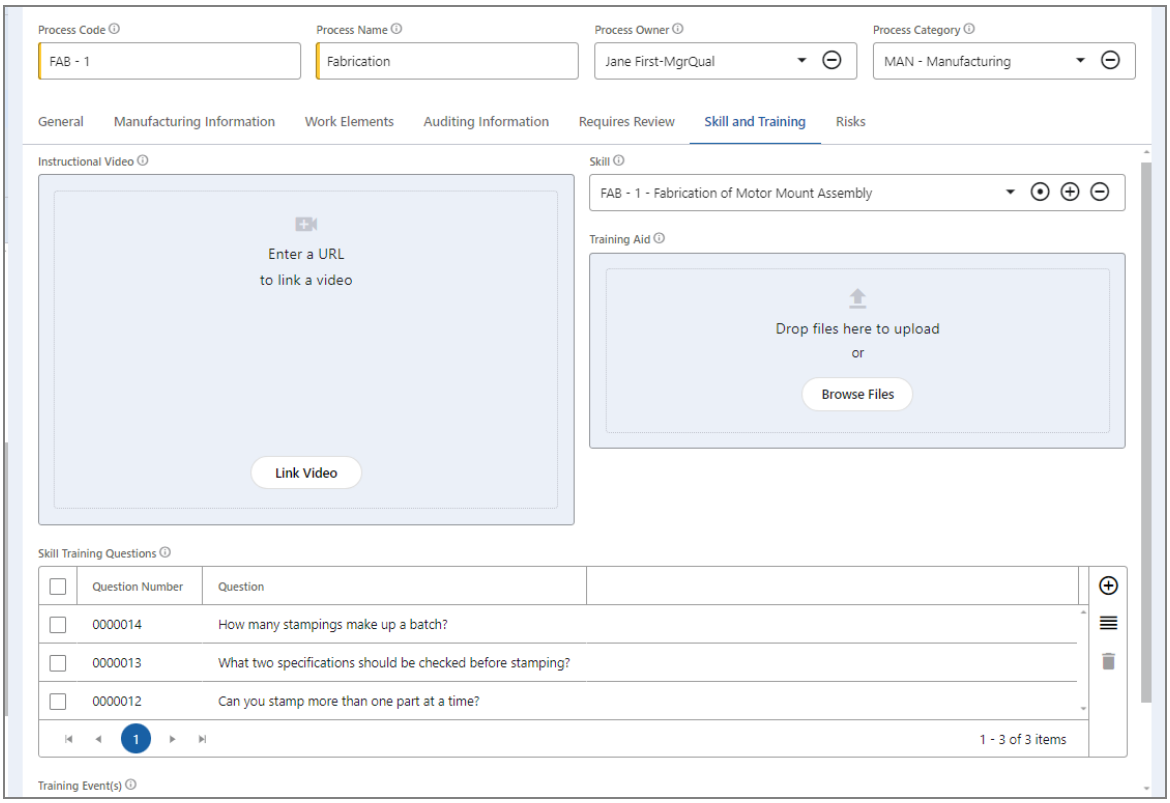
Note that this tab is used more in the Auditing module than it is in the APQP module. See the Auditing user guide for information on how to use this tab.

Fig. 59: Processes screen, Requires Review tab



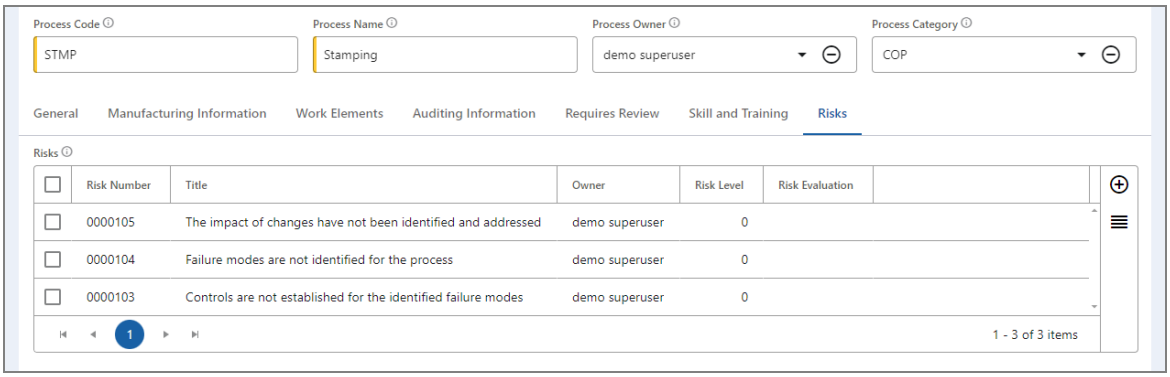
If a process requires review, then the Requires Review tab allows you to supply details regarding the process' last review, review frequency, review notes, and more.

Fig. 60: Processes screen, Skill and Training tab



Use the Skill and Training tab to enhance training management for the process. Select or create a skill, create questions that will evaluate a person's knowledge of changes to the process, and optionally upload a video and file to be used as training aids.

Fig. 61: Processes screen, Risks tab



Use the Risks tab to create a list of risks associated with the process. See the Risk Management user guide to learn more about creating risks.

Processes States

This section defines each state available in the workflow for the Processes process. See "State Change Security" on page 208 to learn more about how these states transition.

Draft (Default). The process is still being drafted and not yet ready for approval.

Ready for Approval. The process is waiting to be approved.

Awaiting Effective Date. The process is approved but waiting until the effective date to be marked as official.

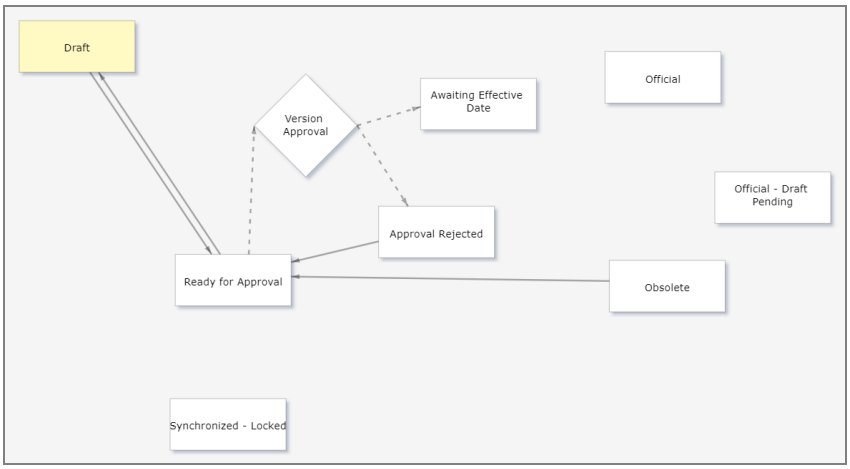
Approval Rejected. The process approval was rejected.

Official. The official version of the process.

Official – Draft Pending. The official version of a process, which also has a new version being drafted.

Obsolete. An obsolete version of the process. This version shall not be used.

Synchronized - Locked. This state is used if the process was created based on an integration to an ERP system.



Processes Tasks

Adding a New Process

1. Select Processes from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the Process Code, Process Name, Process Category, and Process Description fields.
3. Select a Process Owner and Top Management Reviewer.

   Note: The Top Management Reviewer field is filtered based on employee titles where Top Management is checked.

4. In the Responsibilities field, click the Link button to select one or more Training Roles who are responsible for this process.
5. Navigate to the Requires review tab. Click the calendar icon in the Last Review field to select the date when this process was last reviewed.
6. Use the Review Frequency drop-down field to determine how often the process should be reviewed, and the Review Completed By drop-down field to declare who completed the last review.
7. Click Save to save the new record. When selecting the next state, click Draft or Ready for Approval as needed.

Adding Process Manufacturing Information

1. In the Process detail screen, navigate to the Manufacturing Information tab.
2. Set the "List Process in APQP" toggle field to YES to ensure this process can be selected in other APQP processes, such as Family Templates. If necessary, set the "Inspection Requires Approval" toggle field to YES.
3. Use the Sources of Variation field to describe any known sources of variation that may affect the process.
4. Use the Process Failure Modes field to identify any potential failures that could happen with the process.

   Note: This information may be reflected in the Library Process FMEAs field at the bottom of the screen, which is automatically populated. See "PFMEA Failure Analysis Library" on page 112 for more information.

5. Use the Process Controls field to identify anything currently being done to help control the potential failures from happening.
6. The Process Specifications field may contain process specifications that are already linked to the process. You can add more by clicking the Add New Item button. See "Library Specifications" on page 95 for more information.
7. Navigate to the Work Elements tab. Link one or more process work elements that apply to this process.
   a. Click the Link button.
   b. Select one or more work elements.
   c. Click OK.
8. Click Save to save the record. When selecting the next state, click Draft.

Approving a Process

1. The person responsible for approving a process is automatically notified when it is time for approval through the inbox or optionally from an e-mail notification (clicking the link in that message takes you to the process for approval).
2. Open the inbox, either through the Home Page dashboard or by clicking the Inbox icon in the toolbar.
3. Upon opening the inbox, click the approval item under the APQP group to show the action icons. Then click the Open icon. The screen navigates to the process' detail screen.

4. In the detail screen, scroll down to the Version Approval field and click the Approve/Reject button. A small window appears.
5. In the Sign Off window, enter your password and either approve or reject the change. Use the comments field to document any information about your decision. Comments are required for rejection.

   Note: Once all members of the approval process have finished, the process becomes official and ready for use.

Starting a New Version of a Process

The Start New Version command in the Processes process should be used for small-impact changes that do not affect other departments or people, such as fixing a typo or changing a symbol. If the process requires a bigger change, then a change request must be initiated. See "Change Requests" in the Document Control user guide for more information.

Note: Revisions can only be made if the process is in the Official state.

1. Open the detail screen of the process you wish to change. If the process does not already have a change initiated, then click the Commands button and select Start New Version.

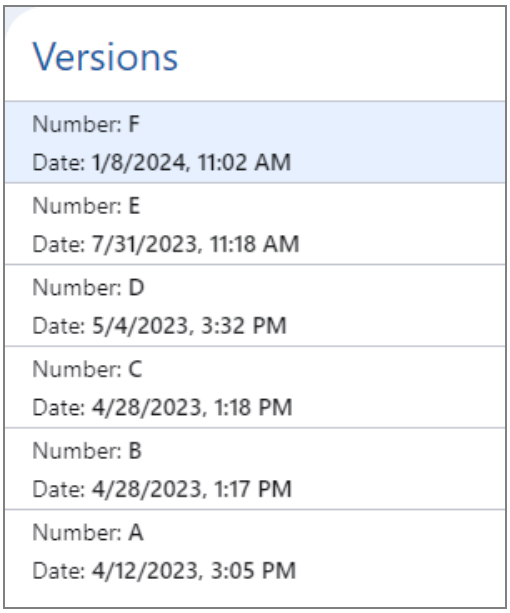
   Note: If a process already has a change initiated, then contact the Process Owner to see if the changes you want to make can be included in the current change.

2. In the General tab, use the Change Description field to summarize what has changed and set the effective date.
3. Select the “Synchronized” and “Requires Training” check boxes as appropriate. Minor changes may not require additional training.
4. Click Save to save the record. Select Ready for Approval if you are finished with the changes or select Draft to save the process as a draft and continue working.

When this version is approved, it becomes official and all previous versions become obsolete.

It can be helpful to see a historical version of the process. You can quickly access historical versions from any version of the process by clicking More in the toolbar and selecting Versions to expand the Versioning panel. Click one of these versions to switch your detail screen view to the selected version.

Fig. 62: List of Versions



Library Specifications

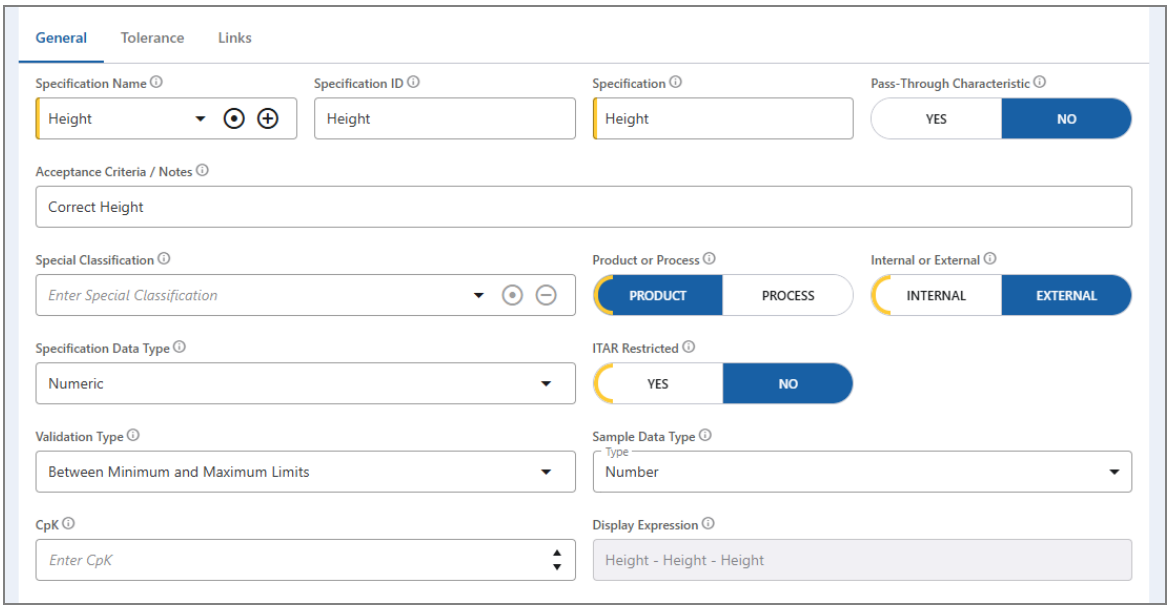
Library specifications document the acceptance criteria of a product or process, including (where appropriate) the tolerances of an attribute or characteristic. Each specification is associated with a specification group and linked to additional data (item, process, drawing, etc.), which defines the applicability of the specification.

Process library specifications are linked to a specific process and can be found on that process' detail screen. See "Processes" on page 87.

Library specifications may be ITAR restricted, meaning that only employees who are ITAR compliant can view, access, and interact with the specification.

Library specifications are linked to Family Templates and Manufacturing Documents to document acceptance criteria for a process flow and library process. See "Family Templates" on page 117 and "Manufacturing Documents" on page 135.

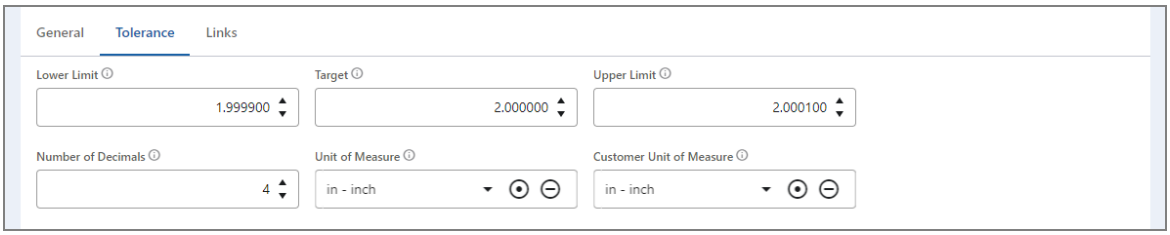
Fig. 63: Library Specification screen, General tab



The General tab is used to define the basic details of a specification, including whether it is a product or process specification, the specification and sample data types, validation type and more.

The Validation Type and Sample Data Type fields are dependent on the Specification Data Type field.

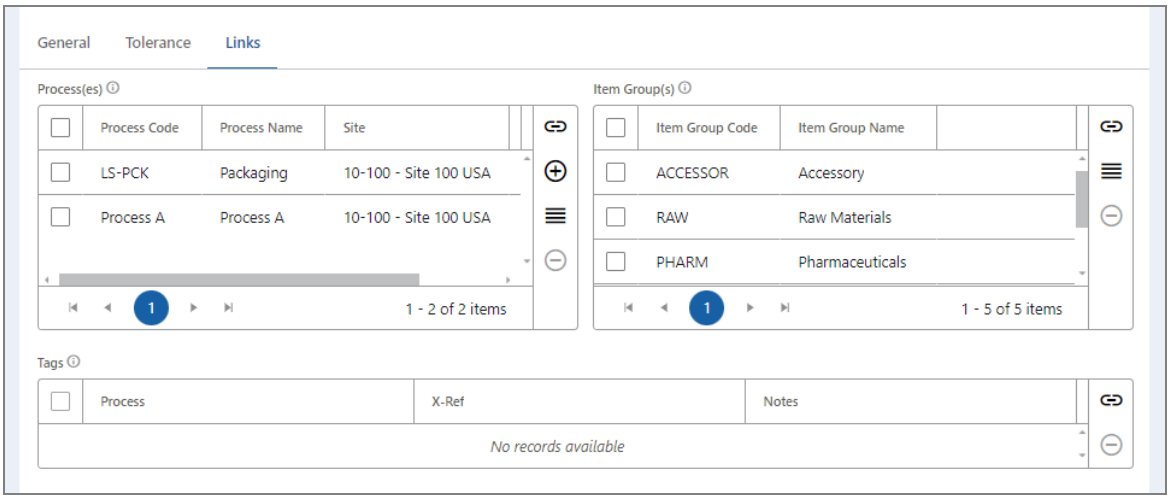
Fig. 64: Library Specifications screen, Tolerance tab



The Tolerance tab changes depending on the Specification Data Type field:

- **Numeric.** Set the numerical target, parameters, and unit of measure (see above).
- **Date.** Specify the date range.
- **Logical.** The Tolerance tab is hidden when Logical is selected.

Fig. 65: Library Specifications screen, Links tab



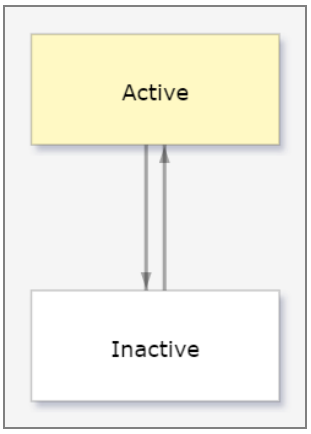
The Links tab contains fields to link the specification to multiple processes and item groups. Generally, the Process field is only used for process specifications and the Item Groups field is only used for product specifications.

Library Specifications States

This section defines each state available in the workflow for the Library Specifications process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A library specification that is actively used.

Inactive. A library specification that is no longer in use.



Library Specifications Tasks

Adding a New Library Specification

1. Select Library Specifications from the left navigation panel. Then, click the Add Item button in the toolbar.

2. Enter values for the specification name, ID, and description. Notice how the Display Expression field combines the three values; this is how users will look up this library specification.
3. If the specification applies to a special class, then select the special classification as required by the customer.
4. Select whether this specification applies to a product or a process, as well as whether it is internal or external.

   Note: Setting the specification to internal will prevent it from appearing on related PPAP reports.

5. Select whether this specification is ITAR restricted.
6. Select the specification data type:
   a. **Numeric.** Select when using lower/target/upper limit data.
   b. **Logical.** Select when entering acceptance criteria.
   c. **Date.** Select when capturing a date.
7. Select the sample data type:
   a. **Alphanumeric.** Data consists of numbers and letters.
   b. **Boolean.** Used for logical specifications, boolean has two possible values: true and false.
   c. **Number.** Data consists of only numbers.

   Note: If the record is saved prior to the data type selection, the sample data type changes automatically based on what was selected in the Specification Data Type field.

8. Select the type of validation to use when evaluating if an inspection result passes or fails. Select None if you do not want the system to automatically determine a pass or fail result.
9. For the acceptance criteria:
   a. If the specification is not defined by a numerical tolerance, enter a description of the acceptance criteria for the specification.
   b. If the specification is defined by a numerical tolerance, navigate to the Tolerance tab and set the parameters for the acceptance criteria.
10. Navigate to the Links tab. Select the processes and item groups to which the library specification belongs.
11. Click Save to save the new record. When selecting the next state, click Active.

    Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the library specification cannot be used for new records.

Control Library

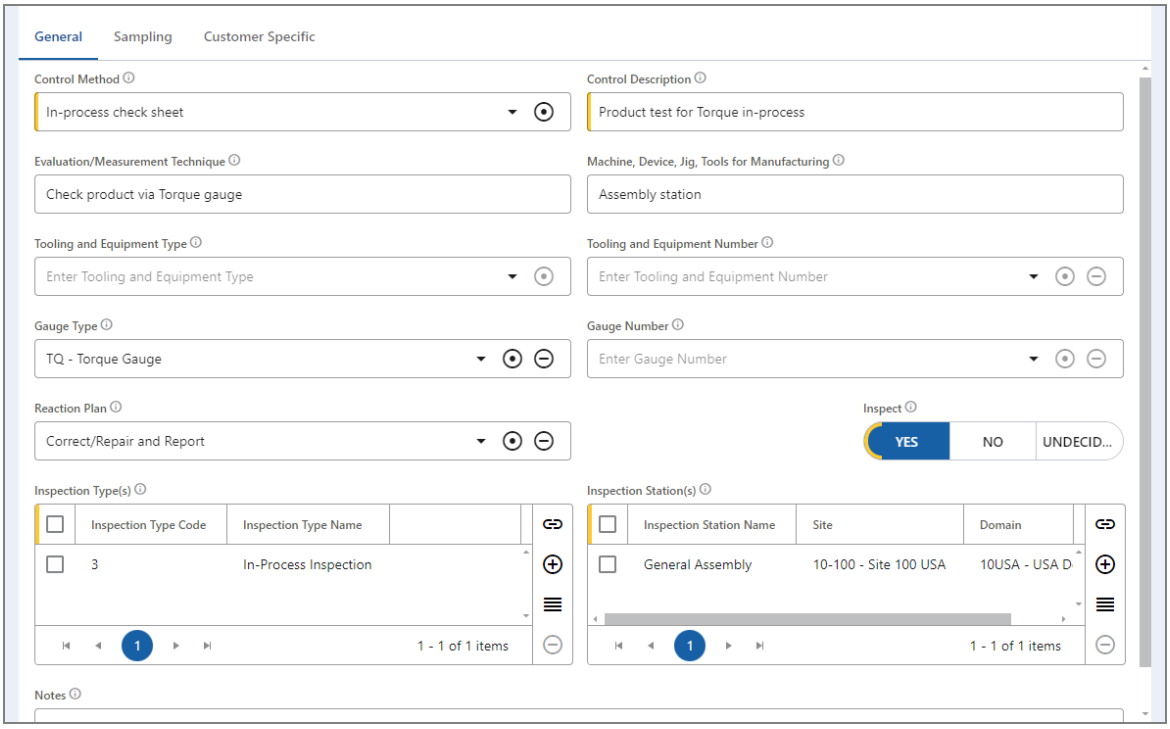
Once a process FMEA has determined the failures that can occur in a process flow, controls determine what characteristics must be measured to reduce, eliminate, or detect the defined failure modes. Examples include what to measure with, how to measure the parts, how many samples to take and how often, and so on. These controls make up the Process Control Plan.

The Control Library process is a library of methods used to control quality that is related to product or process specifications. These can then be brought in to manufacturing documents and family templates.

The Control Library is used in the following processes of the APQP module:

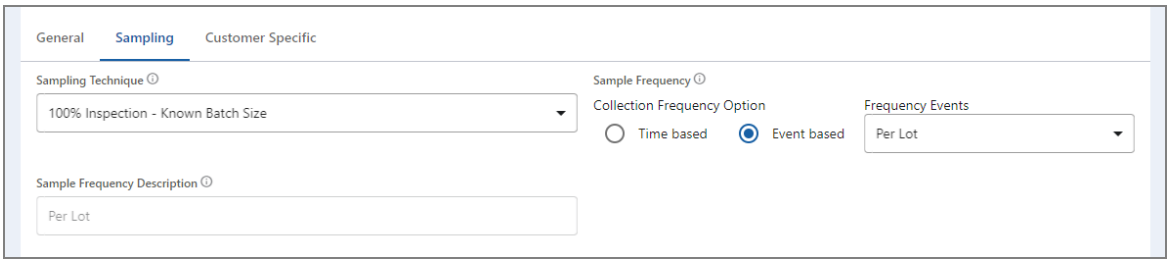
- By PFMEA Failure Analysis Library and PFMEA Causes Library to provide methods to prevent or detect a failure. See "PFMEA Failure Analysis Library" on page 112 and "PFMEA Causes Library" on page 114.
- By Family Templates to connect control plans to a template and, ultimately, a manufacturing document. See "Family Templates" on page 117.
- By Manufacturing Documents to connect control plans to a controlled copy of documentation used for the manufacture of an item. See "Manufacturing Documents" on page 135.

Fig. 66: Control Library screen, General tab



The General tab is used to define the basic details of a library control and includes multiple fields that allow you to be as specific as you want regarding the techniques, equipment, locations, and more that are used in a control.

Fig. 67: Control Library screen, Sampling tab



Use the Sampling tab to specify the technique and frequency for sampling product and process components. The Sampling Technique field determines what fields appear after the Sample Frequency field.

The Sampling Technique field has four choices:

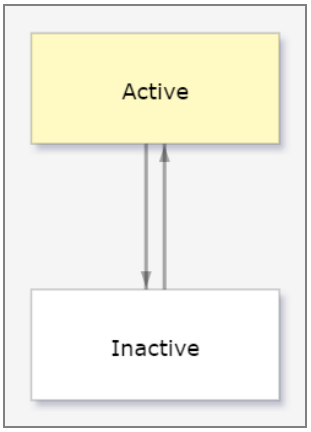
- **Fixed.** Use for cases with a set/static number of samples (e.g. 2 samples, 5 samples, etc.)
- **100% Known Sample Size.** Use for cases where all parts should be inspected.
- **AQL.** Use for cases where, based on the batch/lot size, it is best to use an Acceptable Quality Limit table to dynamically determine the number of samples.
- **Manual.** Use for cases where the operator/inspector must specify the sample size. Rarely used for cases such as an engineering study.

Control Library States

This section defines each state available in the workflow for the Control Library process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A library control that is actively used.

Inactive. A library control that is no longer in use.



Control Library Tasks

Adding a New Control Library Record

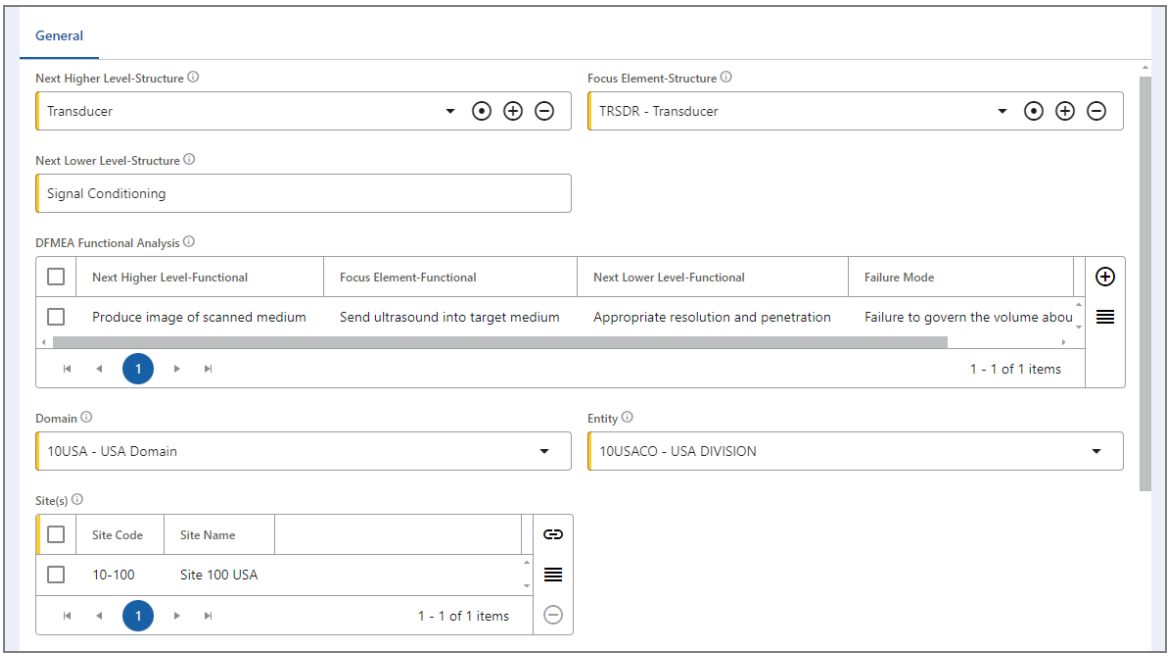
1. Select Control Library from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Select a control method of detection or prevention failure.
3. Enter descriptions for the control, the evaluation/measurement technique, and the machine, device, jig, or tools that would be used in manufacturing.
4. Select the tooling and equipment type and number, gauge type and number, and a reaction plan.
5. If this library control will be used in conjunction with inspection events, then set the "Inspect" toggle field to YES. Two new fields appear: Inspection Types and Inspection Stations.
6. Use the Link or Add New Item button in the Inspection Types and Inspection Stations fields to add inspection data.
7. Navigate to the Sampling tab. Select the appropriate sampling technique. If you chose Fixed, then select or create a sample size description.
8. Set up the sampling frequency for this control:
    a. **Time based.** Enter the number of hours in between inspections.
    b. **Event based.** Select the event that requires inspection for the control.
9. Click Save to save the new record. When selecting the next state, click Active.

    Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the Library Control cannot be used for new records.

DFMEA Structural Analysis Library

The DFMEA Structural Analysis Library process provides a library of structural and functional examinations for design FMEAs. It dissects the structural items or systems in a design, then breaks down the function of those systems; this fulfills the second and third steps in the design FMEA process. These details can then be linked to the DFMEA Failure Analysis Library process so they may be investigated for failure modes and controls. See "DFMEA Failure Analysis Library" on page 104 for more information.

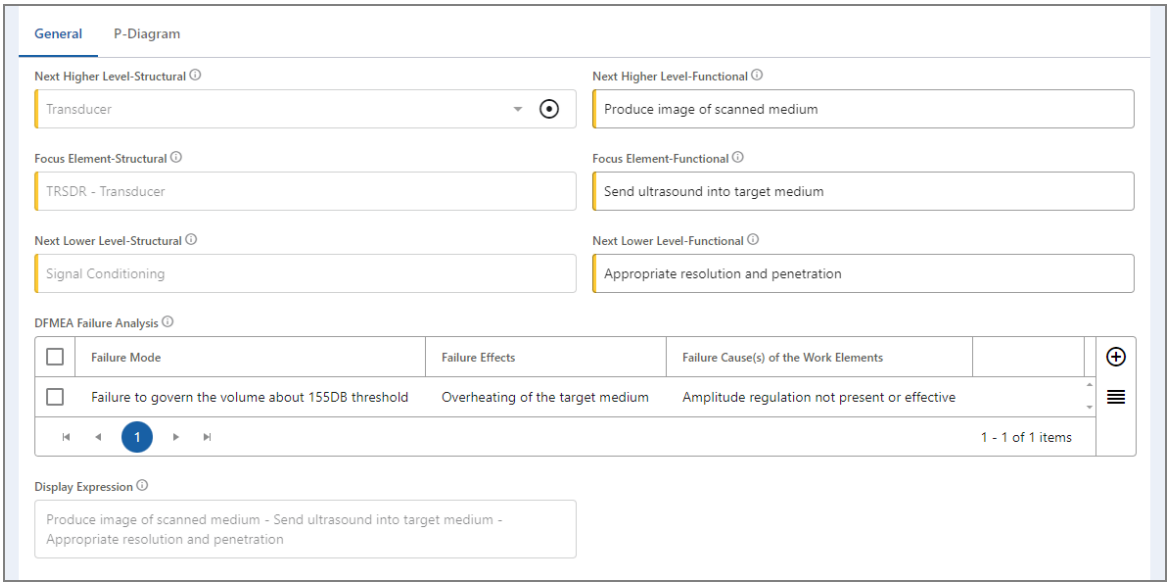
Fig. 68: DFMEA Structural Analysis Library process screen



The first level of this process involves determining focus and next level structures, which are tied to the DFMEA Systems Library process (see page 85 for more details). Additionally, you can upload boundary and block diagrams, an interface analysis, and a structure tree.

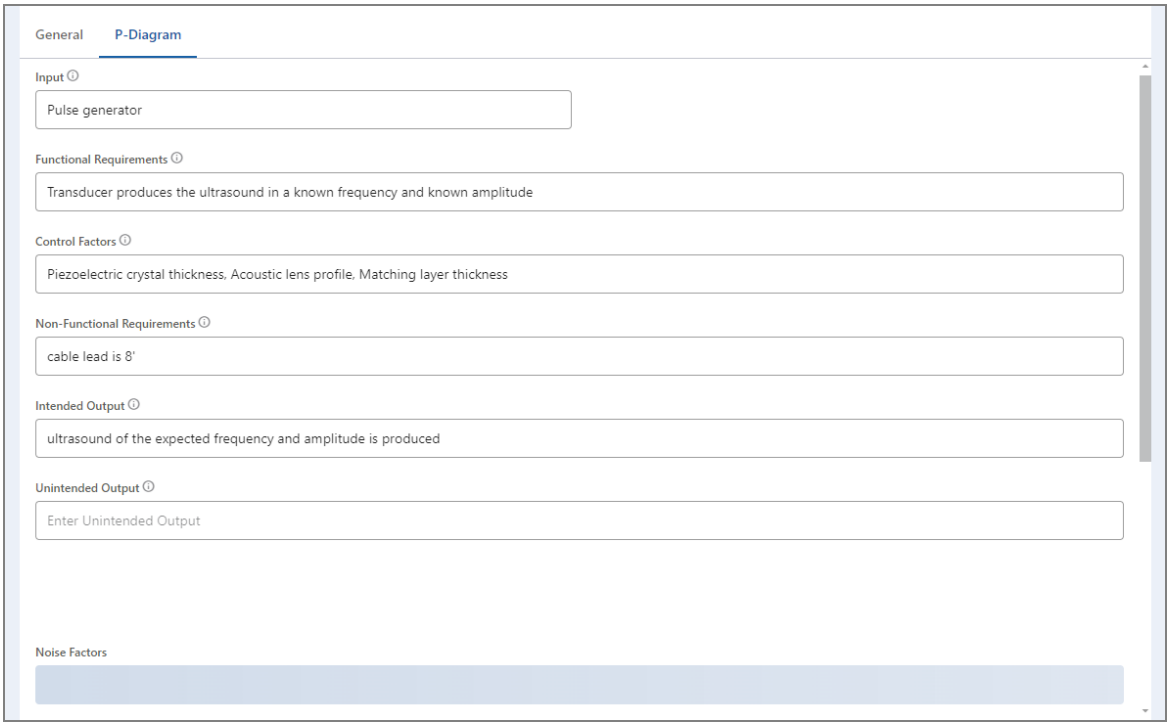
Once the structural analysis is complete, the functional analysis can begin.

Fig. 69: DFMEA Functional Analysis Library process, General tab



When a new record is added to the DFMEA Functional Analysis field, the screen shown above appears. Use this screen to describe the function of each level and focus structure. You can also create a DFMEA Failure Analysis Library record directly from this screen.

Fig. 70: DFMEA Functional Analysis Library process, P-Diagram tab



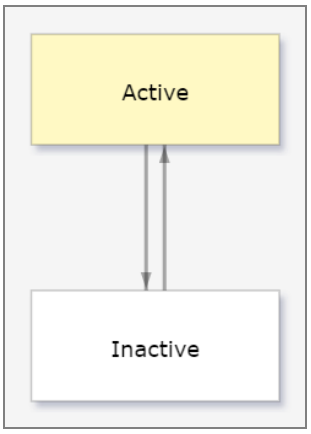
Use the P-Diagram tab of the DFMEA functional analysis to provide additional details of the focus element's intended functions, such as control factors, intended output, piece to piece variation, customer usage, and more.

DFMEA Structural Analysis Library States

This section defines each state available in the workflow for the DFMEA Structural Analysis Library process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A design FMEA structural analysis that is actively used.

Inactive. A design FMEA structural analysis that is no longer in use.



DFMEA Structural Analysis Library Tasks

Adding a New DFMEA Structural Analysis Library Record

1. Select DFMEA Structural Analysis Library from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Select the focus element and the next higher level of the structure.
3. Enter the element that is the next level down the structure from the focus element.
4. If you have a diagram, interface analysis, or structure tree for the design FMEA, then drag and drop or upload the file to the applicable field.
5. Click Save to save the record. When selecting the next state, click Active.

   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the DFMEA structural analysis cannot be used for new records.

Adding a New DFMEA Functional Analysis

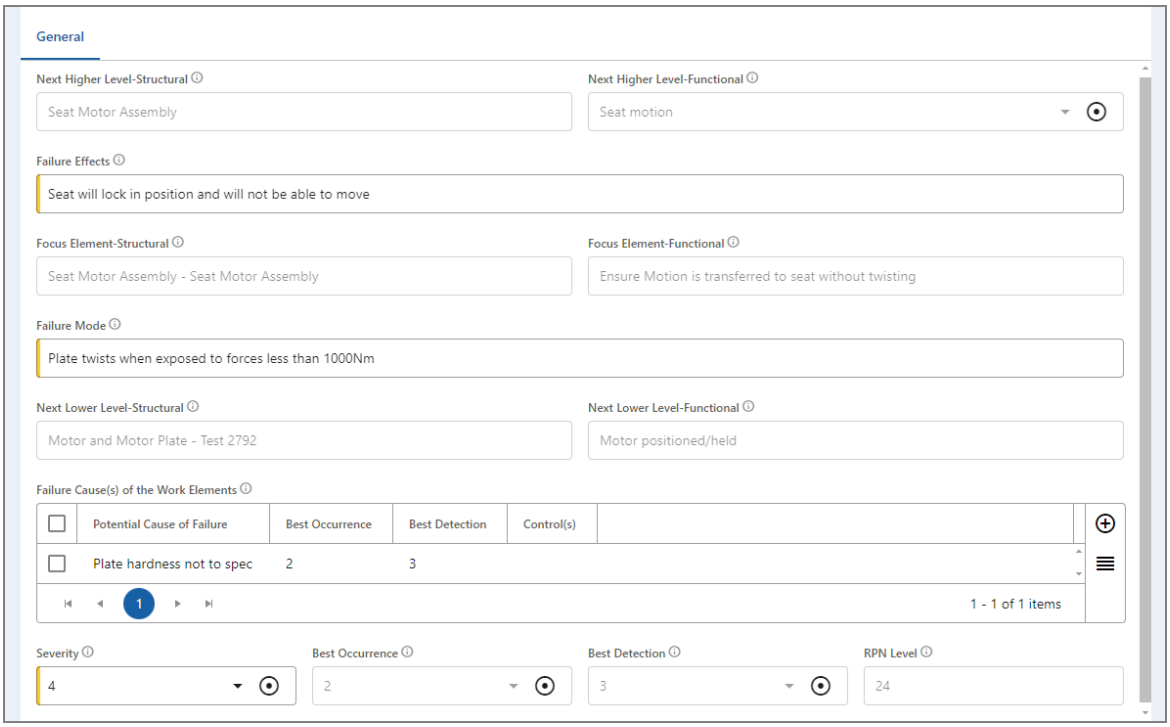
1. In the DFMEA Structural Analysis Library record, click the Add New Item button in the DFMEA Functional Analysis field. A new screen appears.
2. For each level and focus of the system, describe its function and the requirement or intended output it must fulfill.
3. Navigate to the P-Diagram tab. In each field, provide additional details of the focus element's intended functions
4. Click Save to save the record. When selecting the next state, click Active.

DFMEA Failure Analysis Library

The DFMEA Failure Analysis Library process is the fourth step in the design FMEA process. Wherever a risk is identified, a failure analysis should be put in place. Failure analyses determine what characteristics must be controlled (measurements, required specifications, and so on) in order to mitigate or detect the failure effect and mode defined. This is your design control plan; see "Control Library" on page 98 for more information.

DFMEA Failure Analysis Library records are linked to manufacturing documents to supply potential FMEAs for the design FMEA. See "Manufacturing Documents" on page 135.

Fig. 71: DFMEA Failure Analysis Library process screen

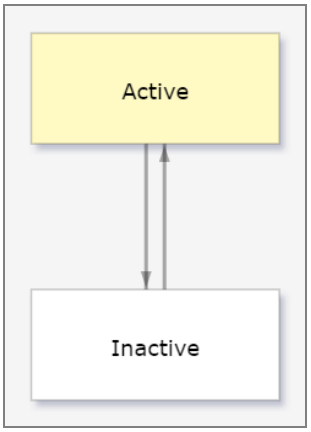


DFMEA Failure Analysis Library States

This section defines each state available in the workflow for the DFMEA Failure Analysis Library process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A design FMEA failure analysis that is actively used.

Inactive. A design FMEA failure analysis that is no longer in use.



DFMEA Failure Analysis Library Tasks

Adding a New DFMEA Failure Analysis Library Record

1. In a DFMEA Structural Analysis Library record, open the relevant DFMEA Functional Analysis record. Then, click the Add New Item ⊕ button in the DFMEA Failure Analysis field; a new screen opens.
2. Describe how the system or subsystem could fail to perform the function described at the next higher level.
3. Describe the potential failure mode of the focus element. Use a noun followed by a failure description (e.g. seal twisted, diameter undersized).
4. Select the severity of the failure mode.
5. Click Save to save the new record. When selecting the next state, click Active.
6. Add failure causes of the work elements. See "DFMEA Causes Library" below for more information.
7. Note that the Best Occurrence, Best Detection, and RPN Level fields have been populated. This information comes from the potential causes and the controls linked to those causes.
8. If needed, click Save to save the record. When selecting the next state, click Active.

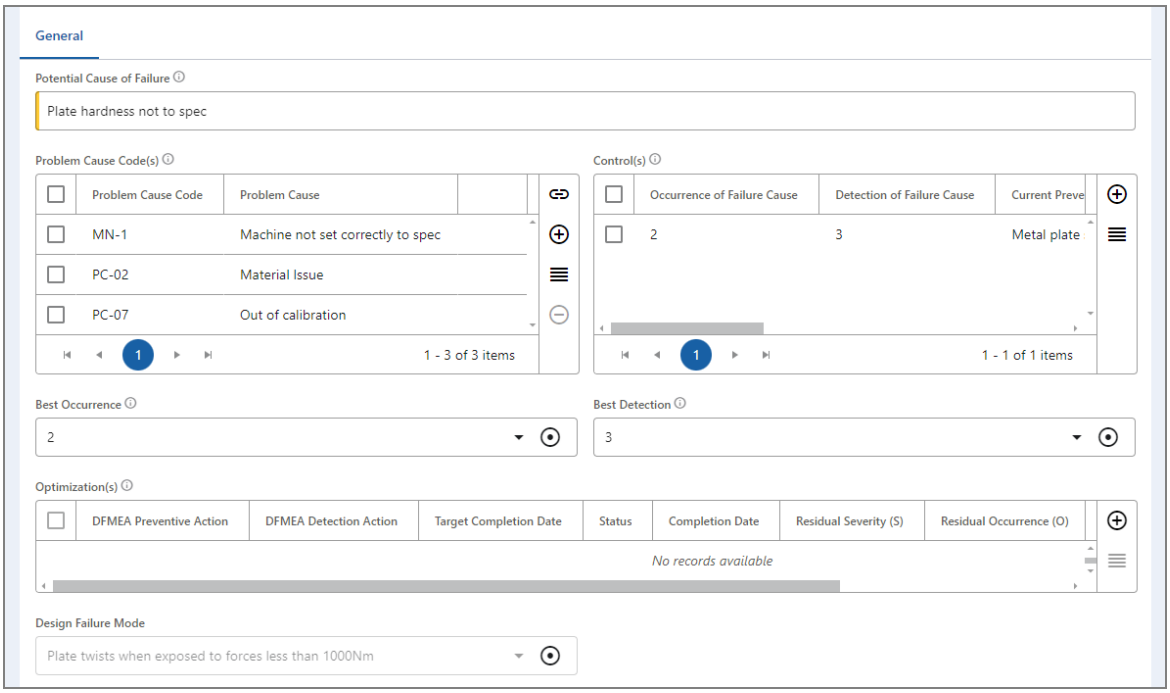
   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the DFMEA failure analysis cannot be used for new records.

DFMEA Causes Library

The DFMEA Causes Library process describes the potential causes of failure for each failure mode in a design FMEA. By identifying potential root causes, you can aim control methods appropriates and calculate the best occurrence and detection ratings. You can also add optimizations to be complete in order to reduce the risk of the failure.

DFMEA causes are added directly to a DFMEA Failure Analysis Library record in the Failure Causes of the Work Elements field. See "DFMEA Failure Analysis Library" on page 104.

Fig. 72: DFMEA Causes Library screen

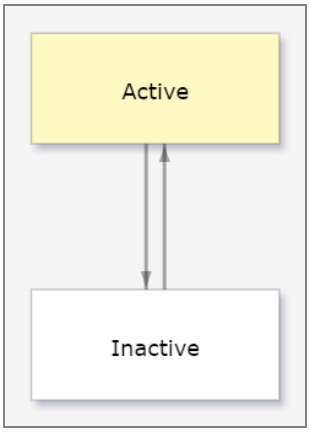


DFMEA Causes Library States

This section defines each state available in the workflow for the DFMEA Causes Library process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A design FMEA causes library that is actively used.

Inactive. A design FMEA causes library that is no longer in use.



DFMEA Causes Library Tasks

Adding a New DFMEA Causes Library Record

1. In the DFMEA Failure Analysis Library record, click the Add New Item button in the Failure Causes of the Work Elements field. A new screen appears.
2. Enter a description of the potential cause of failure.
3. In the Problem Cause Codes field, use the Link or Add New Item button to add one or more problem cause codes.

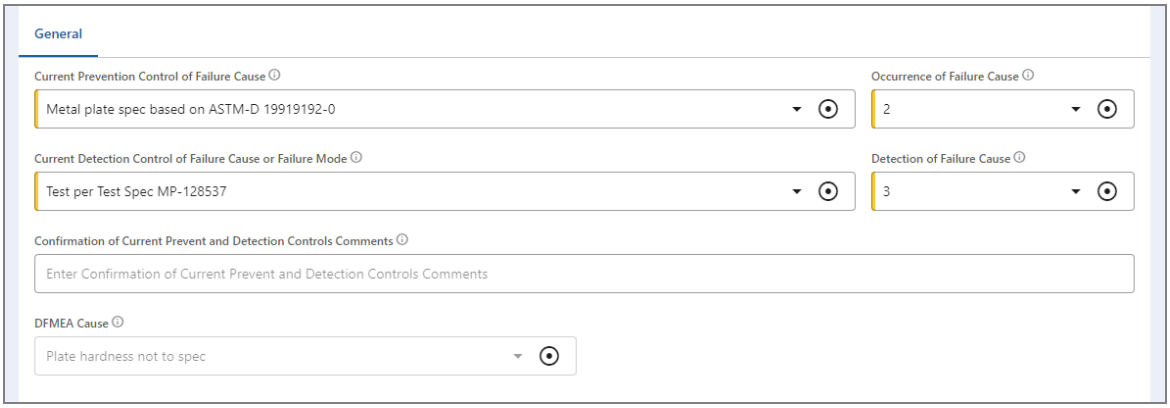
   Note: Problem causes originate from the CAPA & NCR module. See the NCR & CAPA user guide for more information.

4. Click Save to save the new record. When selecting the state, click Active.
5. Add one or more controls. See "Adding a Control to the DFMEA Causes Library" below for more information.
6. Add Optimizations to recommend actions to be taken in order to reduce the risk of the failure. See "Adding a New Optimization for DFMEA" on the facing page for more information.
7. Click Save to save the record.

Adding a Control to the DFMEA Causes Library

It is important to document the current preventive and detection controls of a failure cause in order to finish up the measurement of the level of risk associated with the failure cause. To properly calculate the action priority number, at least one detection control is required. See "Control Library" on page 98.

Fig. 73: DFMEA Controls Library screen



1. In the DFMEA Causes Library process screen, click the Add New Item button in the Controls field. A new screen appears.
2. Select the current control methods to prevent and detect the cause of the failure.
3. Select the occurrence and detection ratings that represent the effectiveness of each control.
4. Enter any notes about the confirmation of the current controls effectiveness.
5. Click Save to save the record. When selecting the next state, click Active.

Adding a New Optimization for DFMEA

1. In the DFMEA Causes Library record, click the Add New Item ⊕ button in the Optimizations field. A new screen appears.
2. Describe the recommended action that should be taken to help reduce the action priority number.

   Note: Typically the rankings should be reduced in the order of severity, occurrence, and then detection (although only a design or process revision can reduce the severity ranking). Preventive actions are preferable to detection actions.

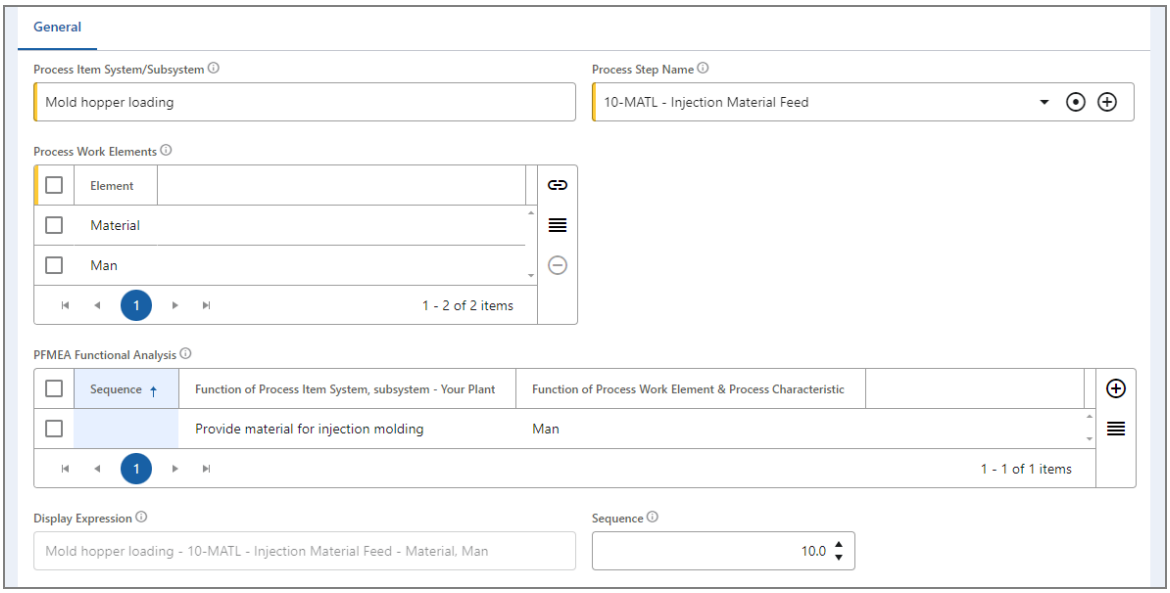
3. Select the user responsible for completing the action and the target date of completion.
4. Select the residual severity, occurrence, and detection as needed; these indicate how the ratings are affected as a result of the action taken.
5. Click Save to save the record.

PFMEA Structural Analysis Library

The PFMEA Structural Analysis Library process provides a library of structural and functional examinations for process FMEAs. It dissects the structural items or systems in a design, then breaks down the function of those systems; this fulfills the second and third steps in the process FMEA process. These details can then be linked to the PFMEA Failure Analysis Library process so they may be investigated for failure modes and controls. See "PFMEA Failure Analysis Library" on page 112 for more information.

The PFMEA structural analysis library may be ITAR restricted, meaning that only employees who are ITAR compliant can view, access, and interact with the record.

Fig. 74: PFMEA Structural Analysis Library process screen

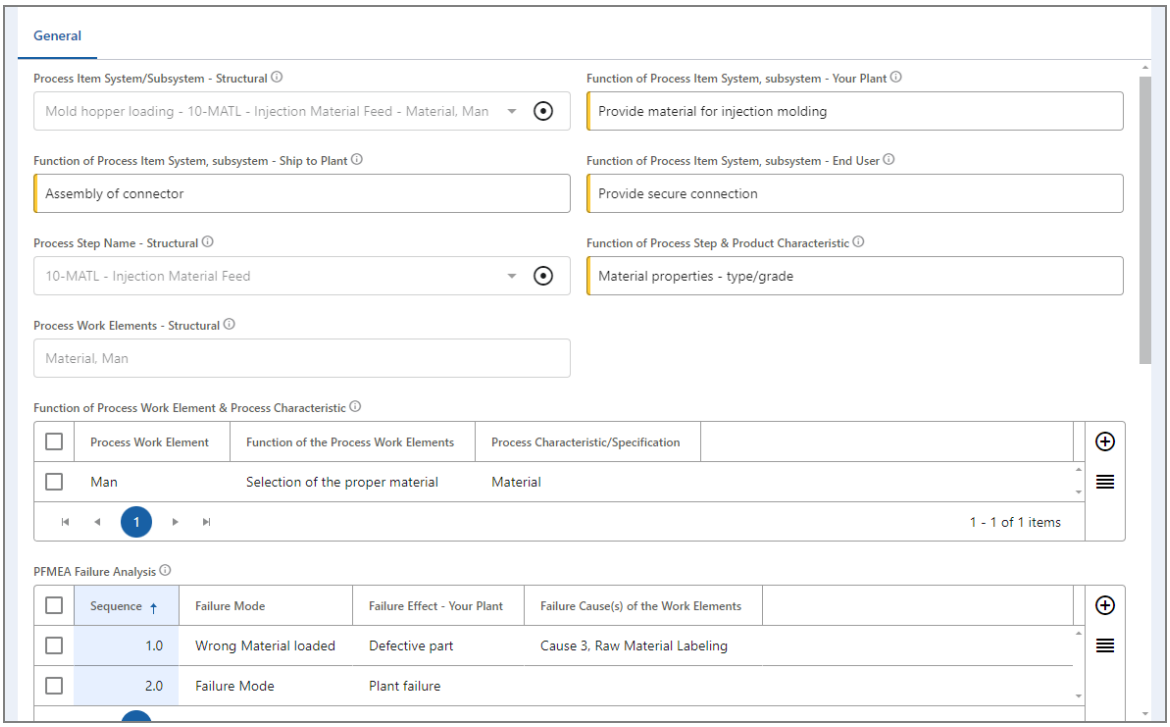


The first level of this process involves selecting a Process record and describing the item system/subsystem being analyzed. Additionally, the PFMEA structural analysis identifies work

elements involved in the process that should be considered when contemplating potential failures. These elements include Man, Machine, Material, Environment, Method, and Measurement.

Once the structural analysis is complete, the functional analysis can begin.

Fig. 75: PFMEA Functional Analysis Library process screen



When a new record is added to the PFMEA Functional Analysis field, the screen shown above appears. Use this screen to describe the function of the structure in relation to your plant, the ship to plant, and the end user. Additionally, you can specify the function of each process work element.

PFMEA Failure Analysis Library records are created directly from this screen. Also available is a list of PFMEA Failure Analysis Library records that are not currently linked to a function analysis. When a user is transitioning to the new AIAG/VDA format from the old 4th edition, they need to add the Structural and Functional FMEA levels above the Failure modes, then link the Failure modes to the appropriate Functional Analysis level. To do this, users must create the Structural level, create the Functional level below Structural, then double-click the unlinked Failure Analysis record that applies to the new Structural/Functional chain in order to link it to the Functional Analysis record. This create the full chain Structural, Functional, Failure Cause, and Controls.

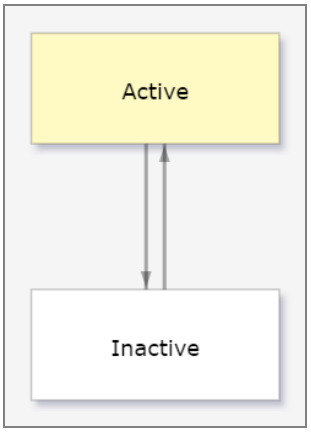
PFMEA Structural Analysis Library States

This section defines each state available in the workflow for the PFMEA Structural Analysis Library process. See "State Change Security" on page 208 to learn more about how these states

transition.

Active (Default). A process FMEA structural analysis that is actively used.

Inactive. A process FMEA structural analysis that is no longer in use.



PFMEA Structural Analysis Library Tasks

Adding a New PFMEA Structural Analysis Library Record

1. Select PFMEA Structural Analysis Library from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Select whether this record is ITAR restricted.
3. Select a process.
4. Enter an item system, subsystem, part element, or name of the process.
5. Add process work elements that affect the process.
    a. Click the Link button. A new window opens.
    b. Select one or more work elements.
    c. Click OK.
6. Click Save to save the record. When selecting the next state, click Active.

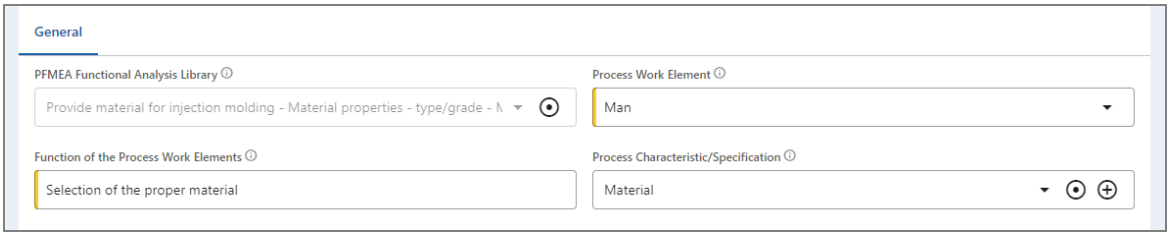
Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the Library Process FMEA cannot be used for new records.

Adding a New PFMEA Functional Analysis

1. In the PFMEA Structural Analysis Library record, click the Add New Item button in the PFMEA Functional Analysis field. A new screen appears.
2. Enter the function of the process item system/subsystem in the context of your plant, the ship to plant, and the end user. These functions should be in a "Do this to that" format (e.g. drill hole, apply coating, weld joint).
3. Describe the function of the process step name from the structural analysis and the product characteristic.
4. Click Save to save the record. When selecting the next state, click Active.

5. Return to the PFMEA Functional Analysis record. Click the Add New Item button in the Function of Process Work Element & Process Characteristic field. A new screen appears.

Fig. 76: PFMEA Functional Analysis Work Elements Library screen



6. Select the process work element and the process characteristic/specification.
7. Enter the function of the work element.
8. Click Save. When selecting the next state, click Active. Repeat this step in the screen that follows.

PFMEA Failure Analysis Library

The PFMEA Failure Analysis Library process is the fourth step in the process FMEA process. Wherever a risk is identified, a failure analysis should be put in place. Failure analyses determine what characteristics must be controlled (measurements, required specifications, and so on) in order to mitigate or detect the failure modes defined. This is your process control plan; see "Control Library" on page 98 for more information.

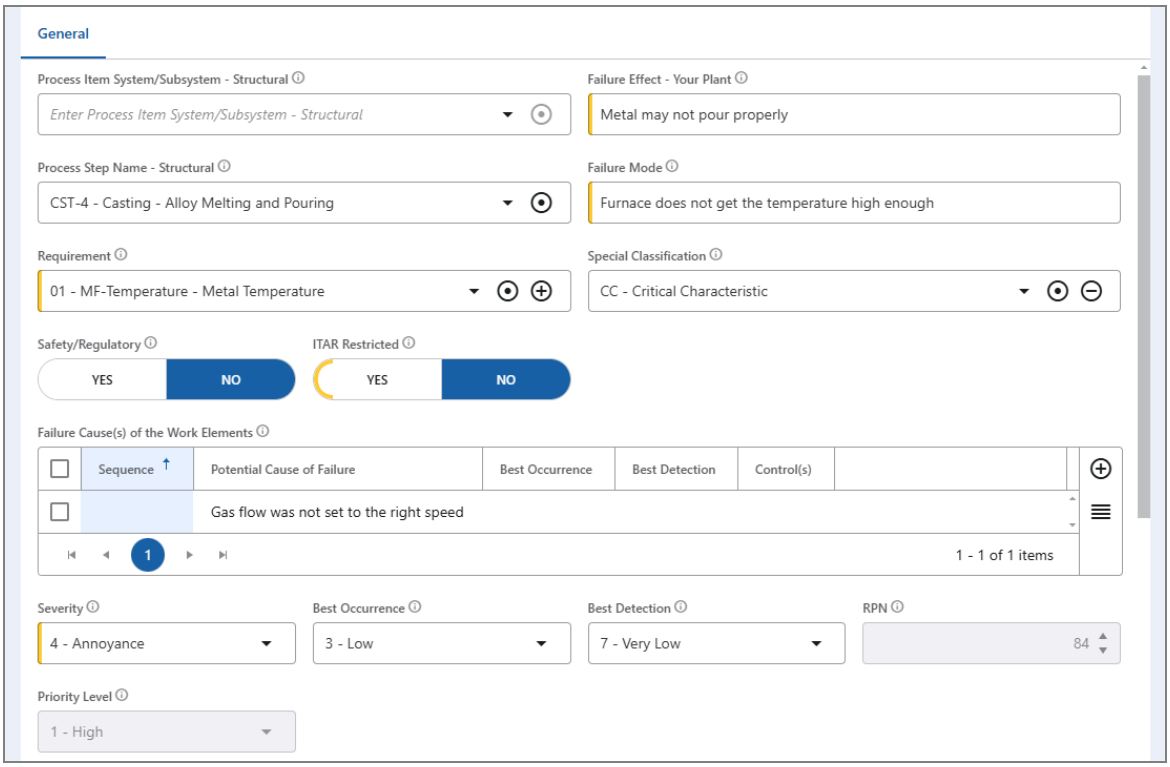
Before a process FMEA failure analysis can be filled out, you must know what process, specification, and potential failure modes are involved. These items are identified in the process flow. As stated in "APQP Level 2 Libraries" on page 83, the process FMEA failure analysis is completed at each step of the process flow to determine what can go wrong at that step, starting with the structural analysis.

The PFMEA failure analysis library may be ITAR restricted, meaning that only employees who are ITAR compliant can view, access, and interact with the record.

PFMEA Failure Analysis Library records are linked to a specific process and can be found on that process' detail screen. See "Processes" on page 87.

PFMEA Failure Analysis Library records are also linked to family templates and manufacturing documents to supply potential FMEAs for the process flow. See "Family Templates" on page 117 and "Manufacturing Documents" on page 135.

Fig. 77: PFMEA Failure Analysis Library process screen

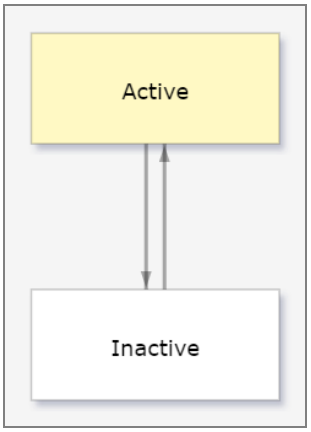


PFMEA Failure Analysis Library States

This section defines each state available in the workflow for the PFMEA Failure Analysis Library process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A process FMEA failure analysis that is actively used.

Inactive. A process FMEA failure analysis that is no longer in use.



PFMEA Failure Analysis Library Tasks

Adding a New PFMEA Failure Analysis Library Record

1. In a PFMEA Structural Analysis Library record, open the relevant PFMEA Functional Analysis record. Then, click the Add New Item ⊕ button in the PFMEA Failure Analysis field.
2. Select whether this record is ITAR restricted.
3. Describe the potential failure mode and the effects of failure for your plant.
4. Select the requirement that could fail (see "Library Specifications" on page 95) and the severity of the failure mode.
5. Click Save to save the new record. When selecting the next state, click Active.
6. Add failure causes of the work elements. See "PFMEA Causes Library" below for more information.
7. Note that the Best Occurrence, Best Detection, RPN, and Priority Level fields have been populated. This information comes from the potential causes and the controls linked to those causes.
8. Add Optimizations to recommend actions to be taken in order to reduce the risk of the failure. See "Adding a New Optimization for PFMEA" below for more information.
9. If needed, click Save to save the record. When selecting the next state, click Active.

   Note: You can toggle between Active and Inactive as needed. When the state is Inactive, the PFMEA Failure Analysis Library record cannot be used for new records.

Adding a New Optimization for PFMEA

1. In the PFMEA Failure Analysis Library record, click the Add New Item ⊕ button in the Optimizations field. A new screen appears.
2. Describe the recommended action that should be taken to help reduce the RPN rankings.

   Note: Typically the rankings should be reduced in the order of severity, occurrence, and then detection (although only a design or process revision can reduce the severity ranking). Preventive actions are preferable to detection actions.

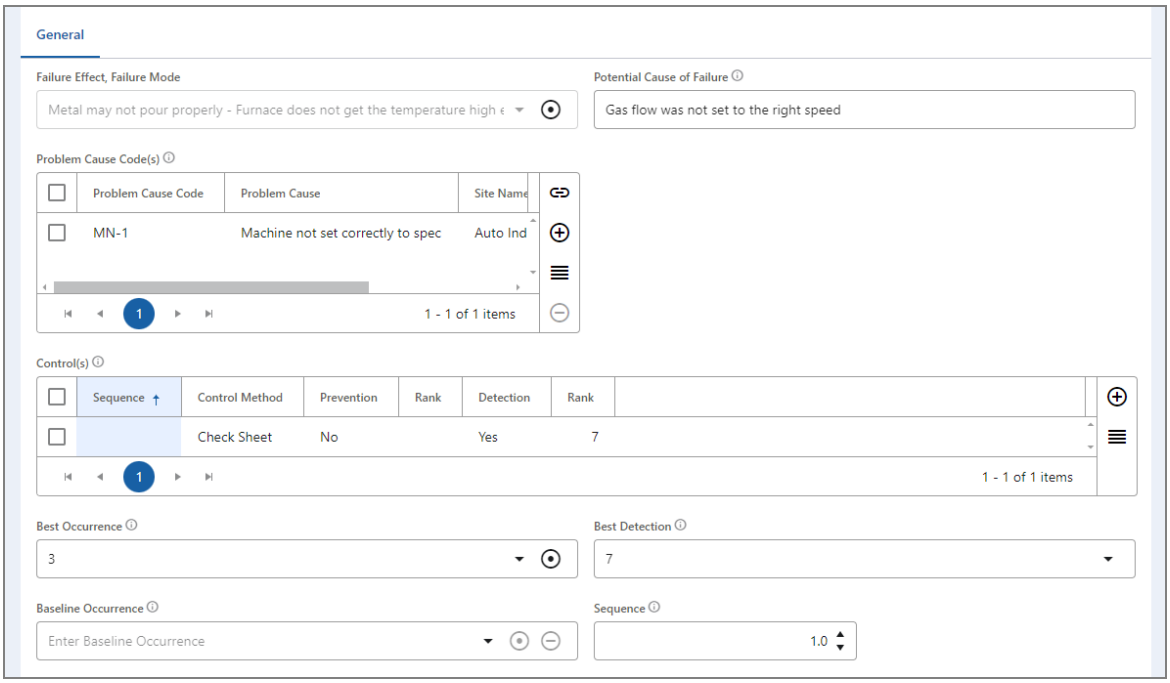
3. Enter the user responsible for completing the action and the target date of completion.
4. Select the residual severity, occurrence, and detection as needed; these indicate how the ratings are affected as a result of the action taken.
5. If applicable, select the relevant non-conformance or document change request.
6. Click Save to save the record.

PFMEA Causes Library

The PFMEA Causes Library process describes the potential manufacturing, assembly, and process causes for each failure mode in a process FMEA. By identifying potential root causes, you can aim control methods appropriately and calculate the best occurrence and detection ratings.

PFMEA causes are added directly to a PFMEA Failure Analysis Library record in the Failure Causes of the Work Elements field. See "PFMEA Failure Analysis Library" on page 112.

Fig. 78: PFMEA Causes Library screen

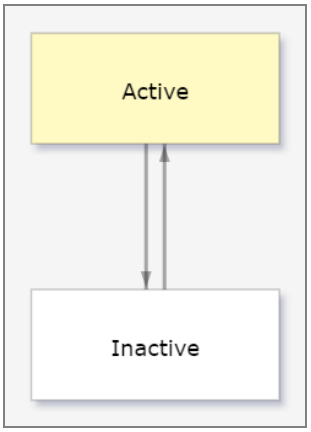


PFMEA Causes Library States

This section defines each state available in the workflow for the PFMEA Causes Library process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). A process FMEA causes library that is actively used.

Inactive. A process FMEA causes library that is no longer in use.



PFMEA Causes Library Tasks

Adding a New PFMEA Causes Library Record

1. In the PFMEA Failure Analysis Library record, click the Add New Item button in the Failure Causes of the Work Elements field. A new screen appears.
2. Enter a description of the potential cause of failure.
3. Select an occurrence ranking for the cause of failure.
4. In the Problem Cause Codes field, use the Link or Add New Item button to add one or more problem cause codes.

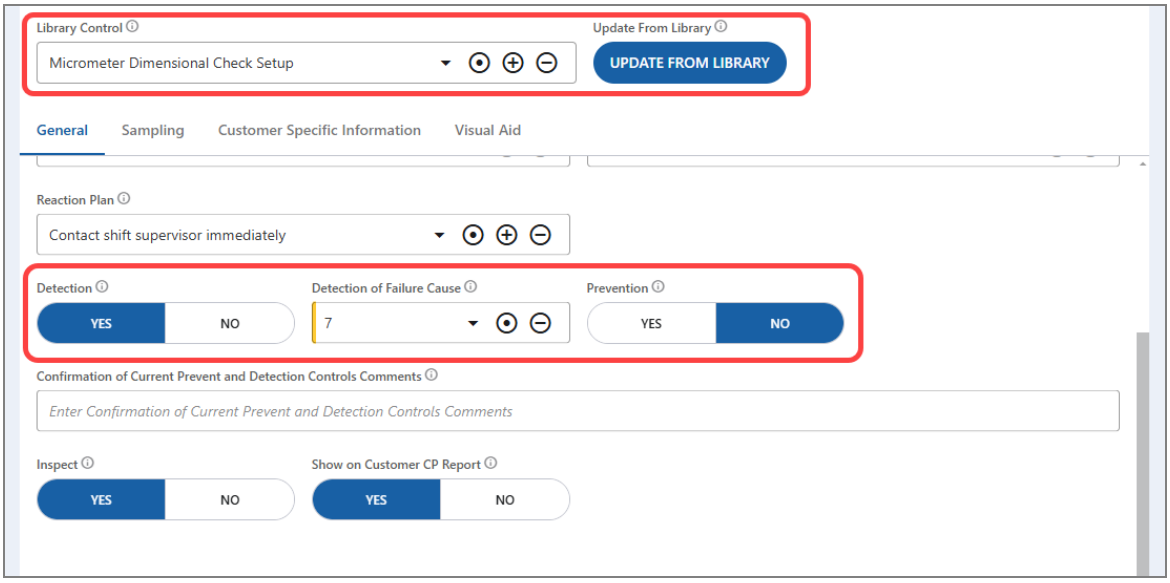
   Note: Problem causes originate from the NCR & CAPA module. See the NCR & CAPA user guide for more information.

5. Click Save to save the new record. When selecting the state, click Active.
6. Add one or more controls. See "Adding a Control to the PFMEA Causes Library" below for more information.
7. Click Save to save the record.

Adding a Control to the PFMEA Causes Library

It is important to document the current preventive and detection controls of a failure cause in order to finish up the measurement of the level of risk associated with the failure cause. To properly calculate the action priority number, at least one detection control is required. See "Control Library" on page 98.

Fig. 79: PFMEA Controls Library screen



1. In the PFMEA Causes Library process screen, click the Add New Item button in the Controls field. A new screen appears.
2. Complete all required fields, then select a library control from the drop-down list.

3. Click the "Update From Library" button. The selected library control record's information is imported, populating any field that contains a value in the linked record.
4. If the library control did not set the "Detection" and "Prevention" toggles, then adjust them appropriately, depending on the type of control you are adding. When a toggle is set to YES, a new field appears.
5. In the new field, select the level that corresponds with the selected toggle fields.
6. Click Save to save the record. When selecting the next state, click Active.

Family Templates

A family template is a non-part-specific manufacturing document that can be used to create manufacturing documents. You may think of it as a manufacturing document template. A family template will house the process flow, specifications, process FMEA, and control plan for a product family, which can be used as a starting point for new manufacturing documents. The new AIAG/VDA FMEA handbook embraces and recommends Foundation and Family FMEAs. In QAD EQMS, Foundation FMEA is the baseline FMEA defined in the libraries described earlier in this user guide, while the Family Template process is the Family FMEA for a group of similar parts.

The advantages of a family template is that it drives standardization, reduces effort and increases speed to produce part-specific documentation, and allows changes to cascade.

This process is designed to be populated with command buttons. These buttons are located at the top of the appropriate tab, but can also be found within the Actions button in the toolbar. However, if the Specifications, Process FMEA, and Process Control Plans were not set up ahead of time, then they can be completed manually from their respective tabs in the family template.

EQMS contains a grid control displaying data stored in multiple relational levels within a single screen, allowing you to see all fields for a FMEA, control plan, and so on. Details within each tab are presented in two formats:

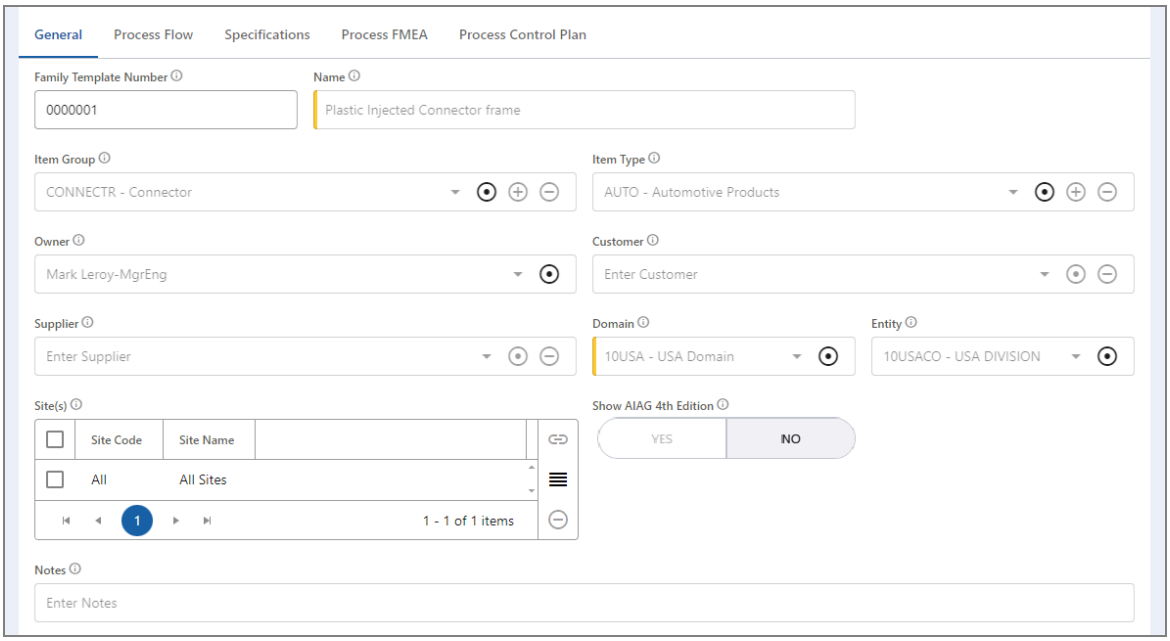
1. A grid where you can double-click within a level to open the detail screen associated with that level (for example, clicking Failure Mode will open the failure mode detail screen, clicking Cause will open the failure cause detail screen, etc.).
2. A cross-reference list of the highest level record. This field is where you add new records, but they are better to view in the grid.

This process contains a "Show AIAG 4th Edition" toggle that, when set to YES, shows the 2008 AIAG 4th Edition FMEA formats for family templates. If this toggle is set to NO, then the process is formatted to comply with the 2019 AIAG & VDA FMEA Handbook. Note that 4th edition PFMEAs begin at the Failure Analysis level, while PFMEAs using the new AIAG/VDA mode begin at the Structural Analysis level. If you switch from the old 4th edition to the new AIAG/VDA edition, you will need to create the structural and functional levels first, then open the appropriate failure analysis record not yet linked to a functional analysis and link them to the functional analysis.

Family Templates may be linked to a site with an ITAR requirement. If this is true, then a new field appears on the General tab titled ITAR Restricted. Setting this toggle to YES means that only employees who are ITAR compliant can view, access, and interact with the template.

Family Templates are used in the Manufacturing Documents process to copy details to populate several tabs and fields. See "Manufacturing Documents" on page 135.

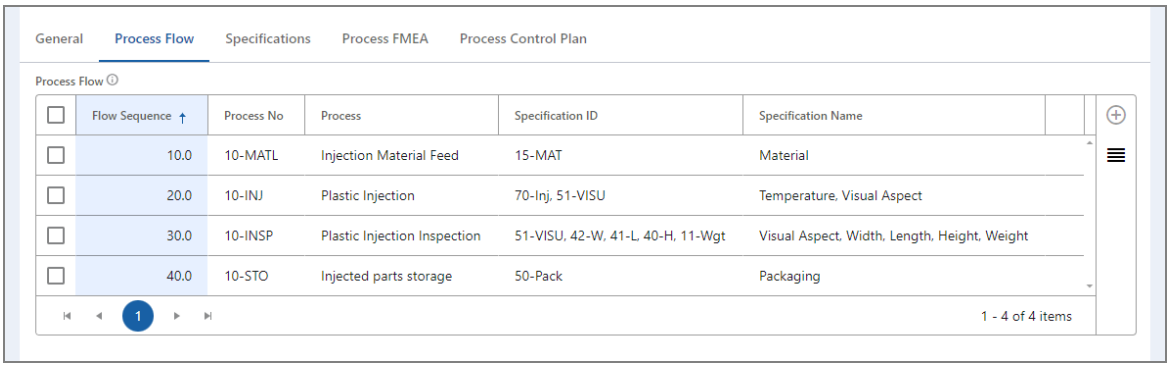
Fig. 80: Family Templates screen, General tab



The General tab is used to define the basic details of a family template, including the item group and type, linked customer and supplier, and more.

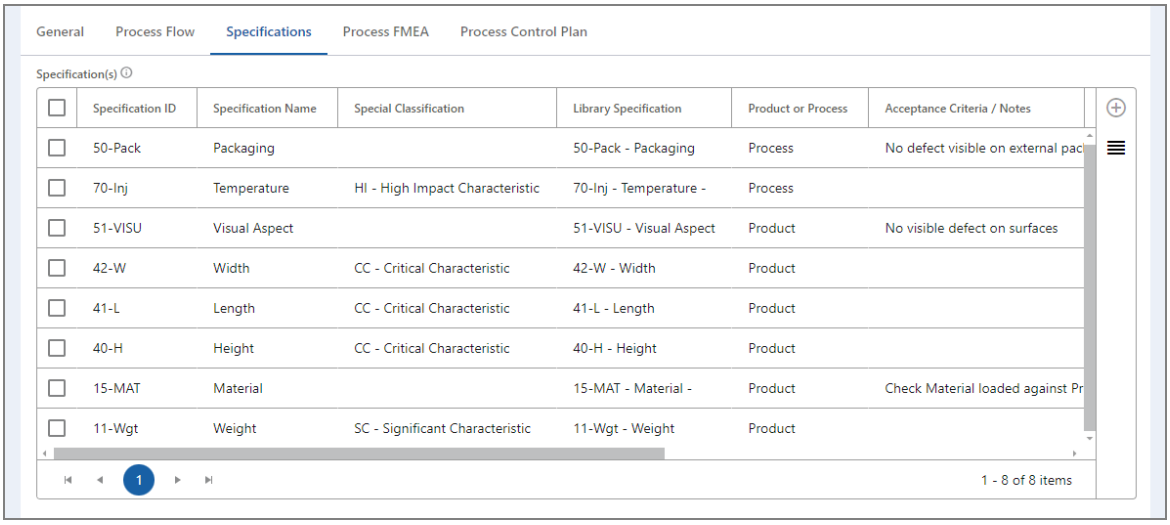
This tab features a toggle that, when set to YES, shows the 2008 AIAG 4th Edition FMEA formats for Family Templates. If this toggle is set to NO, then the process is formatted to comply with the 2019 AIAG & VDA FMEA Handbook. These formats can be seen on the Process FMEA tab.

Fig. 81: Family Templates screen, Process Flow tab



The Process Flow tab documents the routing that will be used to manufacture the product. Process Flow is the first step to populating the family template. This tab is populated by the Import and Link Process Specs command, which can be executed from the Specifications tab or the Actions button in the toolbar.

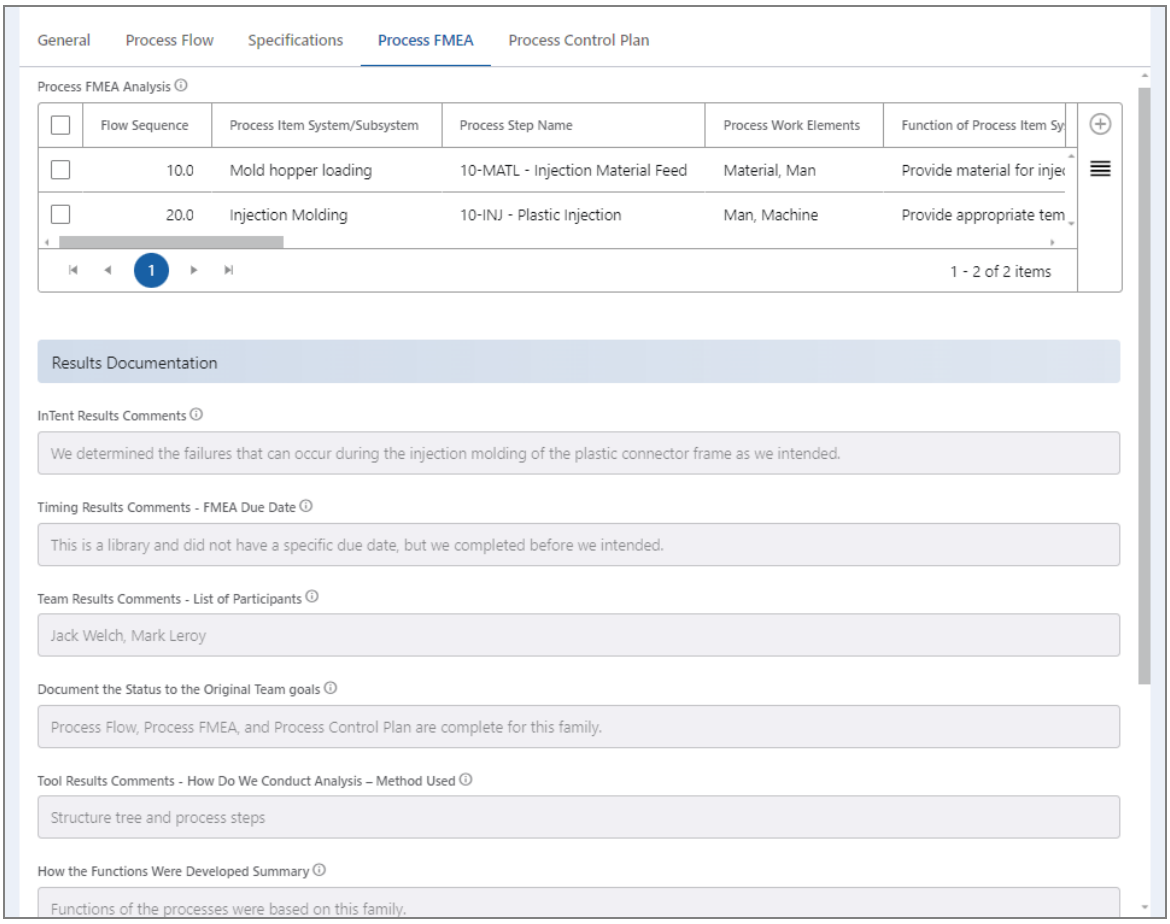
Fig. 82: Family Templates screen, Specifications tab



The Specifications tab documents the acceptance criteria, including tolerances of an attribute or characteristic. Each specification is associated with a specification group and is linked to additional data that defines the applicability of the specification. This tab is populated by the Import and Link Process Specs command, which can be executed by clicking the Import Specs button or through the Actions button in the toolbar.

When manually adding records via the Specifications cross-reference field, you can use the Library Specification drop-down field to select a pre-made specification that will auto-populate the required data upon saving the process.

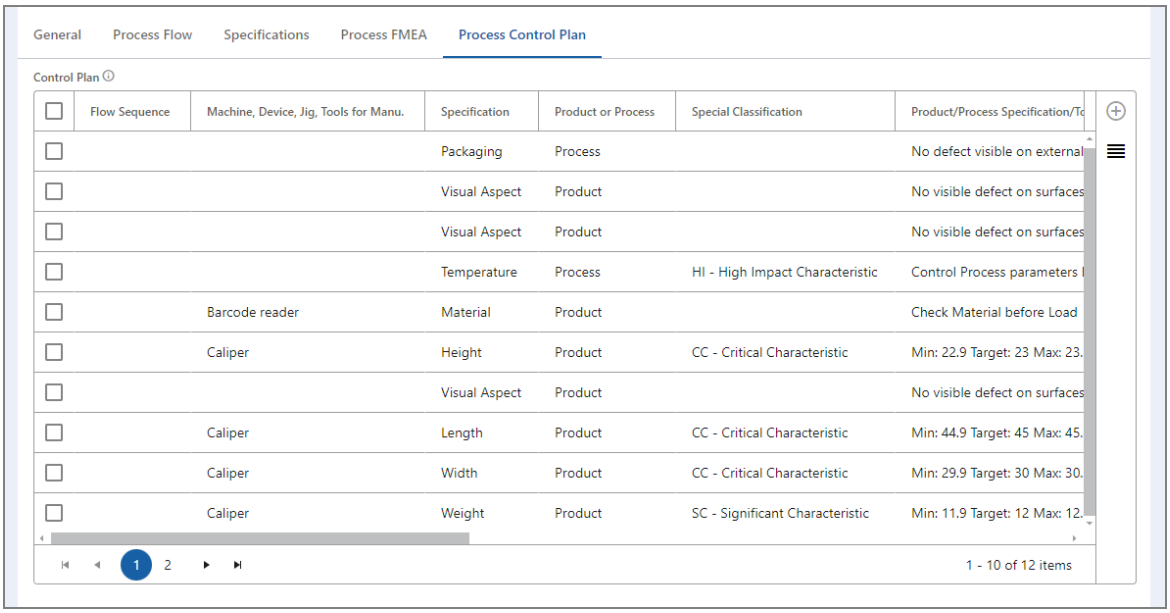
Fig. 83: Family Templates screen, Process FMEA tab



The Process FMEA tab supplies a list of potential FMEAs for the processes in the family template's process flow. Once the Process Flow and Specifications tabs have been populated and linked, this tab can be auto-populated with the Generate FMEA button. If the "Show AIAG 4th Edition" toggle is set to YES, then the fields under the Results Documentation header are hidden; the "Step 2 – Structural Analysis" header is hidden as well.

When manually adding process FMEAs via the Process FMEA Analysis cross-reference field, you can use the PFMEA Structural Analysis Library drop-down field to select a pre-made FMEA that auto-populates the required data upon saving the process. If the "Show AIAG 4th Edition" toggle is set to YES, then use the PFMEA Failure Analysis Library drop-down field.

Fig. 84: Family Templates screen, Process Control Plan tab



The Process Control Plan tab contains a collection of controls aimed at mitigating process FMEA risks through the control of process and product specifications. This tab is auto-populated by the Generate FMEA button on the Process FMEA tab. See "Adding a Control to the PFMEA Causes Library" on page 116 to learn how to connect controls to process FMEAs.

When manually adding control plans, you must select a specification before you can select a process.

Family Templates States

This section defines each state available in the workflow for the Family Templates process. See "State Change Security" on page 208 to learn more about how these states transition.

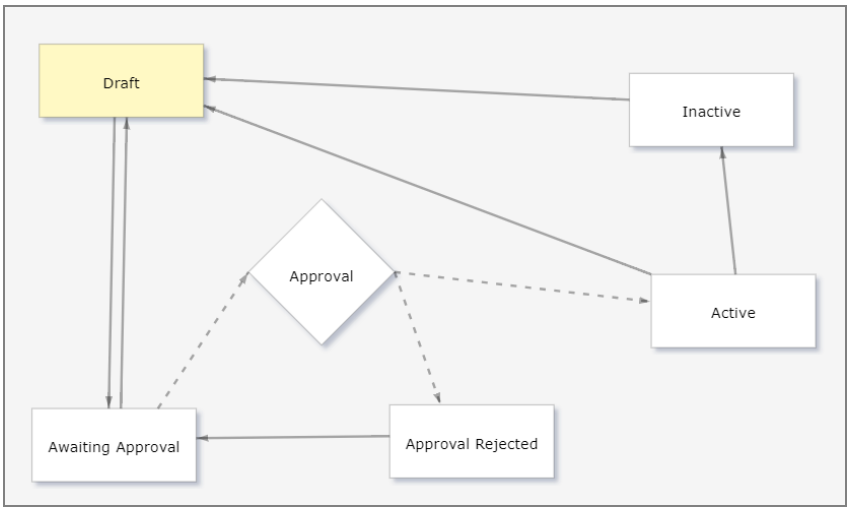
Draft (Default). The template is still being drafted and not yet ready for approval.

Awaiting Approval. The template must be approved before it can be made Active.

Active. A template that is actively used.

Approval Rejected. Approval for the template has been rejected.

Inactive. A template that is no longer in use.



Family Templates Tasks

Adding a New Family Template

1. Select Family Templates from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter a name for the family template.
3. If necessary, select whether this record is ITAR restricted.
4. Select an item group, item type, owner, and domain. You can also select a customer and supplier that the family template applies to, if applicable.
5. Click Save to save the new record. When selecting the next state, click Draft.
6. Navigate to the Process Flow tab. Click the Add New Item button in the Process Flow cross-reference field. A new screen appears.
7. Select a library process and the process sort. The Library Process field will automatically populate the other fields. Repeat this step until all processes for the process flow have been added.
8. Complete the remaining three tabs (Specifications, Process FMEA, and Process Control Plan). You can complete the information manually or use the designated buttons in the Specifications and Process FMEA tabs to import the information.
    a. **Import and link Process Specs.** Adds new process specifications based on the processes added to the family template. Current process specifications on the family template are linked with matching process specifications linked to processes. Note that product specifications will have to be manually added to the Specifications tab.
    b. **Generate Suggested Process FMEA.** Adds suggested process failure modes based on the processes linked within the process flow. Controls are assigned to the family template based on the FMEA controls in the Process FMEA tab.
9. Click Save to save the new record. When selecting the next state, click Awaiting Approval.

Approving a Family Template

1. The person responsible for approving a family template is automatically notified when it is time for approval through the inbox or optionally from an e-mail notification (clicking the link in that message takes you to the document for approval).
2. Open the inbox, either through the Home Page dashboard or by clicking the Inbox icon in the toolbar.
3. Upon opening the inbox, click the approval item under the APQP group to show the inbox action icons. Then click the Open icon. The screen navigates to the family template's detail screen.
4. In the detail screen, scroll down to the Approval field and click the Approve/Reject button. A small window appears.
5. In the Sign Off window, enter your password and either approve or reject the change. Use the comments field to document any information about your decision. Comments are required for rejection.

   Note: Once all members of the approval process have finished, the family template becomes active and ready for use.

Making a Family Template Inactive

1. Open the active family template that will be made inactive.
2. Click the state button, which should currently say "Active".
3. In the drop-down list, select Inactive.
4. Click Save to save the record. The family template is now inactive and cannot be used in manufacturing documents.

   Note: The family template can be made active again, but it must go through the approval process first. Repeat the steps above but select Draft instead of Inactive in step 3 to reroute the family template through the approval process.

Chapter 6

APQP Tasks

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Drawings

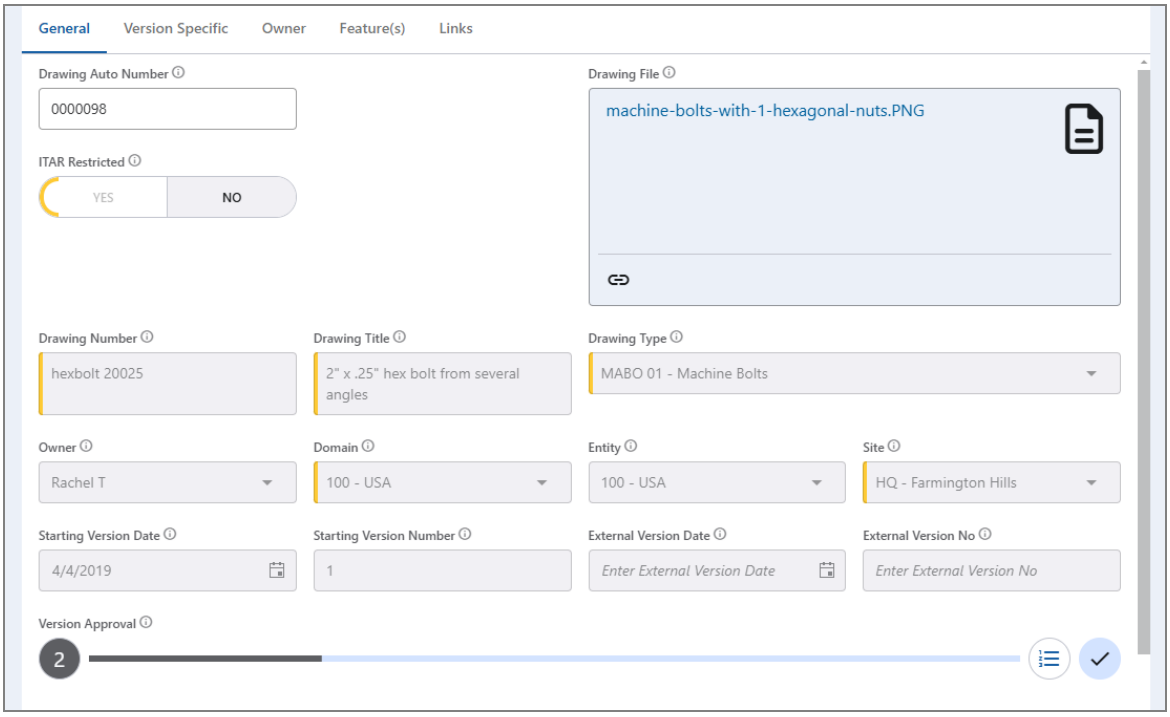
Drawings are used by engineers to control the drawings typically associated with products or items. It is recommended that the drawings are loaded as PDF files to allow approval routing and reference use when creating production documentation. PDF files are recommended because engineering departments typically have their own file management system that integrates into their design environment for managing all of the files that could make up a single CAD drawing.

Drawings differ from documents in that they allow you to define specifications associated with the drawing. These specifications will then be available to "import" into a manufacturing documentation so that the proper control information can be established when producing the Process Control Plan.

Drawings may be linked to a drawing type with an ITAR requirement. If this is true, then a new field appears on the General tab titled ITAR Restricted. Setting this toggle to YES means that only employees who are ITAR compliant can view, access, and interact with the drawing.

Drawings may be associated with manufacturing documents or items. See "Manufacturing Documents" on page 135 and "Items" on page 131.

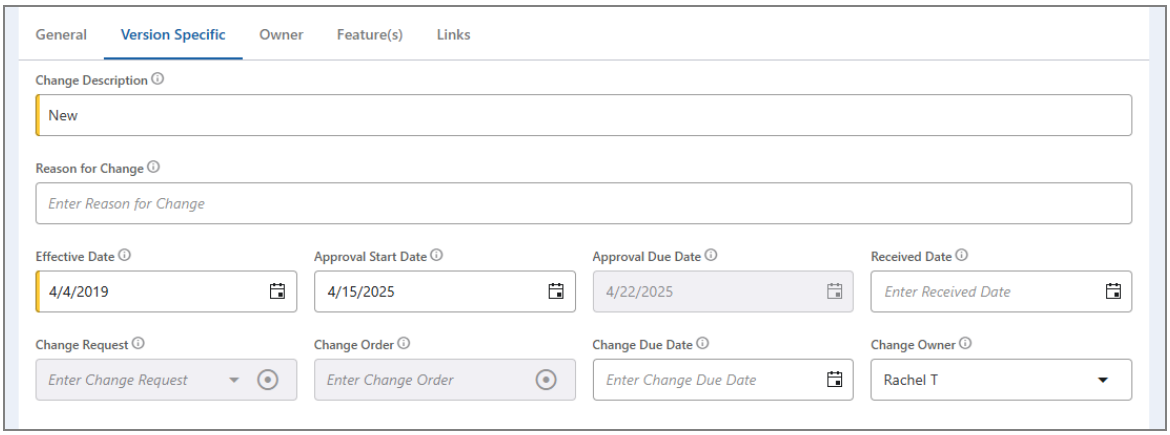
Fig. 85: Drawings screen, General tab



The General tab is used to define the basic details of a drawing, including the drawing title and type. This tab also contains the version approval and the drawing file itself.

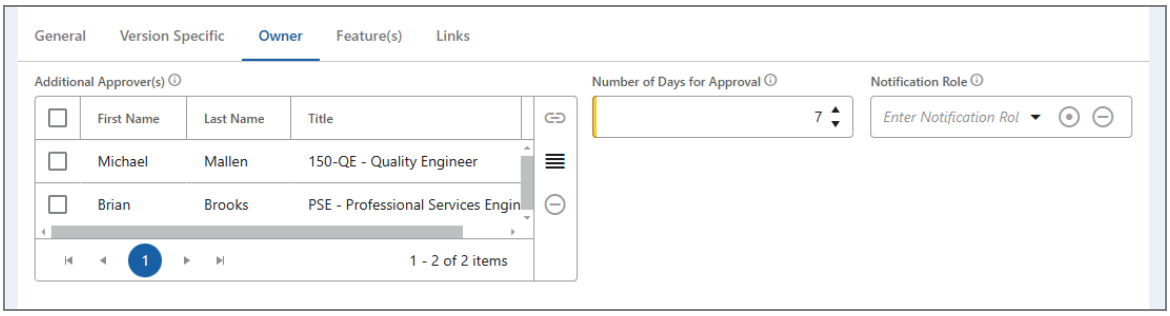
Additionally, this tab indicates whether the drawing is ITAR restricted, meaning that only employees who are ITAR compliant can view, access, and interact with the drawing.

Fig. 86: Drawings screen, Version Specific tab



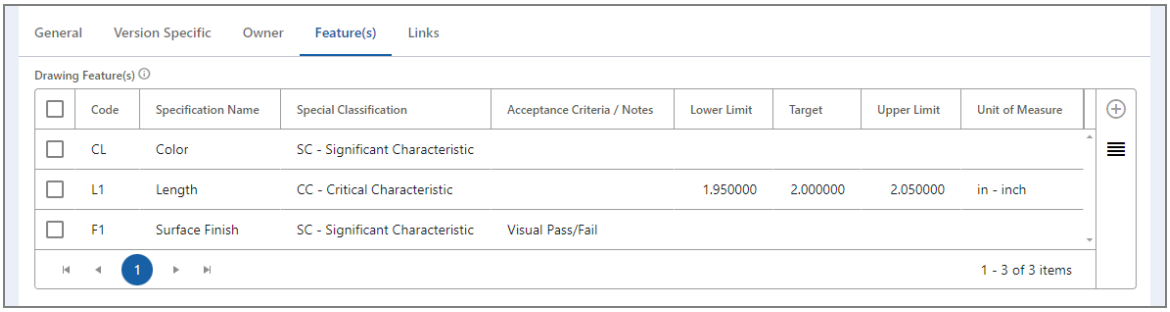
The Version Specific tab allows you to document specific changes made to the drawing.

Fig. 87: Drawings screen, Owner tab



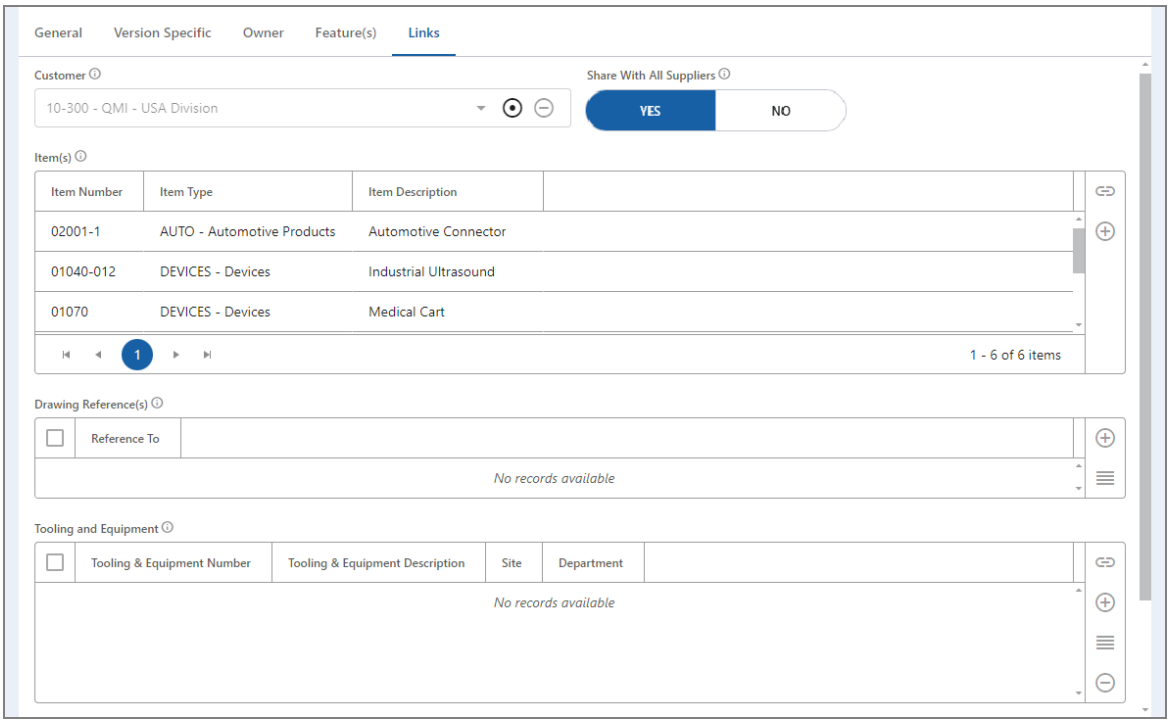
The Owner tab contains approver information, such as additional approvers, number of days for approval, and a list of people to notify when the drawing becomes official.

Fig. 88: Drawings screen, Features tab



Use the Features tab to document any specifications or characteristics defined on the drawing, such as measurements or quality characteristics.

Fig. 89: Drawings screen, Links tab



In the Links tab, associate relevant items, equipment, and other drawings with the selected drawing. Additionally, select which suppliers can view the drawing.

Drawings States

This section defines each state available in the workflow for the Drawings process. See "State Change Security" on page 208 to learn more about how these states transition.

Draft (Default). The drawing is still being drafted and not yet ready for approval.

Awaiting Approval. The drawing is waiting to be approved.

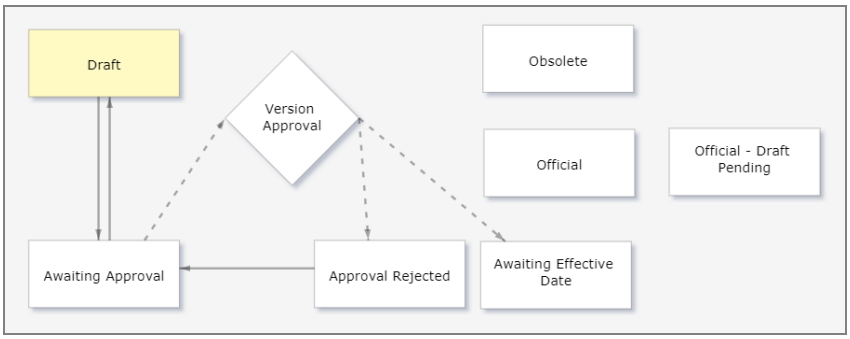
Awaiting Effective Date. The drawing is approved but waiting until the effective date to be marked as official

Approval Rejected. The drawing approval was rejected.

Official. The official version of the drawing.

Official – Draft Pending. The official version of a drawing, which also has a new version being drafted.

Obsolete. An obsolete version of the drawing. This version shall not be used.



Drawings Tasks

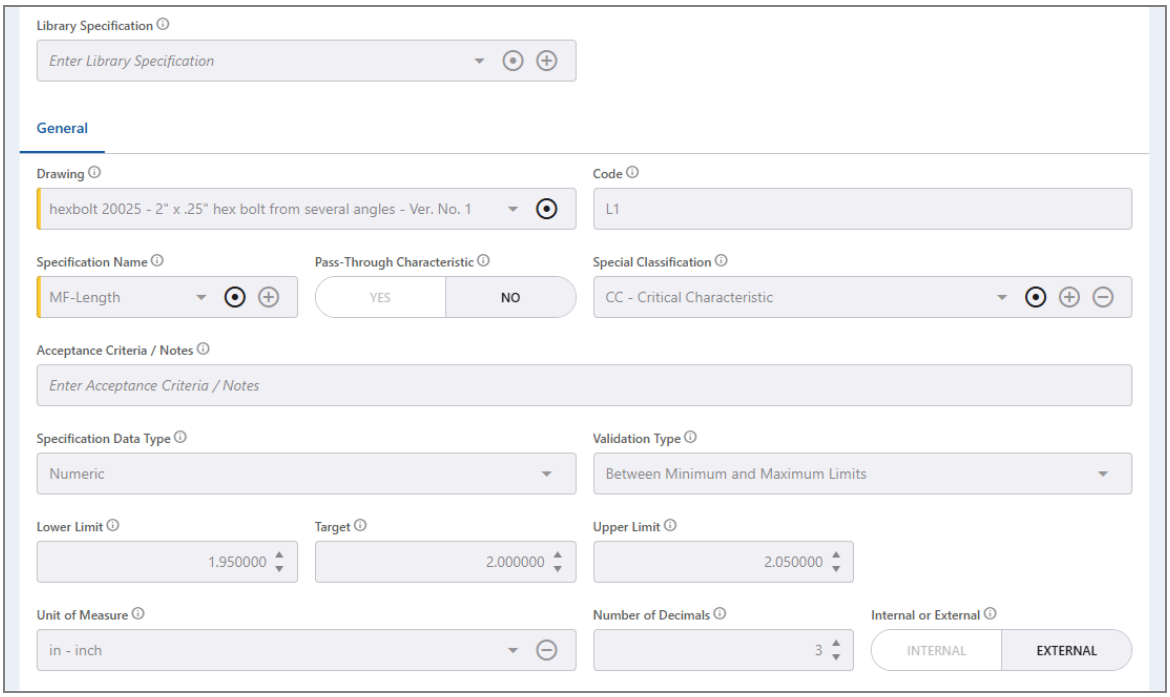
Adding a New Drawing

1. Select Drawings from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the drawing number and title. Then click "Select File to Upload" in the Drawing File field to upload the drawing file.
3. Select a drawing type, which also determines the level 1 approvers for the drawing.
4. Select whether the drawing is ITAR restricted. If the drawing type is ITAR restricted, then the drawing is also restricted by default.
5. Navigate to the Owner tab. Click the Link button to select any additional approvers for the drawing. If applicable, select a notification role, which defines a list of people to notify when the drawing becomes official.
6. Click Save to save the record. When selecting the next state, click Draft.
7. Navigate to the Features tab. Use the Drawing Features field to document any specifications or characteristics defined on the drawing. See "Adding a Drawing Feature" on the facing page to learn more about this process.
8. Navigate to the Links tab. Select the relevant customer, items, tooling and equipment, and other drawings.
9. In the Share With These Suppliers field, select or add suppliers to allow them to view the drawing with the appropriate security. If you want to allow all suppliers to view the drawing, then select the "Share With All Suppliers" check box. See the Supplier Quality user guide for more information.
10. Click Save to save the record. When selecting the next state, click Awaiting Approval.

    Note: If you want to make the drawing become official at a future date instead of allowing it to become official immediately upon approval, then select a date in the Effective Date field, located in the Version Specific tab.

Adding a Drawing Feature

Fig. 90: Drawing Features screen



1. In the Drawing record, navigate to the Features tab. In the Drawing Features field, click the Add New Item ⊕ button.
2. Select a specification name and special classification.
3. Select a specification data type, then a validation type. If the specification data type is not numerical:
    a. Use the Acceptance Criteria/Notes field to describe the acceptance criteria in detail.
    b. The following fields are hidden:
        - Lower Limit
        - Target
        - Upper Limit
        - Unit of Measure
        - Number of Decimals
4. If the specification data type is numerical, then use the Lower Limit, Target, and Upper Limit fields to describe the range of acceptable measurement for the drawing feature.
5. Select the unit of measure and number of decimals for the lower, target, and upper tolerance values.
6. Determine if the drawing feature is internal or external. Setting this field to Internal will prevent the feature from showing on related PPAP reports.
7. Click Save to save the record.

Approving a Drawing

1. The person responsible for approving a drawing is automatically notified when it is time for approval through the inbox or optionally from an e-mail notification (clicking the link in that message takes you to the drawing for approval).
2. Open the inbox, either through the Home Page dashboard or by clicking the Inbox icon in the toolbar.
3. Upon opening the inbox, click the approval item under the APQP group to show the inbox action icons. Then click the Open icon. The screen navigates to the drawing's detail screen.
4. In the detail screen, scroll down to the Version Approval field and click the Approve/Reject button. A small window appears.
5. In the Sign Off window, enter your password and either approve or reject the change. Use the comments field to document any information about your decision. Comments are required for rejection.

   Note: Once all members of the approval process have finished, the drawing becomes official and ready for use.

Starting a New Version of a Drawing

The "Start New Version" command in the Drawings process should be used for small-impact changes that do not affect other departments or people, such as fixing a typo or adding a tag. If the drawing requires a bigger change, then a change request must be initiated. See "Change Requests" in the Document Control user guide for more information.

Note: Revisions can only be made if the Drawing is in the Official state.

1. Open the detail screen of the drawing you wish to change. If the drawing does not already have a change initiated, then click the Commands button and select "Start New Version".

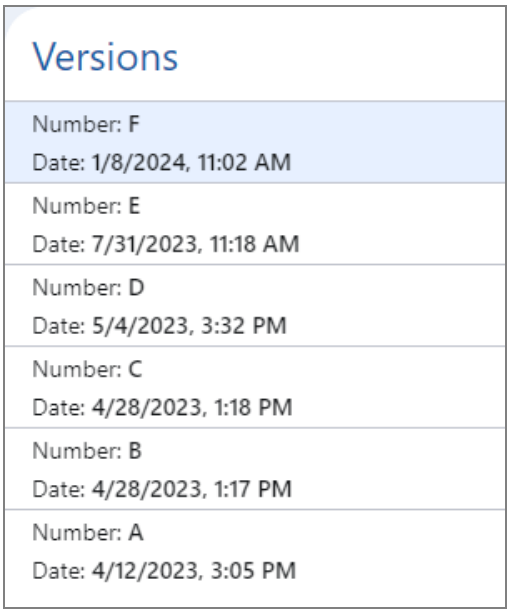
   Note: If a drawing already has a change initiated, then contact the Change Owner to see if the changes you want to make can be included in the current change.

2. Navigate to the Version Specific tab. Use the Change Description field to summarize what has changed and set the effective date.
3. Click Save to save the record. Select Awaiting Approval if you are finished with the changes or select Draft to save the drawing as a draft and continue working.

When this version is approved, it becomes official and all previous versions become obsolete.

It can be helpful to see a historical version of the drawing. You can quickly access historical versions from any version of the drawing by clicking More in the toolbar and selecting Versions to expand the Versioning panel. Click one of these versions to switch your detail screen view to the selected version.

Fig. 91: List of Versions



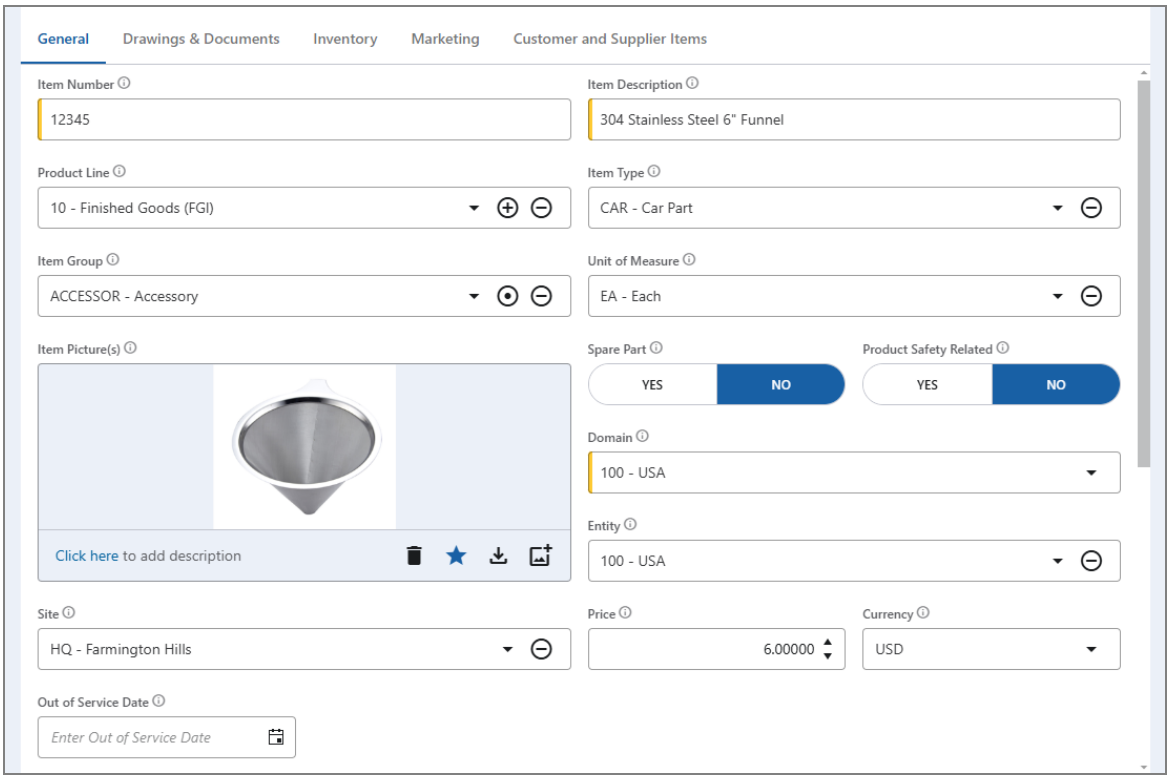
Items

Items identify things that you stock in inventory, purchase, manufacture, sell, or service. Items can identify raw materials, purchased or manufactured intermediates, finished items, packaging materials, planning items, configured products, service kits, and repair parts used in service activities.

Items are linked to the following processes of the APQP module:

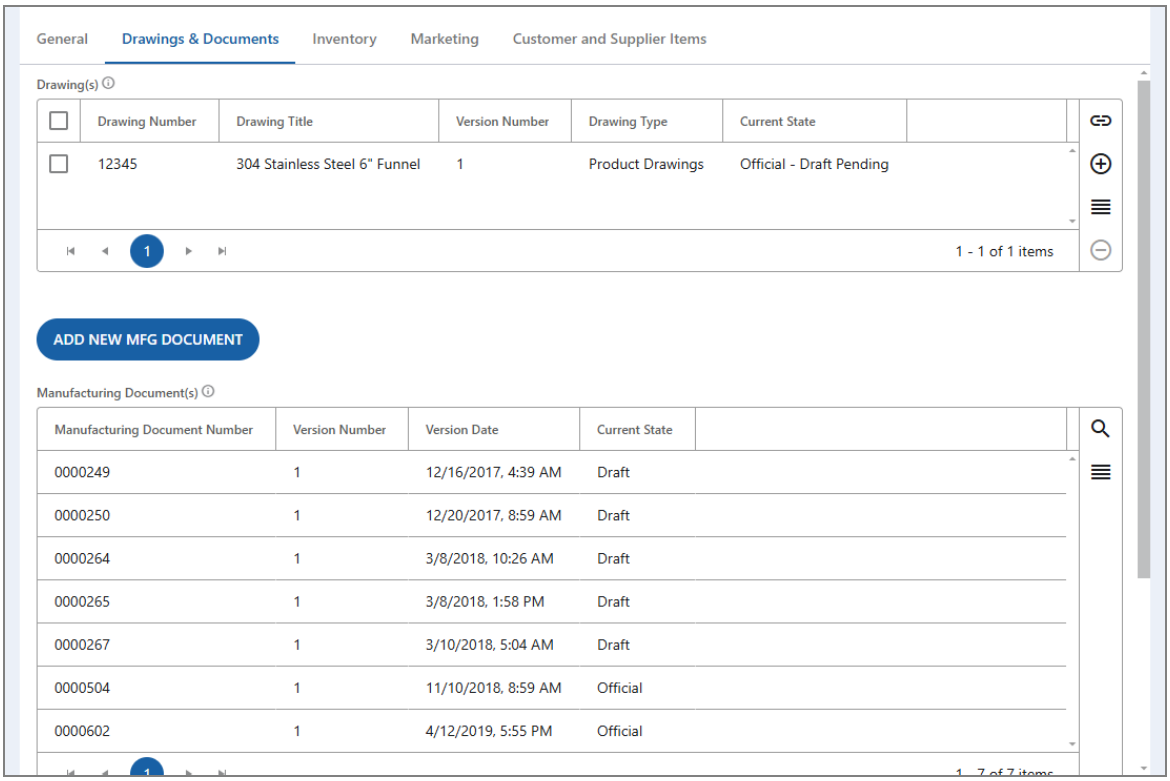
- "Library Specifications" on page 95.
- "Drawings" on page 125.
- "Manufacturing Documents" on page 135.
- "PPAP Submissions" on page 166.

Fig. 92: Items screen, General tab



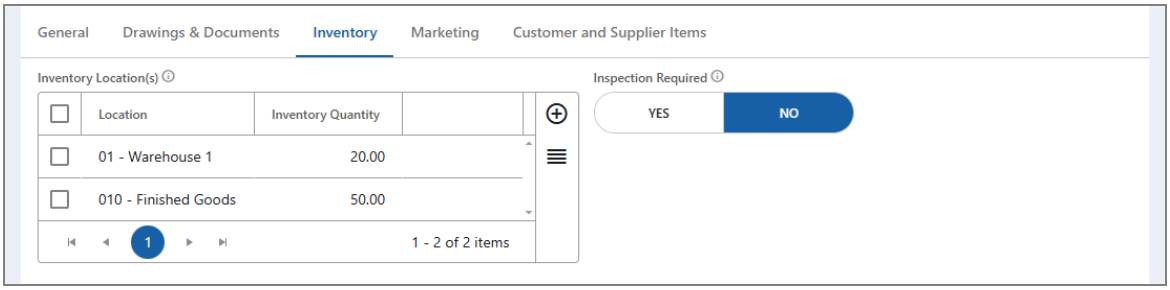
The General tab is used to define the basic details of an item, including the item type and group, unit of measure, picture, price, and more.

Fig. 93: Items screen, Drawings & Documents tab



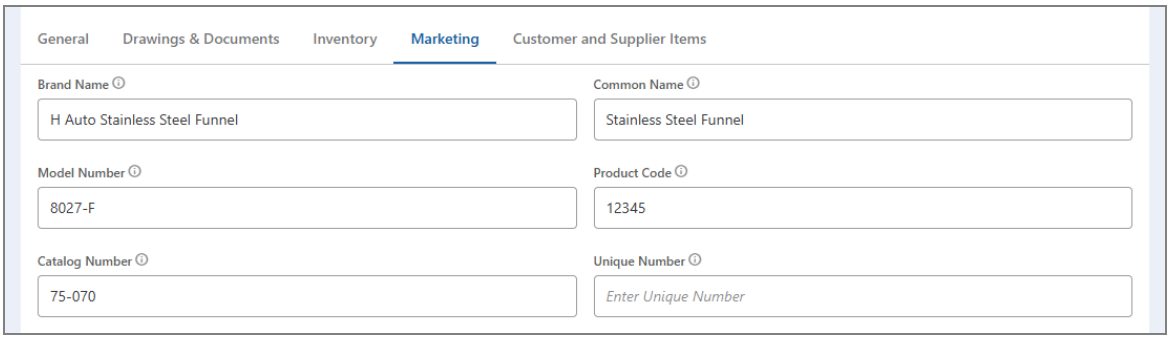
The Drawings & Documents tab allows you to link related drawings to the item or create a new manufacturing document that applies to the item.

Fig. 94: Items screen, Inventory tab



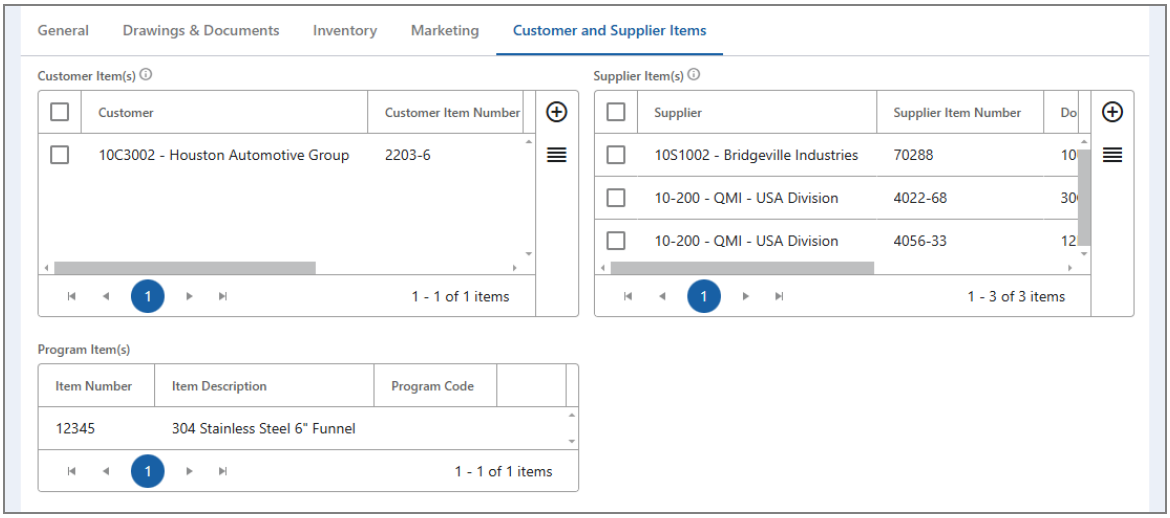
The Inventory tab shows the running inventory level for the item. It is linked to an integration with ERP that updates the current inventory and location of the inventory.

Fig. 95: Items screen, Marketing tab



The Marketing tab is completed by customers when submitting a complaint. It records the item's brand name, model number, catalog number, and more.

Fig. 96: Items screen, Customer and Supplier Items tab



If any customer or supplier items are associated with this item, then they are recorded in the Customer and Supplier item tab. The Add New Item ⊕ button in each field allows you to select the appropriate information without having to re-enter all of the item's information.

Items States

This section defines each state available in the workflow for the Items process. See "State Change Security" on page 208 to learn more about how these states transition.

Active (Default). An item that is actively used.

Synchronized. The state is automatically set if the item is created or updated from integration to another system (e.g. EPR system). Synchronized fields are read-only.

Items Tasks

Adding a New Item

1. Select Items from the left navigation panel. Then, click the Add Item button in the toolbar.
2. Enter values for the item number and description. Notice how the Display Expression field combines the two values; this is how users will look up this item.
3. Select the product line, item type, item group, and unit of measure for the item.
4. Click Browse in the Item Picture field to upload a picture of the item.
5. Enter the item's price and a secondary description. If the item is product safety-related, then select the "Product Safety Related" check box to enable increased notifications.
6. Navigate to the Drawings tab. Use the Add New Item buttons in the Drawings and Manufacturing Documents fields to add the associated records.

   Note: The Drawings field allows you to link a currently existing drawing, but the Manufacturing Documents field requires that you create a new manufacturing document. See "Manufacturing Documents" below.

7. Click Save to save the new record.

Manufacturing Documents

Manufacturing documents provide controlled copies of documentation used for the manufacture of an item. Typically these documents include the process flow, process FMEA, process control plan, and additional work instructions.

Manufacturing documents allow for the development of part-specific:

- Bill of Materials
- Design FMEA, DFMEA Analysis, Design Verification Plan & Report
- Process Flow, PFMEA Planning, Process FMEA, Control Plan
- Work Instructions
- PPAP Submissions

Similar to family templates, manufacturing documents utilize command buttons to automatically complete several tabs in the detail screen. These buttons are located at the top of the appropriate tab, but can also be found within the Actions button in the toolbar. The commands include:

- **Generate Suggested Design Failure Modes.** Adds new items to the Design Failure Mode for each design system. The System or Subsystem, Function, and Requirement fields are populated.
- **Generate Suggested Design Verification Plans.** Generates the Design Verification Plan using the information from the Design FMEA. Multiple items may be created from one DFMEA if there is more than one control, but duplicate data will not transfer.
- **Copy from Family Template.** Copy initial setup (Process Flow, Specifications, Process FMEA, and Control Plan) from the Family Template selected in the "Copy from Family Template" field.

- **Copy from Manufacturing Document.** Copy initial setup (Associated Drawings, Drawing Features, Process Flow, Specifications, Process FMEA, and Control Plan) from the Manufacturing Document selected in the "Copy from Manufacturing Document" field.
- **Import Drawing Features.** Adds specification data to the Specifications tab based on data from the linked drawing's Features tab.
- **Update Suggested Drawing Features.** Updates the tolerance data for the Specifications tab of the Manufacturing Document with values from the Manufacturing Document.
- **Import and Link Process Specs.** Imports Library Specifications that are linked to Processes in the Process Specifications field into the Specifications tab of the Manufacturing Document. Additionally, the manufacturing document specifications are linked to the processes in the Process Flow tab, based on the specifications linked to that process.
- **Generate Suggested PFMEA.** Imports PFMEA Structural Analysis Library records that are linked to processes in the Process Flow tab into the Process FMEA tab of the Family Template. Additionally, controls are added to the Control Plan based on the current FMEA list.
- **Create Inspection Event Questions.** Create inspection event questions for all control plans that are marked for inspection and have inspection type and stations defined. Then make these questions available to inspection events. This command is located in the Command icon.
- **Start New Version.** Creates a blank manufacturing document detail screen. This command is located in the Command icon.

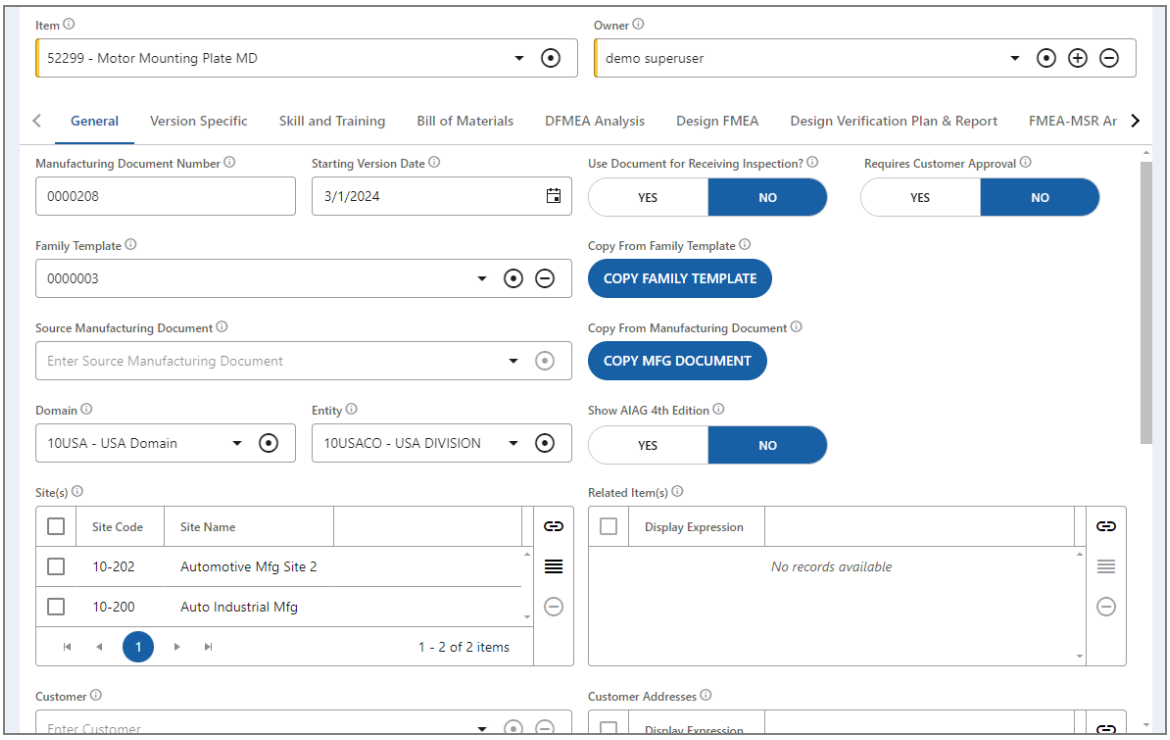
EQMS contains a grid control displaying data stored in multiple relational levels within a single screen, allowing you to see all fields for a FMEA, control plan, and so on. Details within each of these tabs are presented in two formats:

1. A grid where you can double-click within a level to open the detail screen associated with that level (for example, clicking Failure Mode will open the failure mode detail screen, clicking Cause will open the failure cause detail screen, etc.).
2. A cross-reference list of the highest level record. This field is where you add new records, but they are better to view in the grid.

This process contains a "Show AIAG 4th Edition" toggle that, when set to YES, shows the 2008 AIAG 4th Edition FMEA formats for manufacturing documents. If this toggle is set to NO, then the process FMEA is formatted to comply with the 2019 AIAG & VDA FMEA Handbook. Note that 4th edition FMEAs begin at the Failure Analysis level, while FMEAs using the new AIAG/VDA mode begin at the Structural Analysis level. If you switch from the old 4th edition to the new AIAG/VDA edition, you will need to create the structural and functional levels first, then link them to the existing failure analysis.

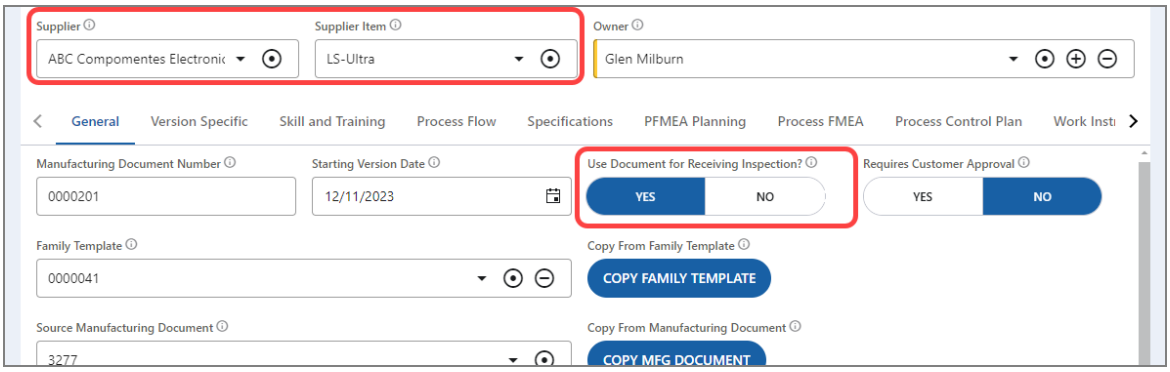
Manufacturing documents are listed in PPAP submissions and items. See "PPAP Submissions" on page 166 and "Items" on page 131.

Fig. 97: Manufacturing Documents screen, General tab



The General tab is used to define the basic details of a manufacturing document, including the applicable and related items, connected family template or manufacturing document, customer or supplier, and more. Several fields on this tab, such as Core Team, Model Years/Vehicles, and Process Responsibility, are intended to be used in reports.

Fig. 98: Manufacturing Documents screen, General tab alternate

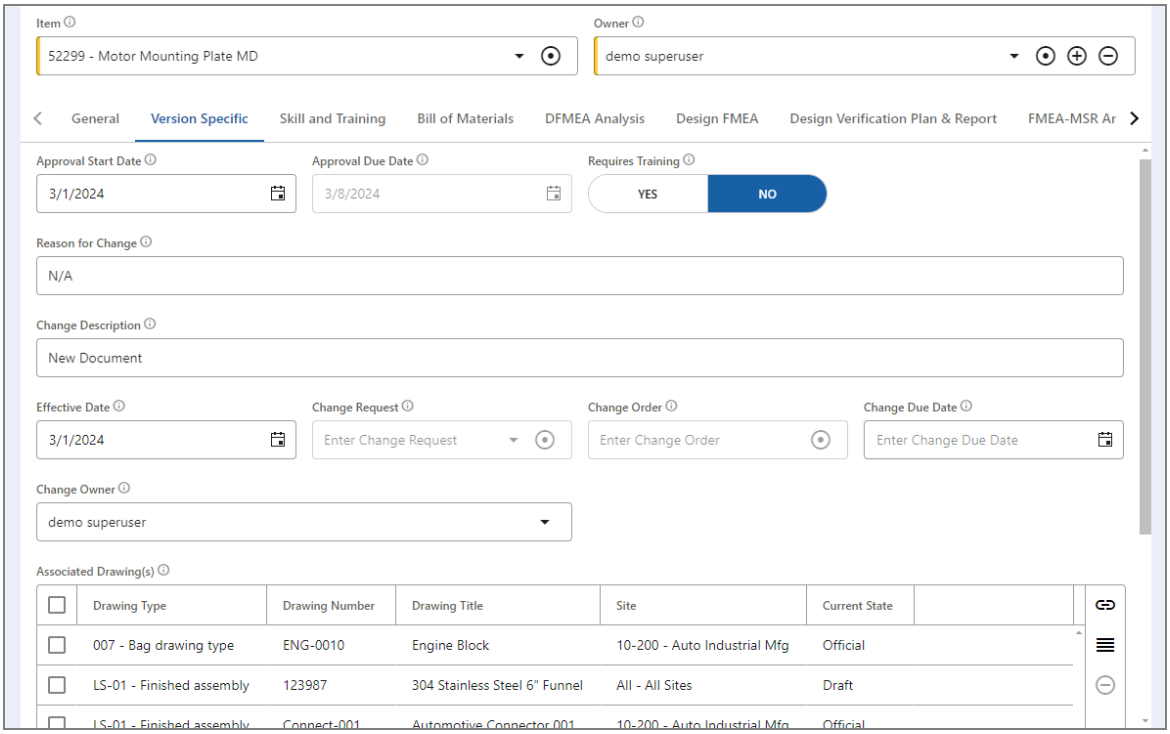


If you set the "Use Document for Receiving Inspection?" toggle field to Yes, two new required fields appear: Supplier and Supplier Item. Additionally, the following tabs are removed from the process screen:

- Bill of Materials
- DFMEA Analysis

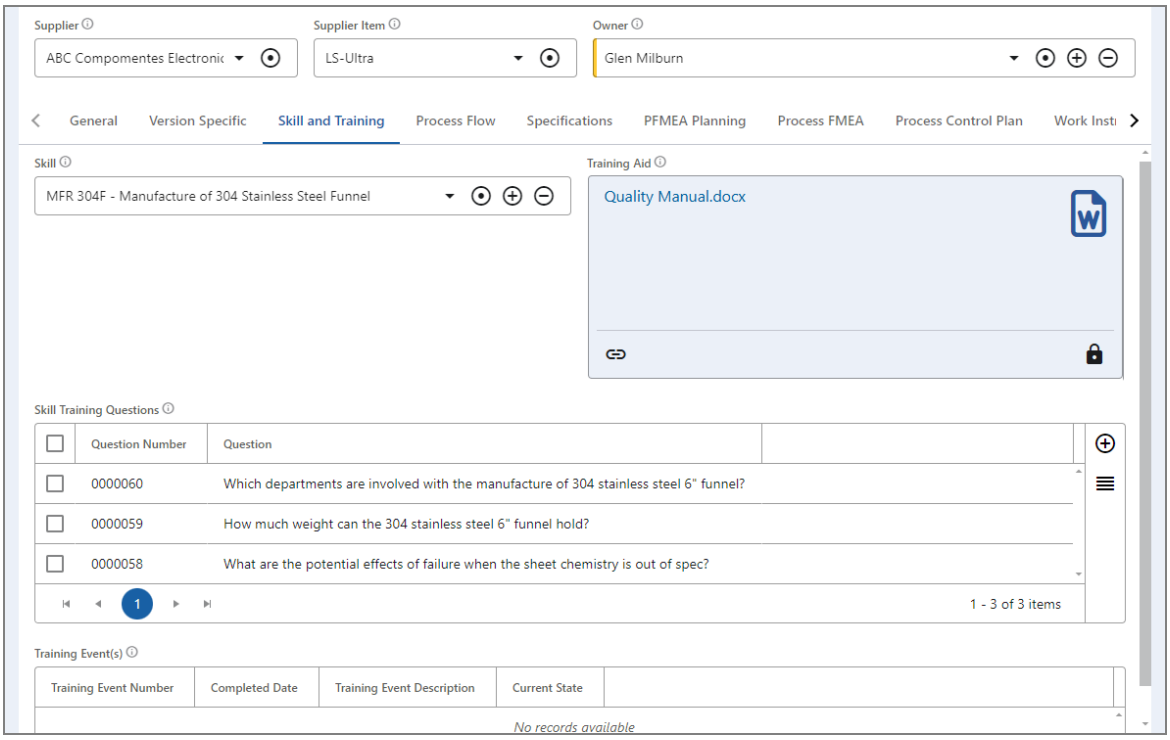
- Design FMEA
- Design Verification Plan & Report

Fig. 99: Manufacturing Documents screen, Version Specific tab



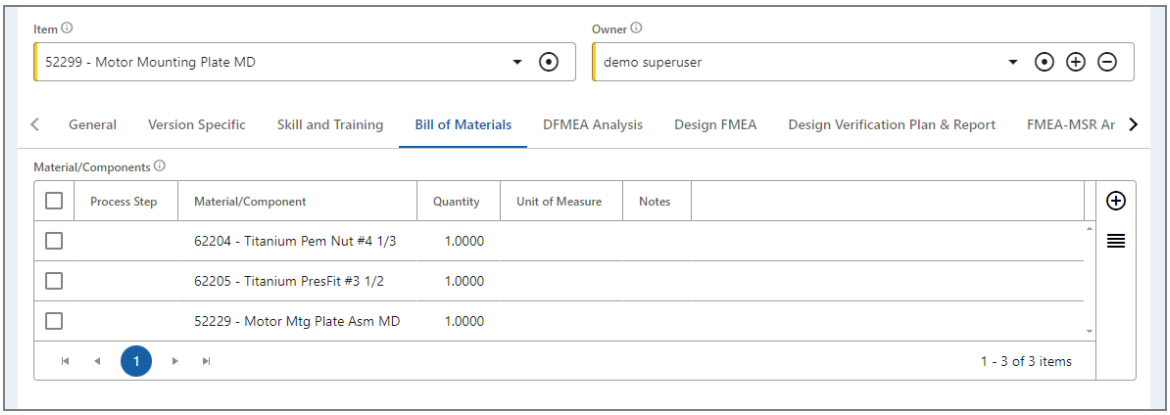
The Version Specific tab contains approval start and due dates, change descriptions, associated drawings, and the ability to require training and create a training event.

Fig. 100: Manufacturing Documents screen, Skill and Training tab



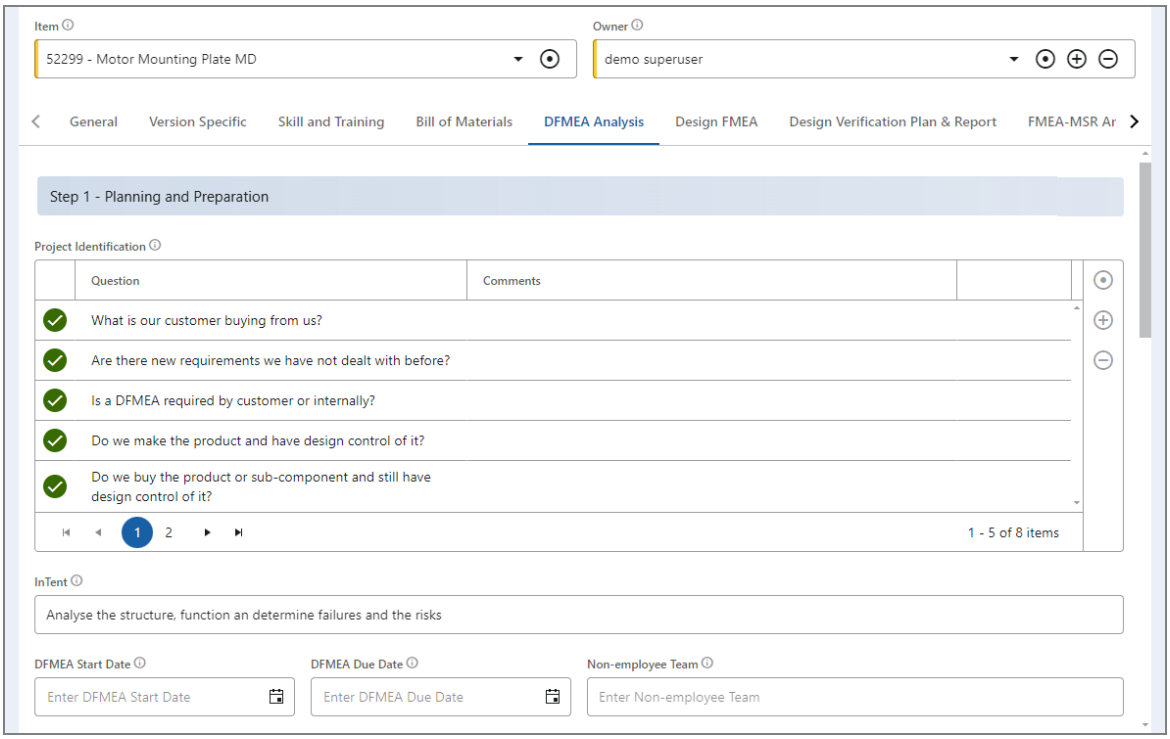
Use the Skill and Training tab to enhance training management for the manufacturing document. Select or create a skill, create questions that will evaluate a person's knowledge of changes to the document, and optionally upload a file to be used as a training aid.

Fig. 101: Manufacturing Documents screen, Bill of Materials tab



Use the Bill of Materials tab to compile a list of the materials and components required to build the item associated with the manufacturing document.

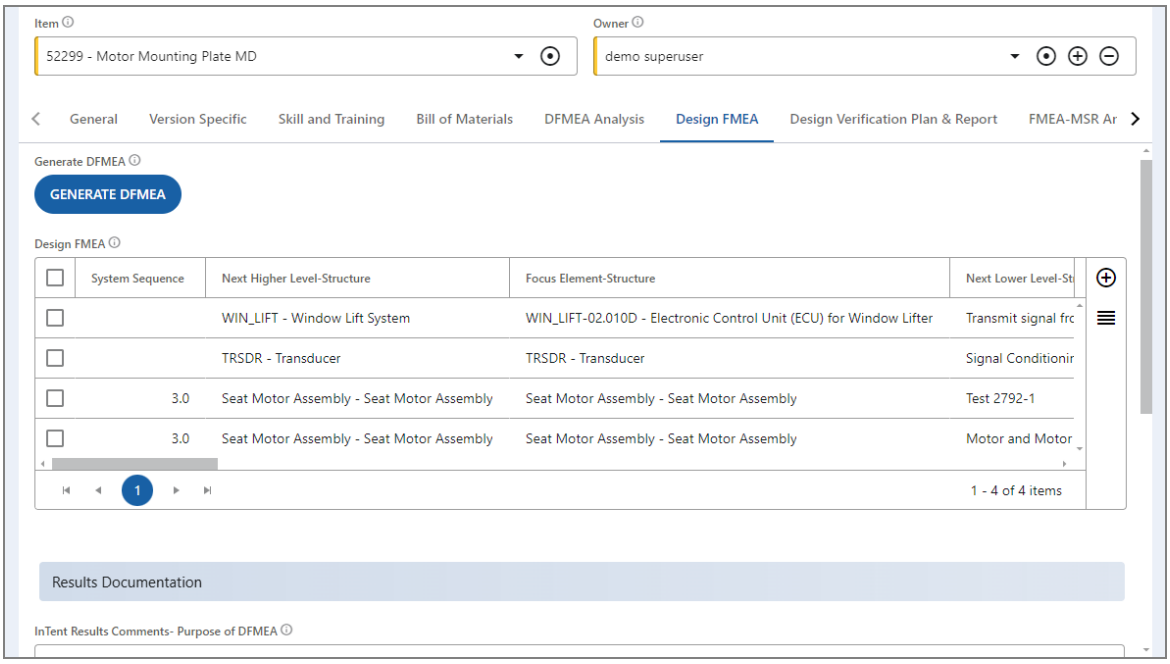
Fig. 102: Manufacturing Documents screen, DFMEA Analysis tab



The DFMEA Analysis tab functions as the first two steps in the DFMEA process: Planning and Preparation, and Structural Analysis. Answer questions to identify the project scope, define the design team, select the systems involved, and add other details that organize the features of the DFMEA.

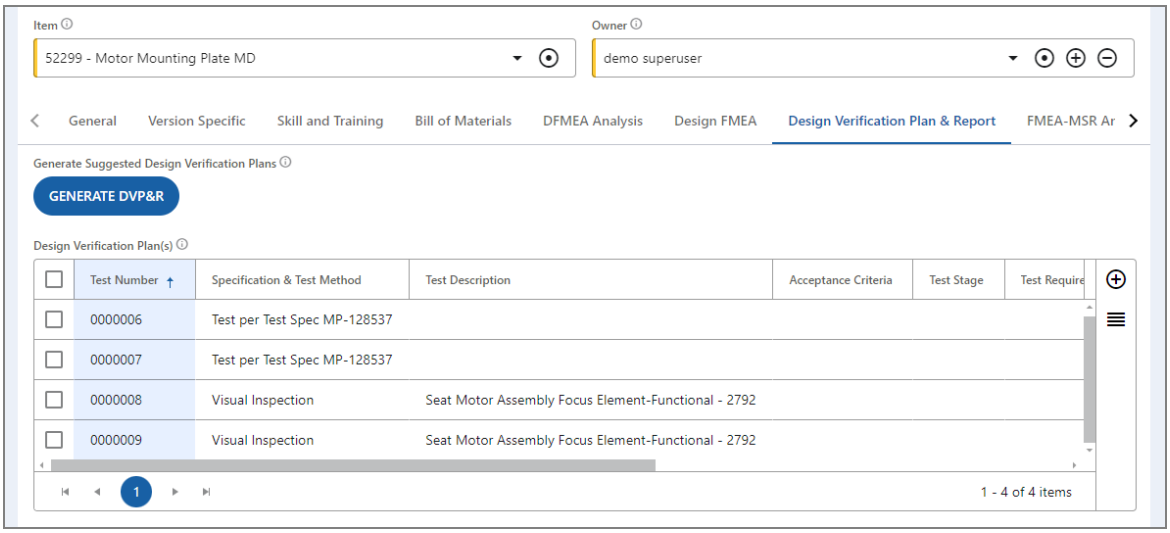
This tab is the DFMEA equivalent of the PFMEA Planning tab.

Fig. 103: Manufacturing Documents screen, Design FMEA tab



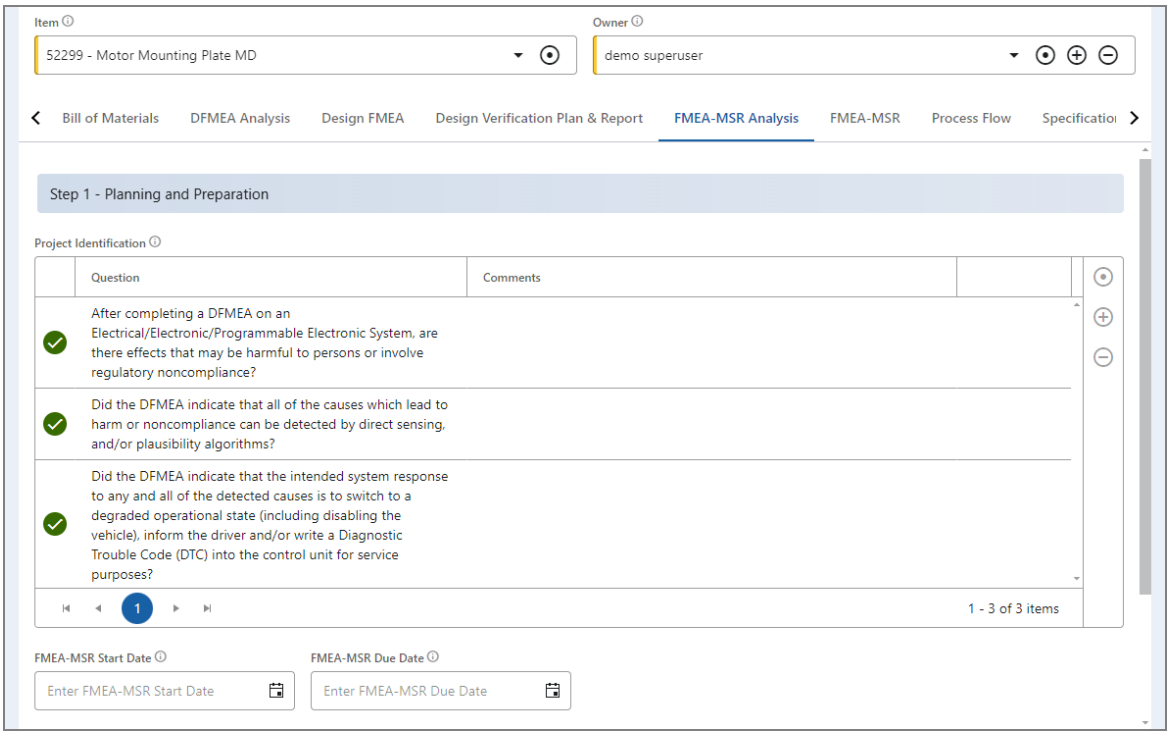
Use the Design FMEA tab to provide failure mode information for the design phase of production. After the DFMEA is complete, use the Results Documentation section to document the status of the original DFMEA goals and compare them with the actual results. See "Introduction to FMEA" on page 66 for more information about design FMEAs.

Fig. 104: Manufacturing Documents screen, Design Verification Plan & Report tab



Use the Design Verification Plan & Report tab to create the design verification plan & report (DVP&R). The DVP&R is a summary of every test performed on a part for a design FMEA. See "Design Verification Reports" on page 165 for more information about the DVP&R.

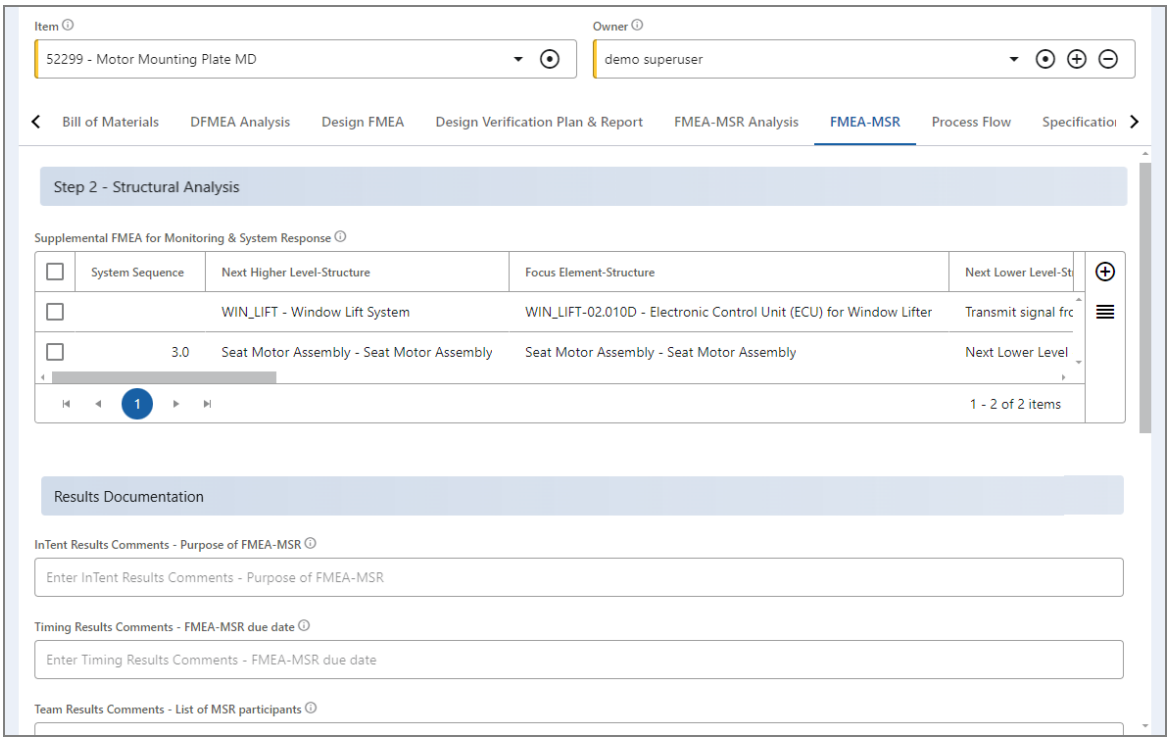
Fig. 105: Manufacturing Documents screen, FMEA-MSR Analysis tab



Use the FMEA-MSR Analysis tab to complete Step 1 (Planning & Preparation) of the FMEA-MSR. This step includes documenting a plan, team, scope, and the approach to be taken for the FMEA-MSR.

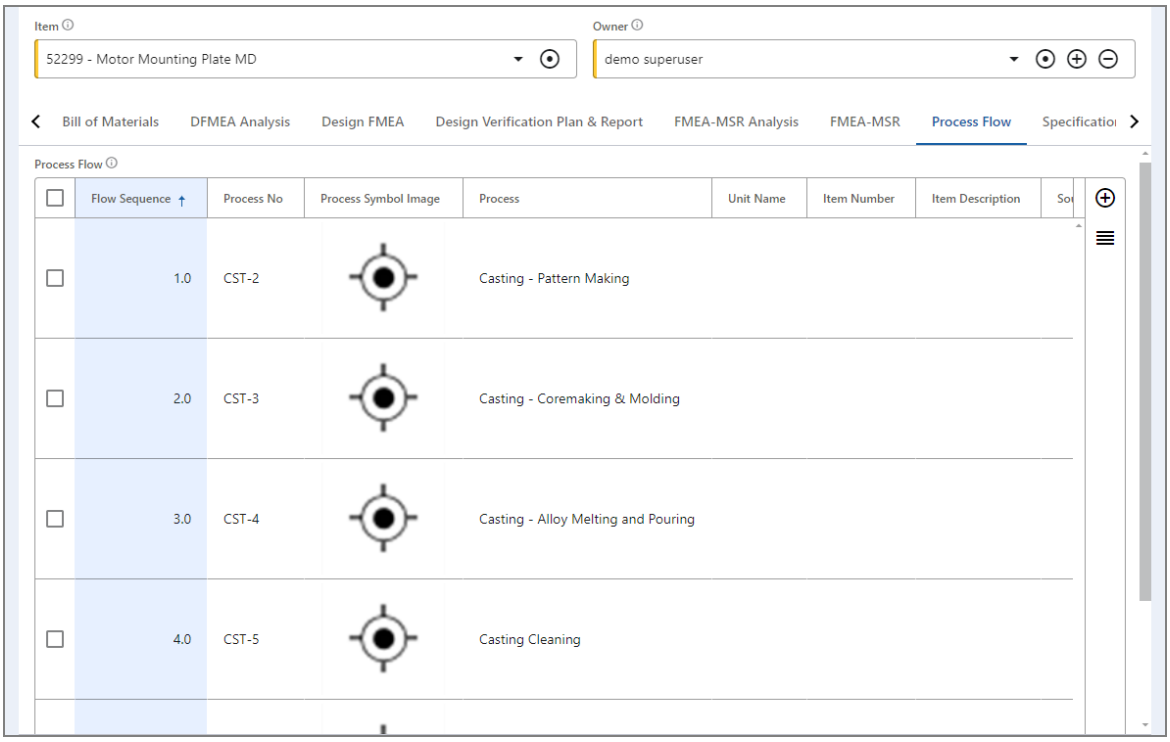
FMEA-MSR is an organized approach to evaluate the high severity DFMEA items that can impact the vehicle and occupants, and determine if suitable monitoring systems can be used as inputs to provide a system response that reduces the overall risk (including risk of harm, risk of noncompliance, or risk of not fulfilling expectations).

Fig. 106: Manufacturing Documents screen, FMEA-MSR tab



Use the FMEA-MSR tab to complete Steps 2-6 of the FMEA-MSR. These steps are a series of cascading steps that move from Structural Analysis, to Functional Analysis, to Failure Analysis, to Risk Analysis, to Optimization, and finally Results Documentation.

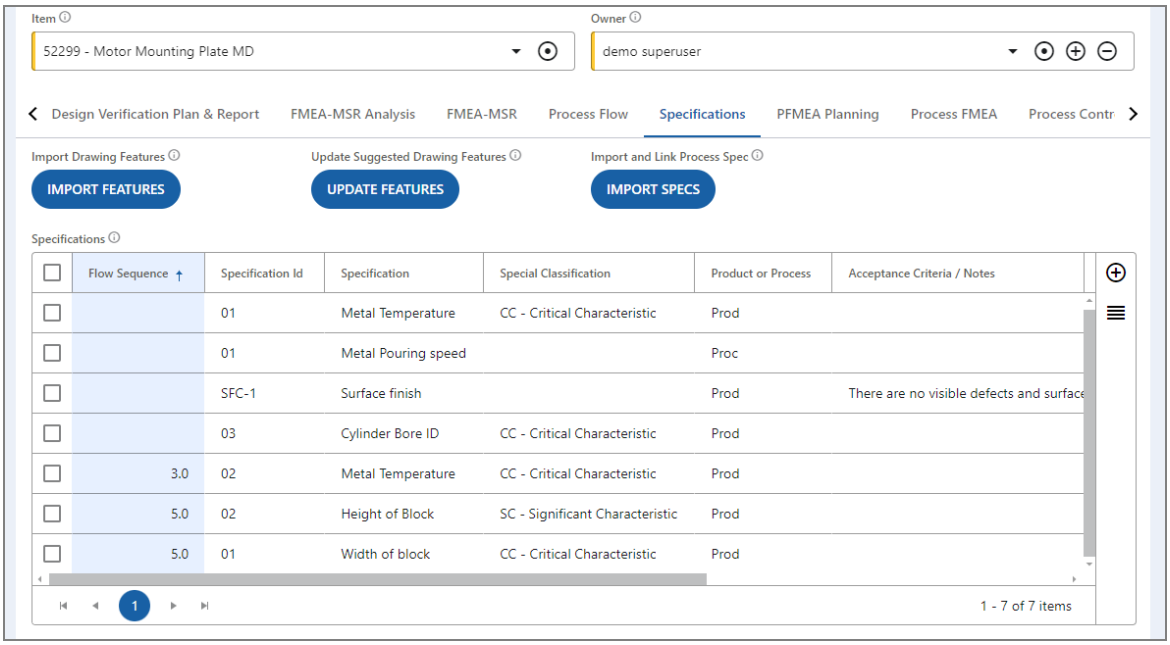
Fig. 107: Manufacturing Documents screen, Process Flow tab



The Process Flow tab documents the routing that will be used to manufacture the product. It is essentially a process flow diagram for the processes involved in manufacturing a particular product without the actual diagram.

This tab is typically populated when a manufacturing document is created using the “Copy from Family Templates” or “Copy from Manufacturing Document” commands, but it can be completed manually as well.

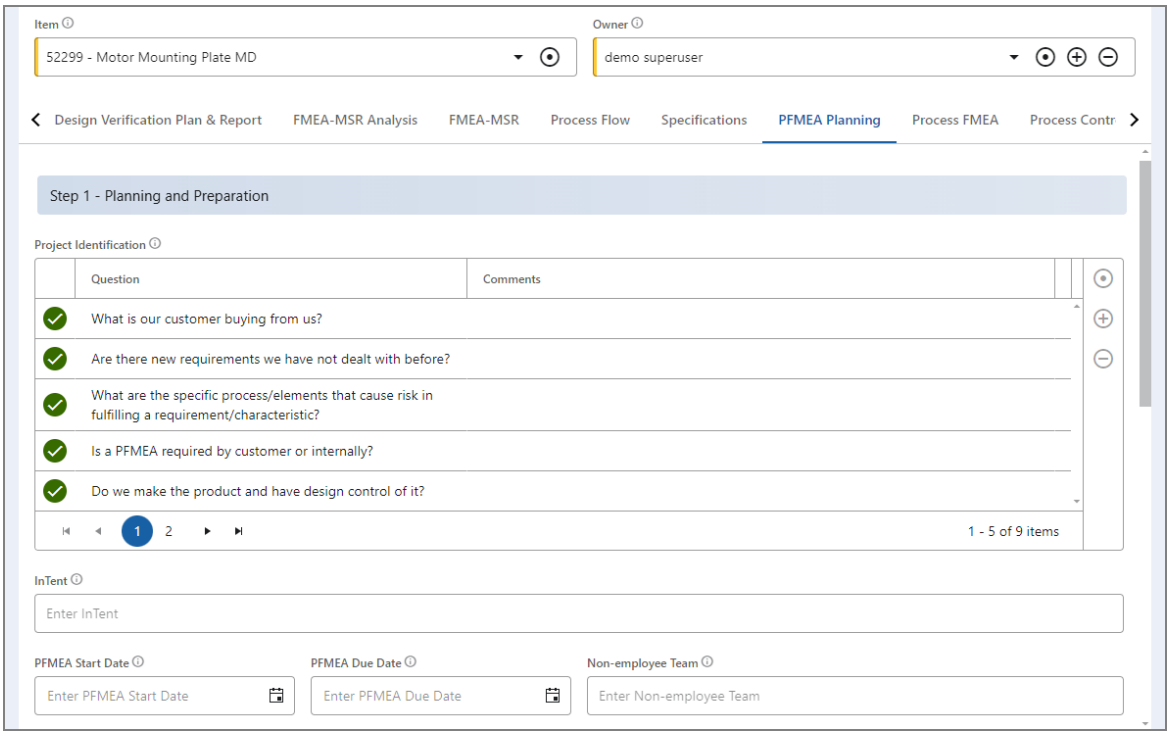
Fig. 108: Manufacturing Documents screen, Specifications tab



The Specifications tab documents the acceptance criteria, including tolerances of an attribute or characteristic. Each specification is linked to additional data that defines the applicability of the specification.

This tab is typically populated using the command buttons, but can be completed manually as well.

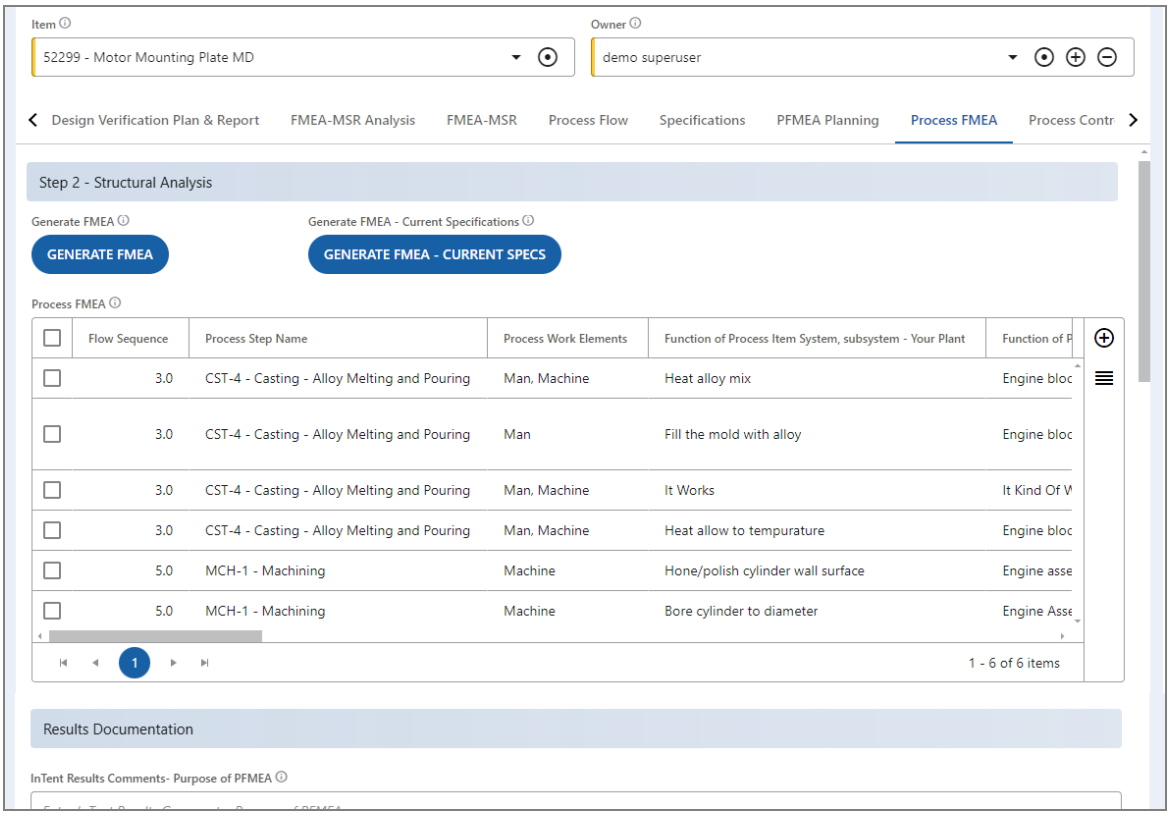
Fig. 109: Manufacturing Documents screen, PFMEA Planning tab



The PFMEA Planning tab functions as the first step in the PFMEA process: Planning and Preparation. Answer questions to identify the project scope, define the process team, and add other details that organize the features of the PFMEA.

This tab is the PFMEA equivalent of the DFMEA Analysis tab.

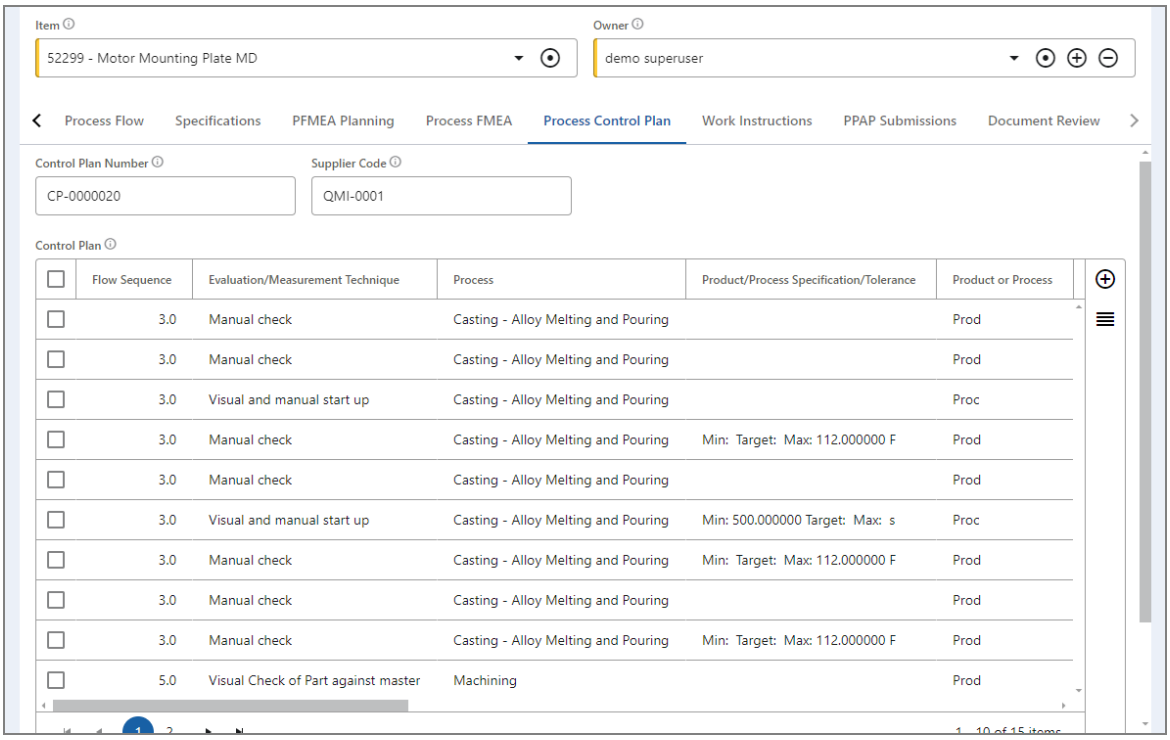
Fig. 110: Manufacturing Documents screen, Process FMEA tab



The Process FMEA tab supplies a list of potential FMEAs for the processes in the family template's process flow. After the PFMEA is complete, use the Results Documentation section to document the status of the original PFMEA goals and compare them with the actual results.

This tab is typically populated using the command button, but can be completed manually as well.

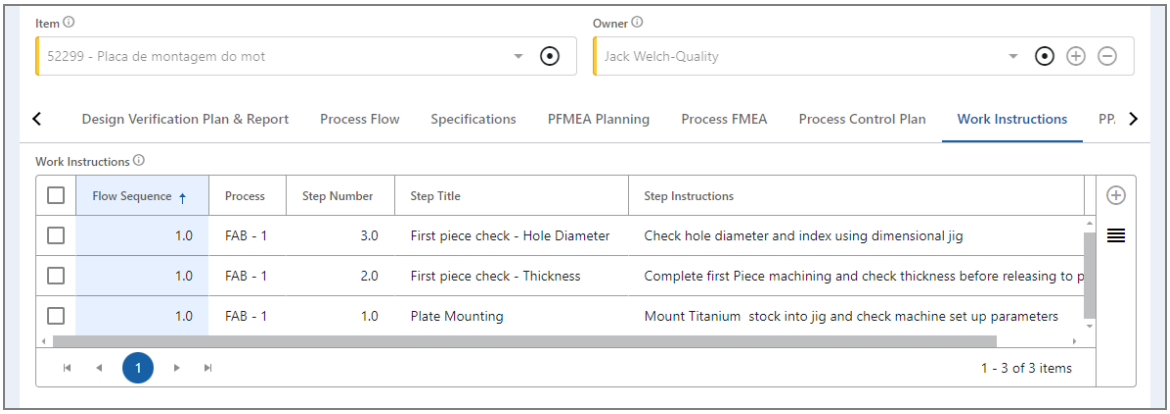
Fig. 111: Manufacturing Documents screen, Process Control Plan tab



The Process Control Plan tab contains a collection of controls aimed at mitigating FMEA risks through the control of process and product specifications.

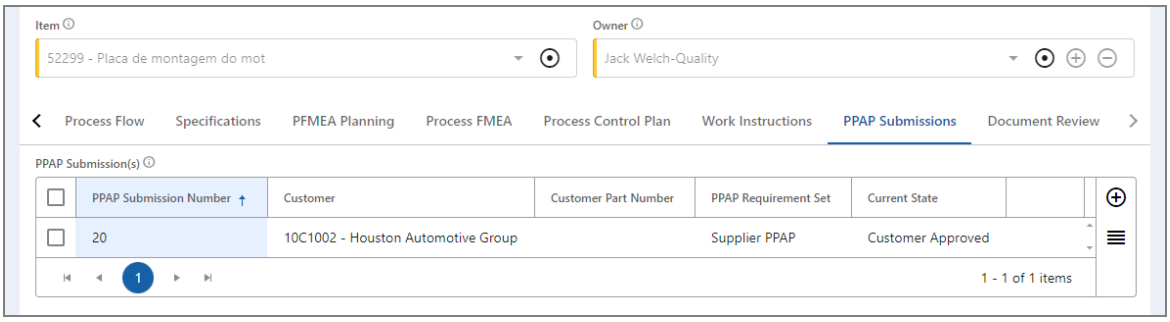
This tab is typically populated using the command button, but can be completed manually as well.

Fig. 112: Manufacturing Documents screen, Work Instructions tab



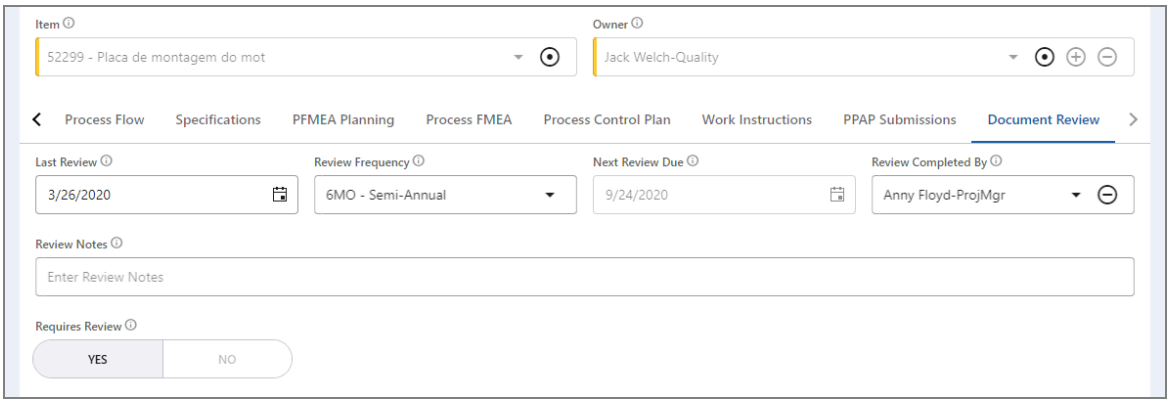
Use the Work Instructions tab to provide step instructions for each process in the process flow. The work instructions may include an image and related control plan item.

Fig. 113: Manufacturing Documents screen, PPAP Submissions tab



The PPAP Submissions tab contains links to generated PPAP submission records and allows you to create new ones. You can create multiple PPAP submissions for the same manufacturing document, i.e. for an annual PPAP. See "PPAP Submissions" on page 166 for more information on how to add a PPAP submission.

Fig. 114: Manufacturing Documents screen, Document Review tab



If a manufacturing document requires review, then the Document Review tab allows you to supply details regarding the document's last review, review frequency, review notes, and more.

Manufacturing Documents States

This section defines each state available in the workflow for the Manufacturing Documents process. See "State Change Security" on page 208 to learn more about how these states transition.

Draft (Default). The document is still being drafted and not yet ready for approval.

Ready for Approval. The document is ready for approval. The system performs an assessment to determine if any skip lot rules are impacted. If so, the state changes to Skip Lot Review; if not, the state changes to Awaiting Approval.

Awaiting Approval. The document is waiting to be approved.

Awaiting Effective Date. The document has been approved but is waiting until the effective date to be marked as official.

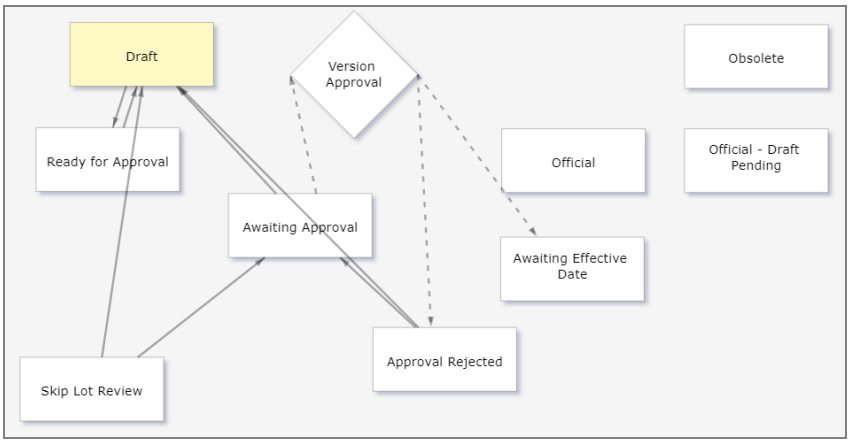
Approval Rejected. The approval of the document was rejected.

Official. The official version of the document.

Official – Draft Pending. The official version of the document, which also has a new version being drafted.

Obsolete. An obsolete version of the document. This version shall not be used.

Skip Lot Review. The control plan has changed and the skip lot rule is impacted. This state is used when the control plan is linked to one or more skip lot rules.



Manufacturing Documents Tasks

Adding a New Manufacturing Document

1. Select Manufacturing Documents from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Select a site and an item that the manufacturing documents apply to. The site field determines the item selection list.
3. Select whether this record is ITAR restricted.
4. If the manufacturing document is intended for receiving inspection, then set the "Use Document for Receiving Inspection?" toggle field to YES. Otherwise, select NO.
    a. If YES was selected, then two fields become required: Supplier and Supplier Item.
    b. The Bill of Materials, DFMEA Analysis, Design FMEA, and Design Verification Plan & Report tabs disappear from view.
5. Select a family template or manufacturing document whose details will be copied over.

    Note: It is not absolutely necessary to select a family template or manufacturing document, as manufacturing documents can be built from scratch. However, it is considered a best practice for users to use family templates to drive standardization, efficiency, and ease of maintenance.

6. Click one of two command buttons: "Copy from Family Template" or "Copy from Manufacturing Document". These commands use the information from the linked template or document to automatically populate the following tabs:

- General
- Process Flow
- Specifications
- PFMEA Planning
- Process FMEA
- Process Control Plan

7. Navigate to the Version Specific tab. Click the Link button in the Associated Drawings field. Select the drawing related to the item from the Item field.
8. Navigate to the Specifications tab. Click the command button labeled "Update Suggested Drawing Features". This command uses the data in the linked drawing's Features tab to add measurement specification data to the Specifications tab.
9. Click Save to save the new record. When selecting the next state, click Draft.

Setting Up Skill and Training

1. In the Manufacturing Document detail screen, navigate to the Version Specific tab.
2. Set the "Requires Training" toggle field to YES if necessary. A new field appears titled "Create Training Event"; set this new toggle field to YES to automatically create a training event for the document once the new version has been approved.
3. Navigate to the Skill and Training tab. Select or create a skill that represents the manufacturing document for the purposes of managing training.

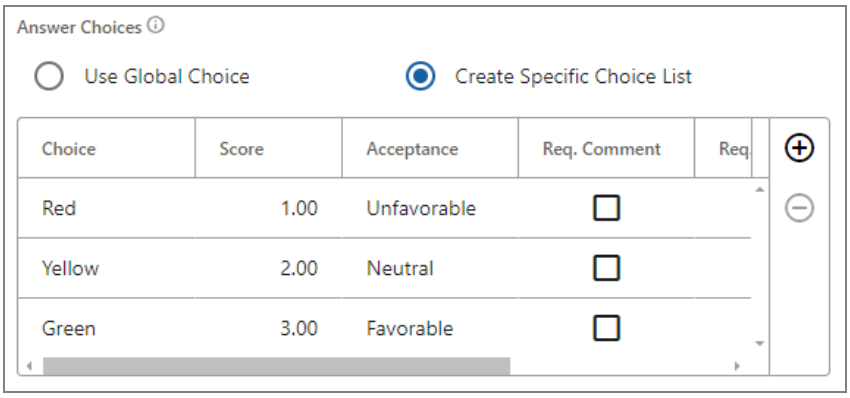
   Note: To learn more about adding skills, see the Training Management user guide.

4. Click the Add New Item button in the Skill Training Questions field. A new screen appears.
5. Create a question designed to evaluate a person's knowledge of changes to the manufacturing document. Include any additional reference information.

   Note: If you have questions to ask that would be common from revision to revision, you can add those questions on the Skill screen.

6. Create multiple choice or true/false answer choices.
   a. **Use Global Choice.** You can select a pre-made answer choice from a list of very common choice scenarios, such as Yes/No, Scale 1-5, Pass/Fail, and more. This menu of answer types originates from the Global Choice process.
   b. **Create Specific Choice List.** You can create a list of choices specific to the record you are creating. For example, if the question is "Which shift is responsible for the AKP shipment?" you can create a specific choice list such as "1st Shift/2nd Shift/3rd Shift". Add a new choice by clicking the Add button under Choice Details.
7. Enter details for the answer choice. The score value for each choice must be unique.

Fig. 115: Answer Choices



8. Click Add New Record to keep adding choices. To remove a row, highlight the row and click Remove.

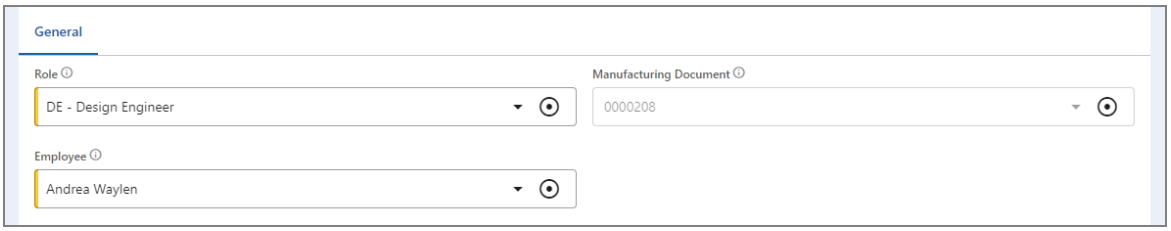
   Note: The Maximum Score field is automatically calculated to the highest numeric score from the choice list.

9. Click Save to save the new record. When selecting the next state, click Active.
10. Back at the Manufacturing Document detail screen, click Save to save the record as a draft.

Completing the DFMEA Analysis and Design FMEA

1. In the Manufacturing Document detail screen, navigate to the DFMEA Analysis tab. For each question in the Project Identification field, click the Comments column and add your answer.
2. Specify the intent of the DFMEA and enter start and due dates.
3. Add members to the design team.
   a. Click the Add New Item button in the Design Team field. A new screen opens.
   b. Select a role and the employee who will fulfill the role.
   c. Click Save.
   d. Repeat for each member of the team.

Fig. 116: Manufacturing Documents Design FMEA Team screen



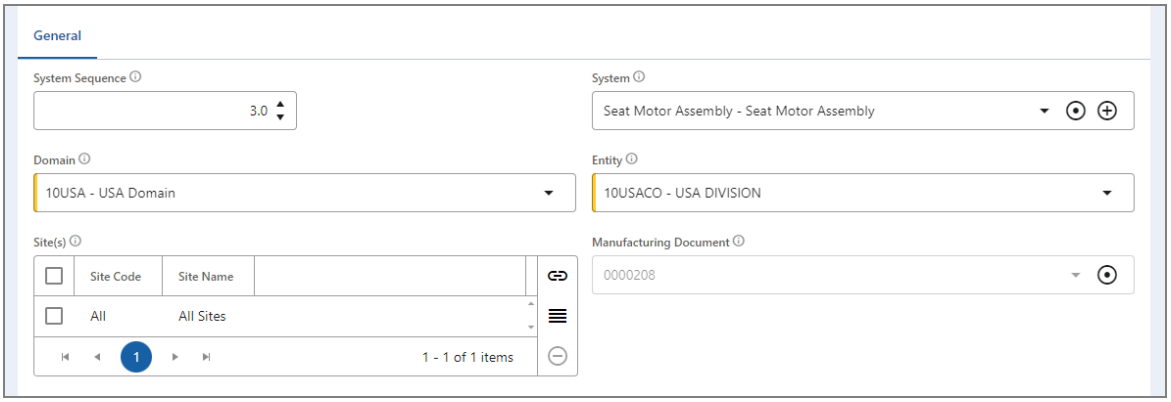
4. Back in the main process screen, use the Task and Tool fields to describe the work that needs to be done for DFMEA and any tools that will be used to conduct the analysis.
5. Select the systems that are part of the scope.
   a. Click the Add New Item button in the Design Systems Scope field. A new screen opens.

b. Select a system involved in the DFMEA (see "DFMEA Systems Library" on page 85 for more information).

Note: You may need to select a site to access the System drop-down results.

c. Enter the sequence of this system.
d. Click Save.
e. Repeat for each system involved in the DFMEA.

Fig. 117: Manufacturing Document Systems screen



6. Back in the main process screen, use the fields under the DFMEA Header to provide additional details about the DFMEA, including the DFMEA project name, customer name, design responsibility, confidentiality level, and more.
7. Click Save to save the manufacturing document. When selecting the next state, click Draft.
8. Navigate to the Design FMEA tab. Click the command button "Generate DFMEA". The Design FMEA and Design FMEA Grid fields are now populated with the Structural and Functional Analysis information.
9. Click Save to save the manufacturing document. When selecting the next state, click Draft.

Adding a New Design Verification Plan

1. In the Manufacturing Document detail screen, navigate to the Design Verification Plan & Report tab. Click the command button "Generate Suggested Design Verification Plans". The Design Verification Plans field now contains one or more new line items.
2. Double-click one of the new line items. A new screen opens.
3. In the General tab of the new screen, enter values for the acceptance criteria and test requirements.
4. Select a test stage and the employee responsible for executing the test.
5. Set up the remaining parameters of the verification plan: target start and completion date, sample quantity, and sample type.
6. If there are any relevant non-conformances, click the Link button to link to an existing non-conformance or the Add New Item button to create a new one. See the NCR & CAPA user guide for more information about creating non-conformances.
7. Click Save to save the new record.

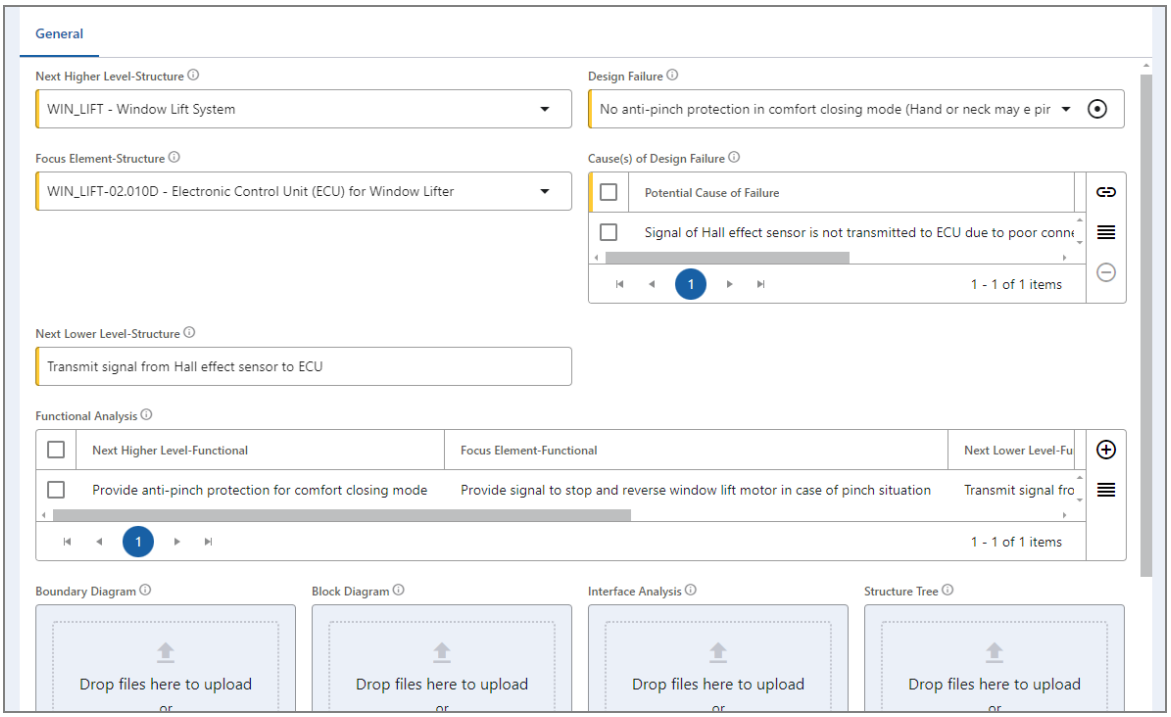
Note: To learn more about completing the Test Reports tab of the Design Verification Pan & Report detail screen, see "Design Verification Reports" on page 165.

Completing a FMEA-MSR

FMEA-MSR is an organized approach to evaluate the high severity DFMEA items that can impact the vehicle and occupants, and determine if suitable monitoring systems can be used as inputs to provide a system response that reduces the overall risk (including risk of harm, risk of noncompliance, or risk of not fulfilling expectations).

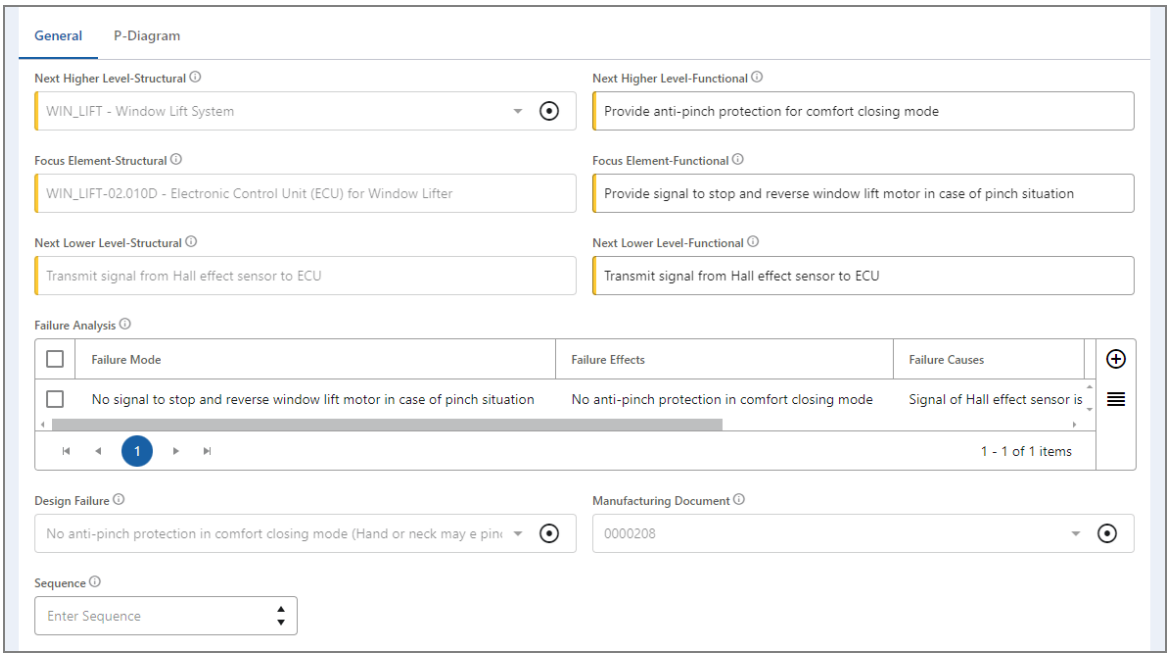
1. In the Manufacturing Document detail screen, navigate to the FMEA-MSR Analysis tab. For each question in the Project Identification field, click the Comments column and add your answer.
2. Specify the intent of the FMEA-MSR and enter start and due dates.
3. Use the Task and Tool fields to describe the work that needs to be done for FMEA-MSR and any tools that will be used to conduct the analysis.
4. Navigate to the FMEA-MSR tab. Click the Add New Item button in the Supplemental FMEA for Monitoring & System Response field; a new screen opens.

Fig. 118: Mfg Document FMEA-MSR Structural Analysis screen



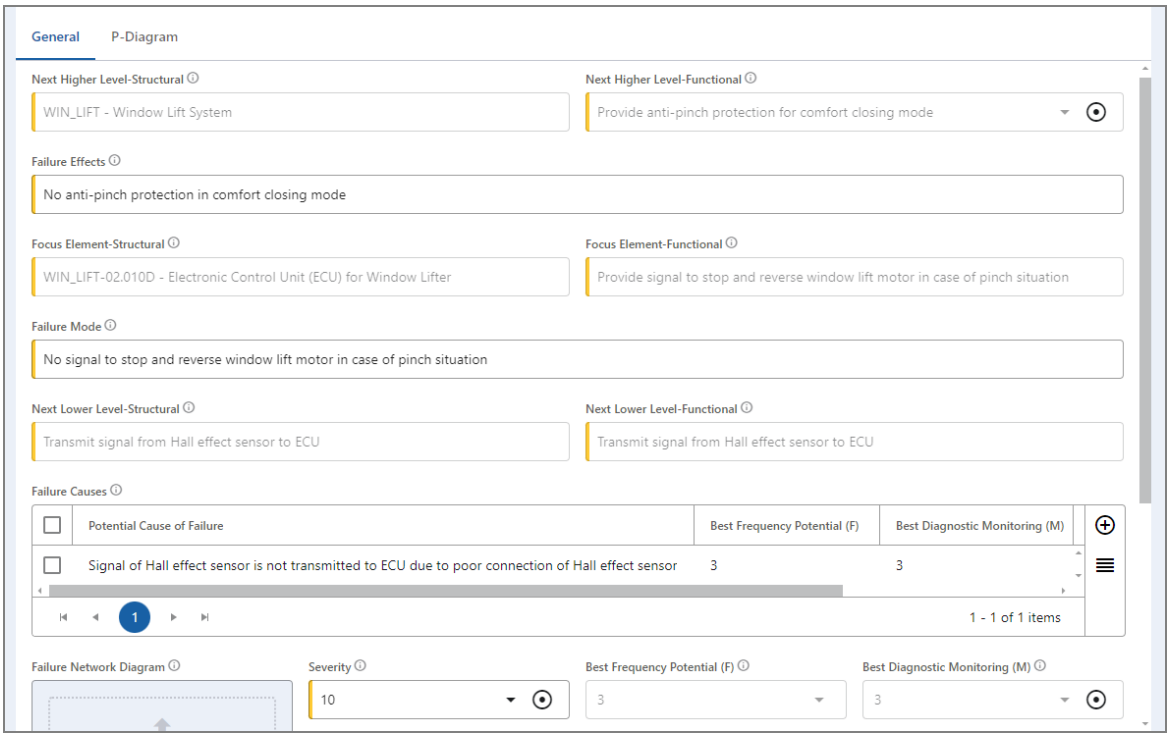
5. Define the system structures that are being evaluated. Then select the Design FMEA failure analysis being addressed by this FMEA-MSR.
6. Select at least one cause of design failure. Then click Save.
7. Click the Add New Item button in the Functional Analysis field. A new screen opens.

Fig. 119: Mfg Document FMEA-MSR Functional Analysis screen



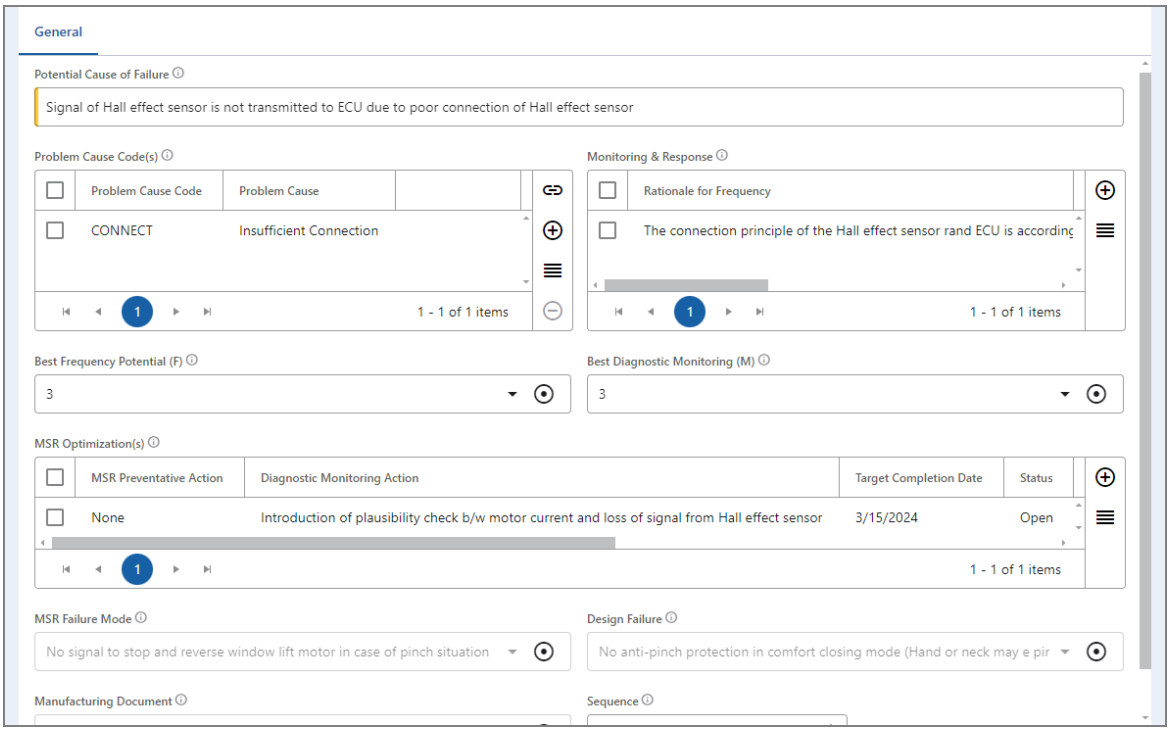
8. Define the functions of the system structures. Then click Save.
9. Click the Add New Item button in the Failure Analysis field. A new screen opens.

Fig. 120: Mfg Document FMEA-MSR Failure Analysis screen



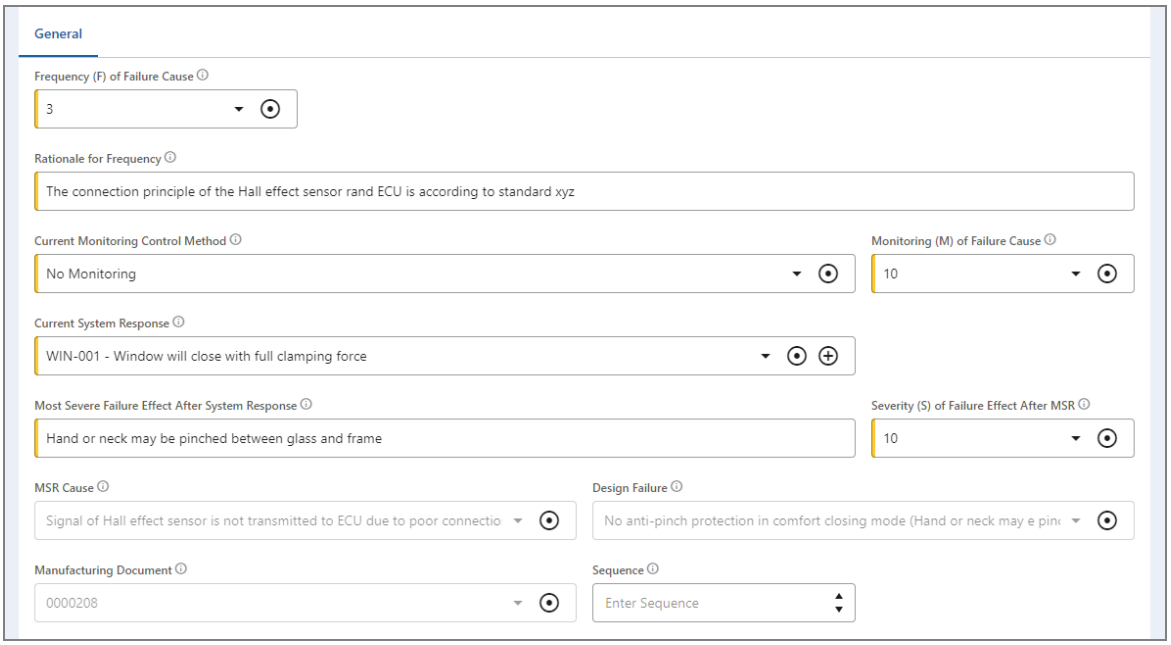
10. Define the failure effects and failure modes that could occur during the functioning. Then click Save.
11. Click the Add New Item button in the Failure Causes field. A new screen opens.

Fig. 121: Mfg Document FMEA-MSR Causes screen



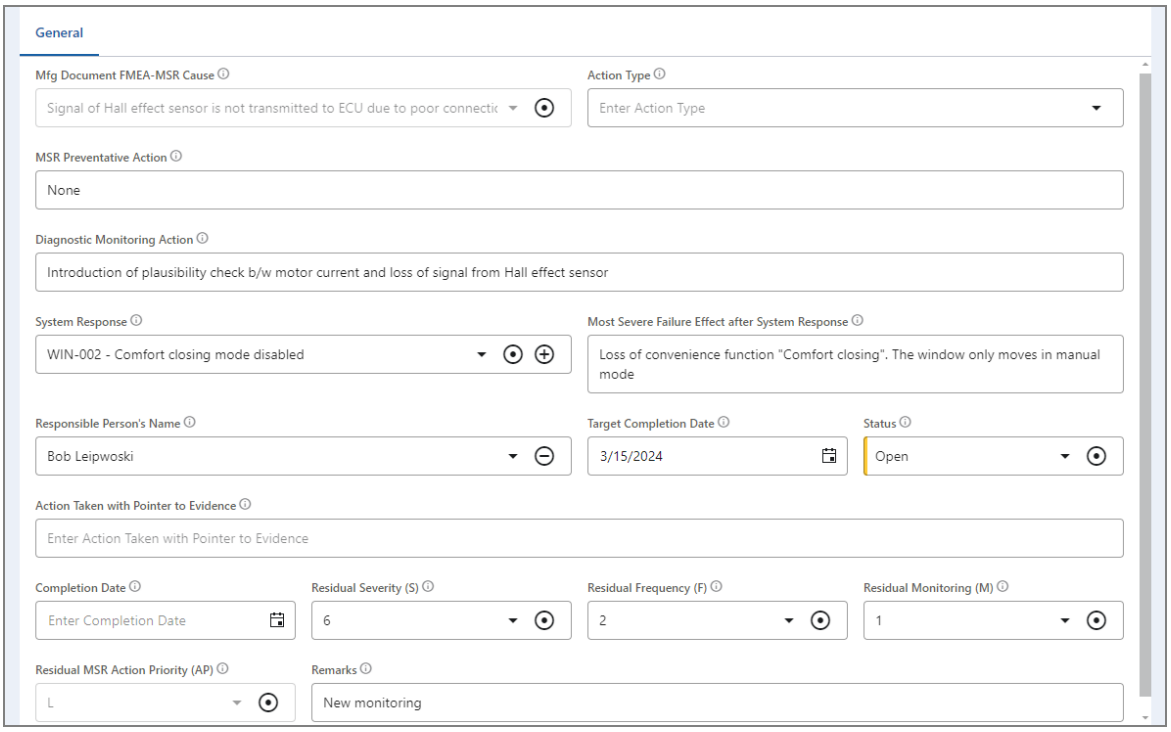
12. Define the potential cause of failure. Then click Save.
13. Use the Link button in the Problem Cause Codes field to identify what could cause such a failure. Then use the Add New Item button in the Monitoring & Response field to list the current MSR controls.

Fig. 122: Mfg Document FMEA-MSR Monitoring & Response screen



14. Click Save, then click the Add New Item button in the MSR Optimizations field. A new screen opens.

Fig. 123: Mfg Document FMEA-MSR Optimization screen

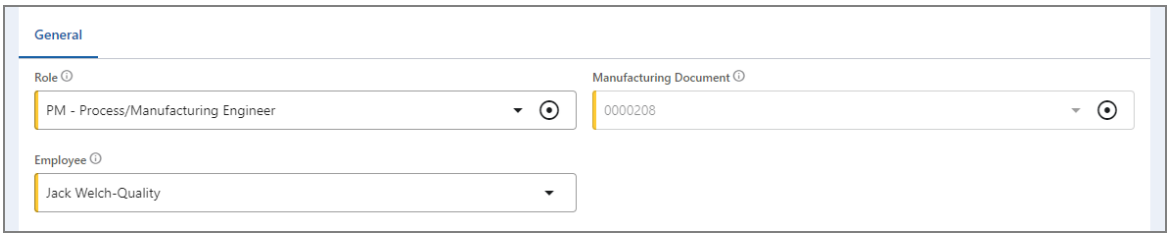


15. Use each field to look at the monitoring capabilities you have or want that would help reduce risk or severity through some automatic system response. This includes assigning an individual to take the improvement actions defined by a target completion date.
16. Click Save, then exit each screen until you return to the main Manufacturing Documents screen. You can also use the breadcrumb trail to navigate to this screen directly.
17. Back in the FMEA-MSR tab, use the fields under the Results Documentation header to record the results of the FMEA-MSR. When finished, click Save.

Completing the PFMEA Planning

1. In the Manufacturing Document detail screen, navigate to the PFMEA Planning tab. For each question in the Project Identification field, click the Comments column and add your answer.
2. Specify the intent of the PFMEA and enter start and due dates.
3. Add members to the process team.
    a. Click the Add New Item button in the Process Team field. A new screen opens.
    b. Select a role and the employee who will fulfill the role.
    c. Click Save.
    d. Repeat for each member of the team.

Fig. 124: Manufacturing Documents Process FMEA Team screen



4. Back in the main process screen, use the Task and Tool fields to describe the work that needs to be done for PFMEA and any tools that will be used to conduct the analysis.
5. Under the PFMEA Header, use each field to provide additional details about the PFMEA, including the PFMEA project name, customer name, process responsibility, confidentiality level, and more.
6. Click Save to save the manufacturing document. When selecting the next state, click Draft.

Reviewing a New Manufacturing Document with Copied Information

When a manufacturing document is created using the "Copy from Family Templates" or "Copy from Manufacturing Document" commands, the Process Flow, Specifications, Process FMEA, and Process Control Plan tabs are automatically completed using data from the copied record. It is considered good practice to review these tabs and ensure their information is accurate and, if needed, part-specific.

As you navigate through each of these tabs, review the items in the lists. If the list is missing an important item, then the item should be added.

In the Process Flow tab, review the items in the process flow list and ensure each item is in the proper sequence.

1. If an item is in the wrong order, double-click it to open the detail screen.
2. In the Process Sort field, toggle to the correct sequence order.
3. Click Save.

In the Specifications tab, review the Lower Limit/Target/Upper Limit tolerances for each line item. If these values are blank or not accurate, then use the "Update Suggested Drawing Features" command to refresh that data from the Associated Drawings field.

> ***Note:*** This command only updates data for specifications whose names match the specifications in the associated drawings.

On each control plan record, you can specify up to two graphics with an instruction for each graphic in the Visual Aid tab. These graphics and descriptions are visible to the operator/inspector when using the Inspection module.

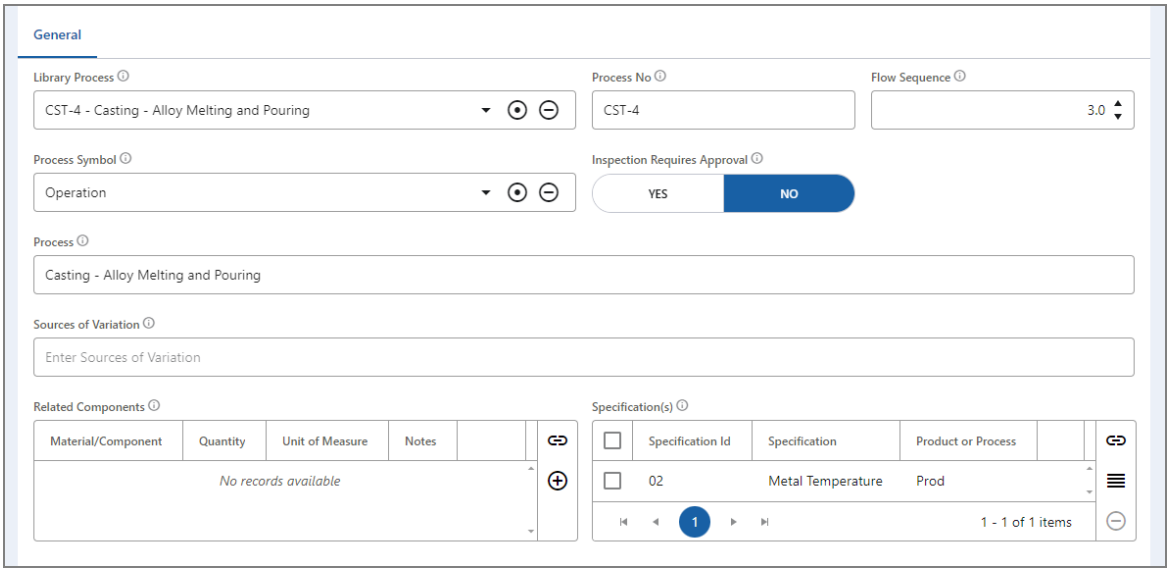
Once all five tabs have been reviewed and updated as needed, continue to the next task.

> ***Note:*** If any new specifications or process FMEA list items were added, then you may have to add a new control plan as well.

Creating a Control Plan Without a FMEA

1. In the Manufacturing Document detail screen, navigate to the Process Flow tab.
2. Click the Add New Item button in the Process Flow field. A new screen opens.

Fig. 125: Mfg Document Process Flow screen

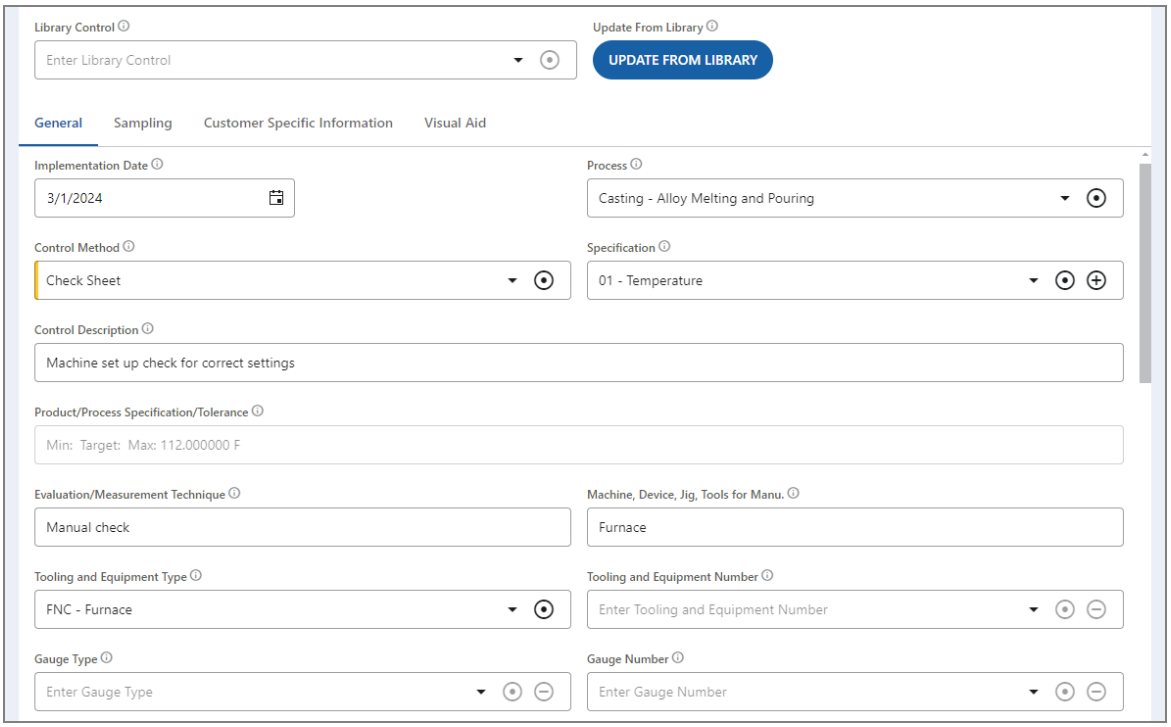


3. Select a library process and the process sort. the Library Process field will automatically populate the other fields.
4. Determine whether the inspection requires approval.
5. Click the Link button in the Specifications field. Select each specification that is relevant to the process flow.

   Note: Specifications can also be added manually in the Specifications tab of the Manufacturing Document.

6. Click Save to save the record. Then click the Close button to return to the Manufacturing Document detail screen.
7. Repeat steps 2-6 until all processes for the process flow have been added.
8. Navigate to the Specifications tab. Execute the Import and Link Process Specs command; the Specifications field is populated.
9. Navigate to the Process Control Plan tab. Click the Add New Item button in the Control Plan field. A new screen opens.

Fig. 126: Mfg Document PFMEA Controls screen

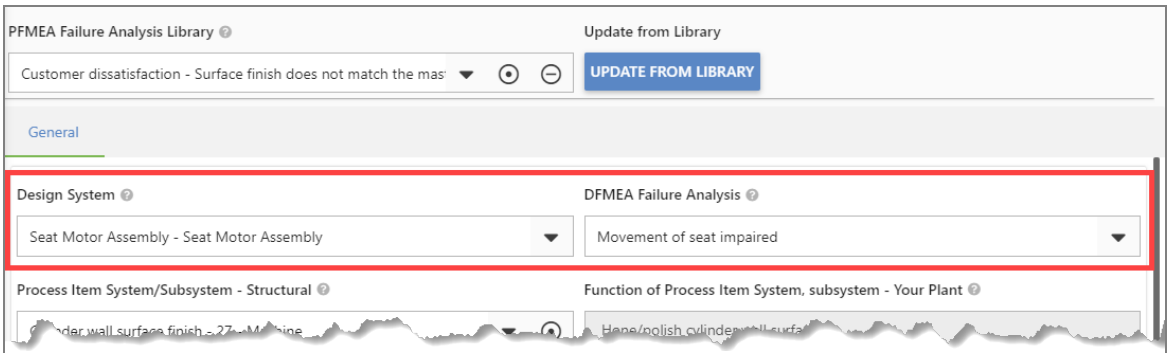


10. Choose a control method. Then, depending on your selection, choose a detection of failure cause and/or an occurrence of failure cause.
11. Navigate to the Sampling tab. Select a sampling technique and set the sample frequency.
12. Navigate to the General tab. Populate the relevant fields. You may also select a library control, then execute the Update from Library command; this copies the relevant information from the selected library control to the control plan.
13. Click Save to save the record. Then click the Close button to return to the Manufacturing Document detail screen.
14. Click Save to save the Manufacturing Document.

Linking a Design FMEA to a Process FMEA

1. In the Manufacturing Document, navigate to the Process FMEA tab.
2. Open the Process FMEA record you want to modify (4th Edition) or navigate through the structural and functional levels to the Process FMEA record you want to modify (AIAG/VDA). A new screen opens.
3. In the Mfg Document PFMEA Structural Analysis screen, open a record in the PFMEA Functional Analysis field. A new screen opens.
4. In the Mfg Document PFMEA Functional Analysis screen, open a record in the PFMEA Failure Analysis field. A new screen opens.
5. In the Mfg Document PFMEA Failure Analysis screen, select a design system. A new field appears titled DFMEA Failure Analysis.

Fig. 127: Design System and DFMEA Failure Analysis fields, Mfg Document PFMEA Failure Analysis screen



6. Use the DFMEA Failure Analysis drop-down to select a failure mode with the same Failure Effect as the PFMEA.
7. Save the record.
8. Scroll down to the Severity field. Note that the severity of the process failure mode will be limited to be greater than or equal to the severity of the design failure mode.
9. Return to the main Manufacturing Document screen, saving each record as you close it.

Adding a New Work Instruction

1. In the Manufacturing Document detail screen, navigate to the Work Instructions tab. Click the Add New Item ⊕ button. A new screen appears.
2. In the new screen, select the process and related control plan item.
3. Select a step number
4. Enter a title for this step.
5. Enter detailed instructions for this step.
6. If you have a relevant image for this step, then click the Browse button in the Step Image field to locate and upload the image.
7. Click Save to save the record.
8. Repeat this task for all work instructions.

Approving a Manufacturing Document

1. The person responsible for approving a manufacturing document is automatically notified when it is time for approval through the inbox or optionally from an e-mail notification (clicking the link in that message takes you to the document for approval).
2. Open the inbox, either through the Home Page dashboard or by clicking the Inbox icon in the toolbar.
3. Upon opening the inbox, click the approval item under the APQP group to show the action icons. Then click the Open icon. The screen navigates to the manufacturing document's detail screen.
4. In the detail screen, navigate to the Version Specific tab, scroll down to the Approval field, and click the Approve/Reject button. A small window appears.
5. In the Sign Off window, enter your password and either approve or reject the change. Use the comments field to document any information about your decision. Comments are required for rejection.

Note: Once all members of the approval process have finished, the manufacturing document becomes official and ready for use.

Starting a New Version of a Manufacturing Document

The Start New Version command in the Manufacturing Documents process should be used for small-impact changes that do not affect other departments or people, such as fixing a typo or changing a tag. If the document requires a bigger change, then a change request must be initiated. See "Change Requests" in the Document Control user guide for more information.

Note: Revisions can only be made if the manufacturing document is in the Official state.

1. Open the detail screen of the manufacturing document you wish to change. If the document does not already have a change initiated, then click the Commands button and select Start New Version.

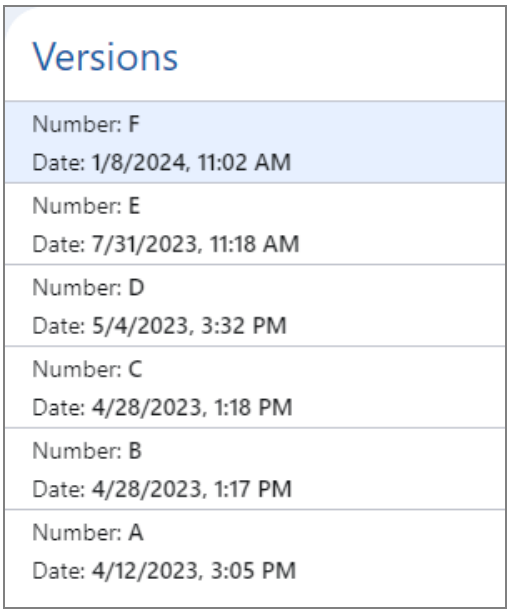
   Note: If a manufacturing document already has a change initiated, then contact the Owner to see if the changes you want to make can be included in the current change.

2. In the Version Specific tab, use the Change Description field to summarize what has changed and set the effective date.
3. Select the “Requires Training” check box as appropriate. Minor changes may not require additional training.
4. Click Save to save the record. Select Awaiting Approval if you are finished with the changes or select Draft to save the document as a draft and continue working.

When this version is approved, it becomes official and all previous versions become obsolete.

It can be helpful to see a historical version of the manufacturing document . You can quickly access historical versions from any version of the document by clicking More in the toolbar and selecting Versions to expand the Versioning panel. Click one of these versions to switch your detail screen view to the selected version.

Fig. 128: List of Versions

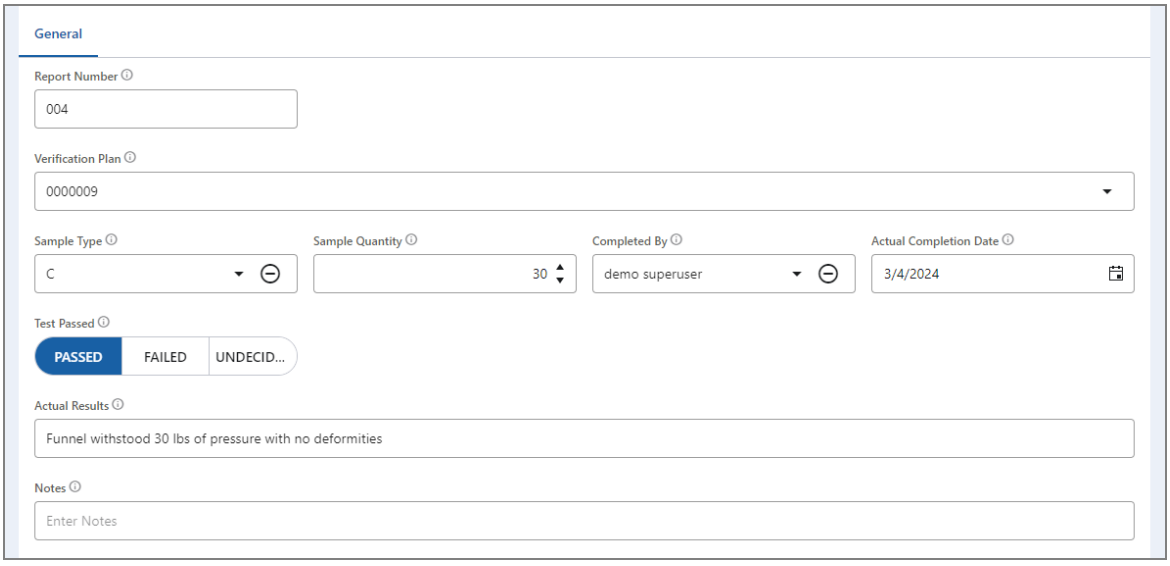


Design Verification Reports

During the design cycle of a product, tests are planned and conducted to ensure issues will not arise as a result of a product's design – that is, verifying that the design meets the basic design specifications and the design itself will not be the cause of any issues.

The design verification plan and report (DVP&R) are combined in the Manufacturing Documents process. See "Manufacturing Documents" on page 135 for more information.

Fig. 129: Design Verification Report screen

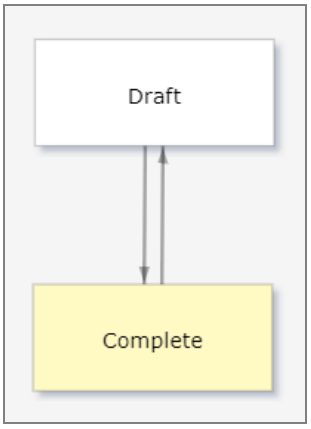


Design Verification Reports States

This section defines each state available in the workflow for the Design Verification Reports process. See "State Change Security" on page 208 to learn more about how these states transition.

Draft (Default). The design verification report is being drafted and is not yet complete.

Complete. The design verification report is complete.



Design Verification Reports Tasks

Adding a New Design Verification Report

1. Select Design Verification Reports from the left navigation panel. Then, click the Add Item ⊞ button in the toolbar.
2. Enter a report number for the verification report.
3. Select the related verification plan in the appropriate drop-down field.
4. Select the sample type and quantity, if they did not automatically populate from the Verification Plan field selection.
5. Select the actual completion date and the employee who completed the test.
6. If the test passed inspection, then set the "Test Passed" toggle field to PASSED.
7. Document the actual results of the testing and any additional notes as needed.
8. Click Save to save the new record. When selecting the next state, click Complete.

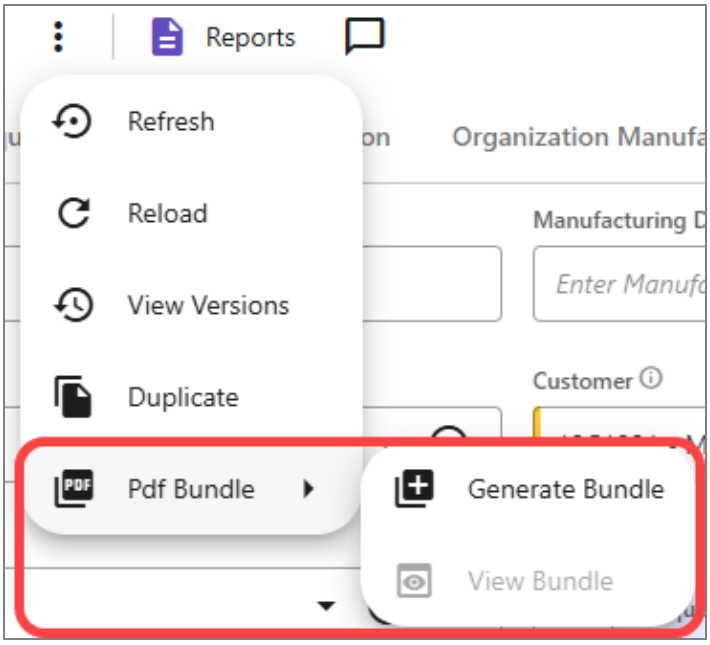
PPAP Submissions

The APQP process concludes with the Production Part Approval Process (PPAP), which verifies that the supplier understands all customer product specifications and is ready to supply product at the required quality and production rate. PPAP is required for any new part submission or change to an existing part or process.

The PPAP Submissions process is a culmination of the documentation to be sent to the customer for approval or rejection. By approving the PPAP submission, the customer approves the product for mass production. The process contains a unique PDF Bundle selection under the More icon in the toolbar, which takes the following:

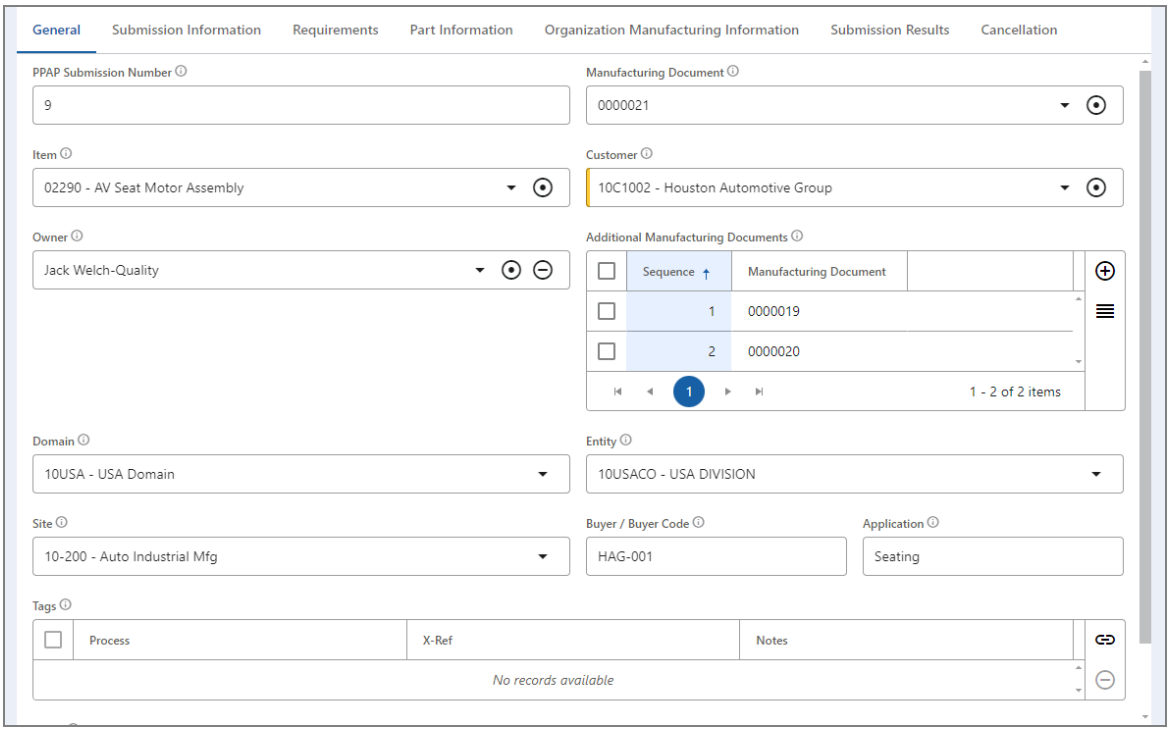
1. Documents and records linked to a requirement that has the submission status set to Submit.
2. Associated Project Task files on a requirement.
3. A rendering of APQP reports for the associated Manufacturing Document linked to a requirement.

Clicking "Generate Bundle" creates the PDF, and clicking "View Bundle" opens the PDF.



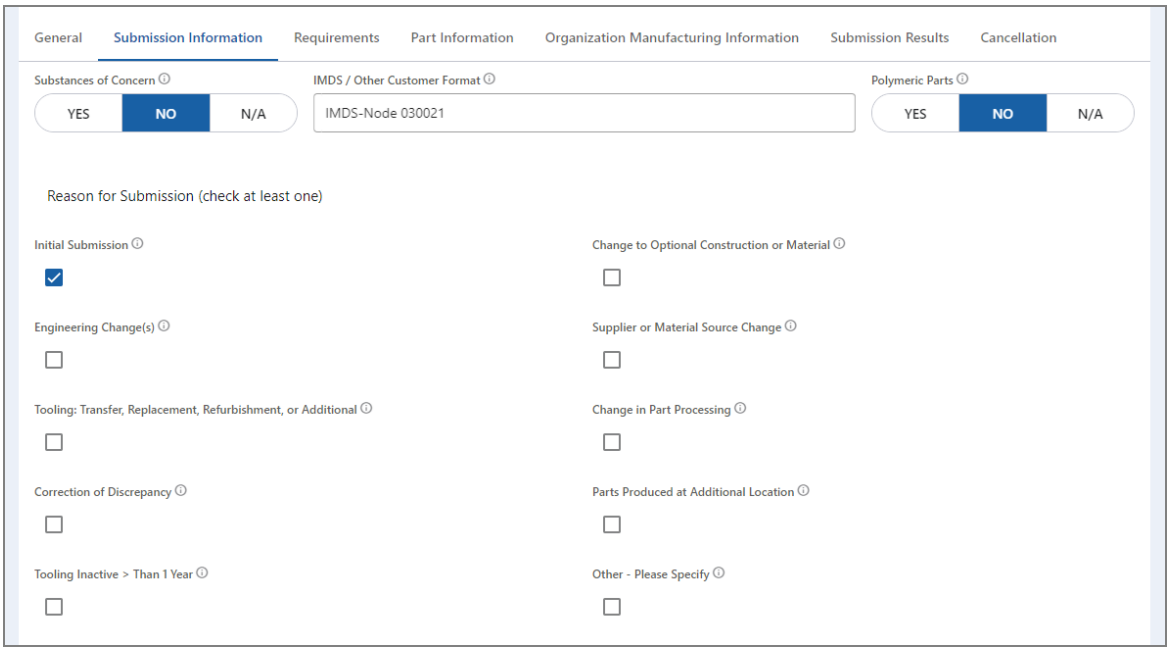
PPAP submissions are linked to manufacturing documents. See "Manufacturing Documents" on page 135.

Fig. 130: PPAP Submissions screen, General tab



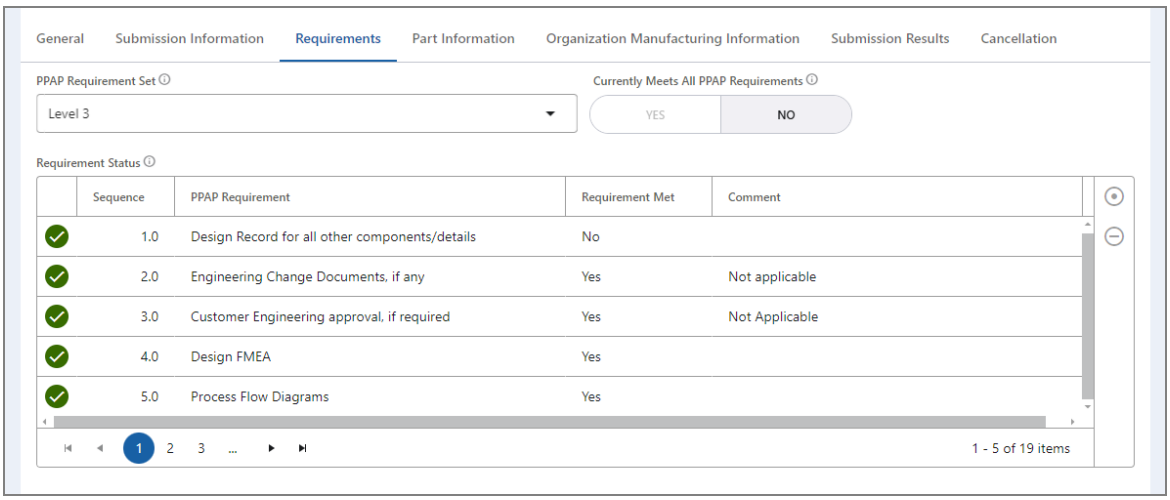
The General tab is used to define the basic details of a PPAP submission, including the relevant manufacturing document, item, customer, owner, and more.

Fig. 131: PPAP Submissions screen, Submission Information tab



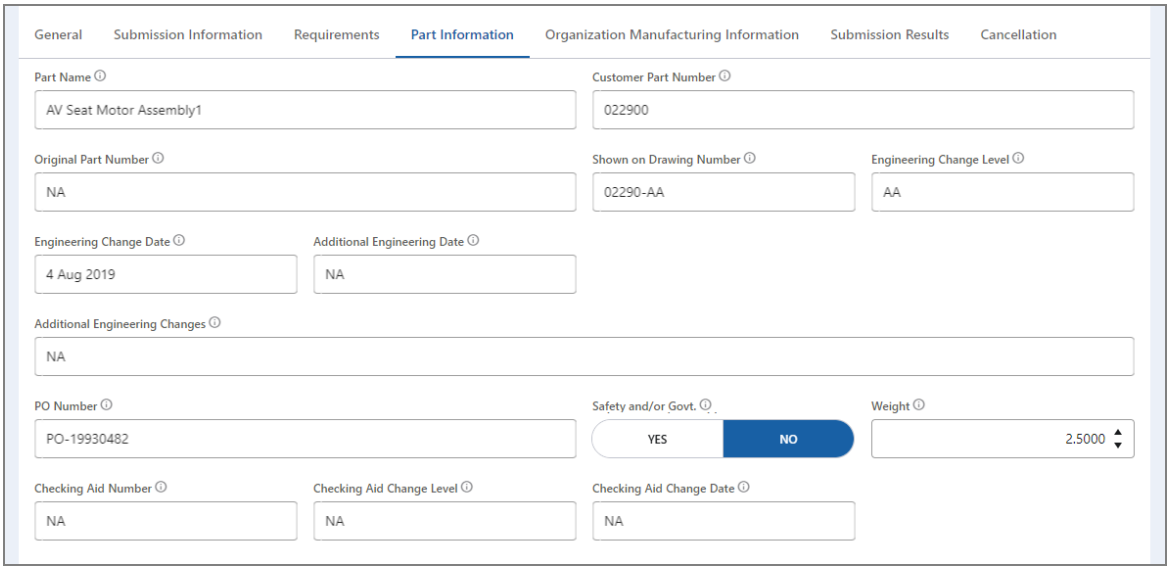
The Submission Information tab describes the reason for submission, along with other submission information.

Fig. 132: PPAP Submissions screen, Requirements tab



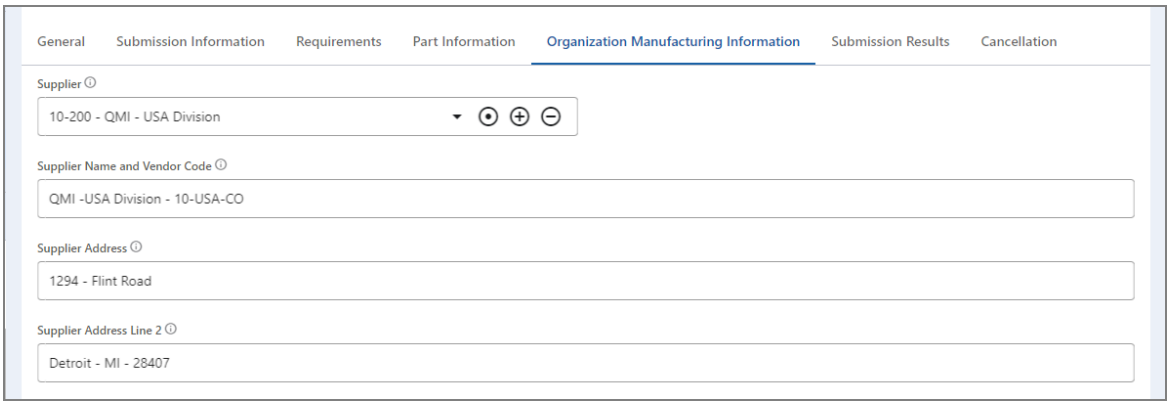
In the Requirements tab, select a PPAP requirement set and save the record. This supplies a list of PPAP requirements, links to documents and records, and more. See "PPAP Requirement Status" on page 60 for more information.

Fig. 133: PPAP Submissions screen, Part Information tab



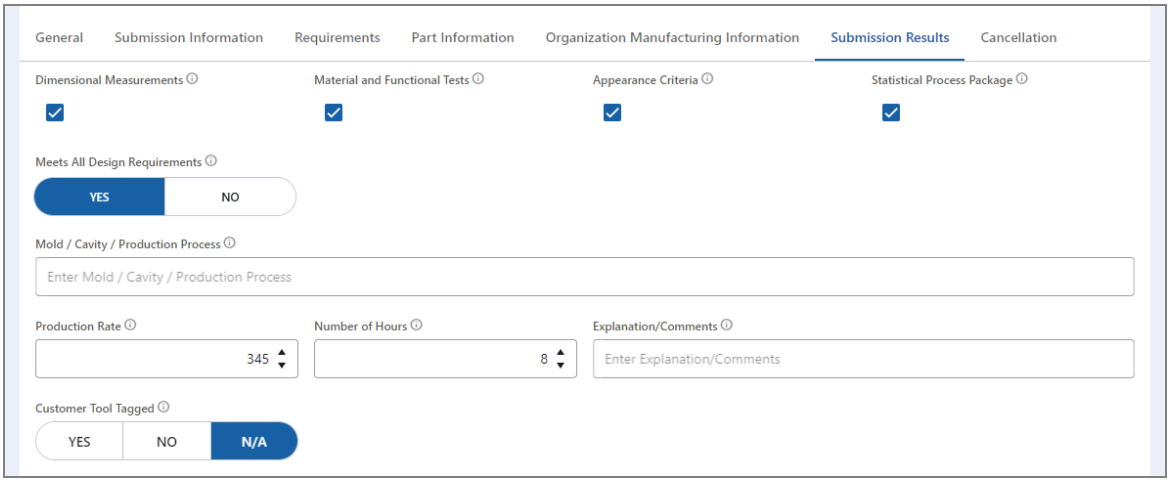
The Part Information tab supplies specific information of the part being submitted, including the name and part number, engineering changes, weight, and more.

Fig. 134: PPAP Submissions screen, Organization Manufacturing Information tab



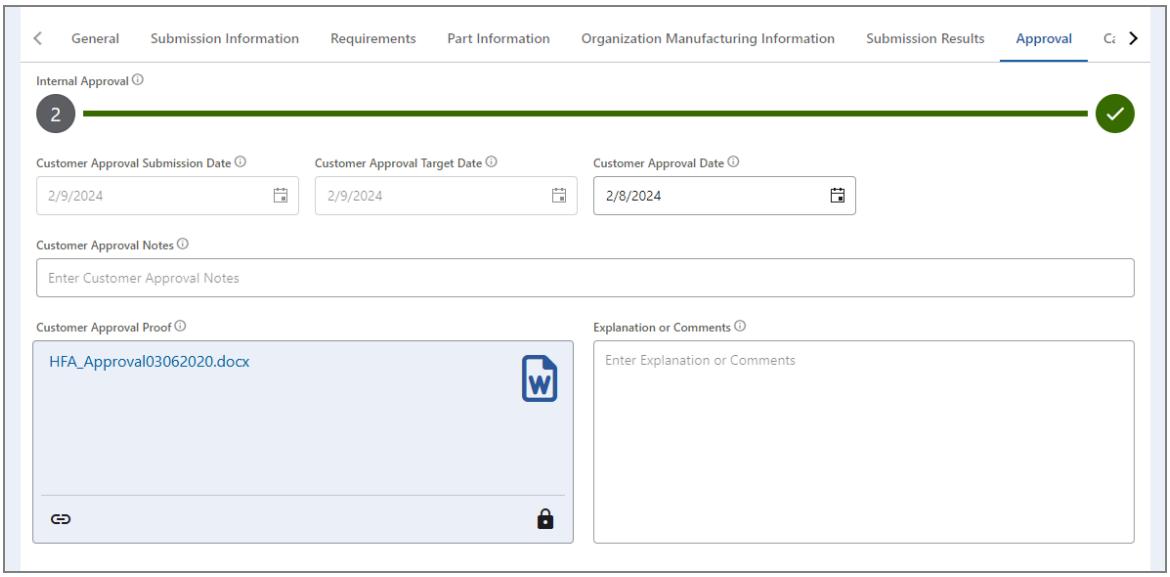
The Organization Manufacturing Information tab contains the name, vendor code, and address of the supplier.

Fig. 135: PPAP Submissions screen, Submission Results tab



The Submission Results tab signifies whether certain items are included in the submission, such as material and functional tests.

Fig. 136: PPAP Submissions screen, Approval tab



Use the Approval tab to track internal approval and approval dates. Once customer approval is obtained, attach a file that contains proof of the approval to this tab.

Fig. 137: PPAP Submissions screen, Cancellation tab

Sometimes a PPAP submission must be canceled before it reaches customer approval. In cases such as this, use the Cancellation tab to cancel and obsolete the submission.

To perform a cancellation, set the "Canceled?" toggle to YES, enter a cancellation reason, then click the Save button to save the record.

PPAP Submissions States

This section defines each state available in the workflow for the PPAP Submissions process. See "State Change Security" on page 208 to learn more about how these states transition.

Draft (Default). The PPAP submission is still being drafted and is not yet ready for approval.

Ready for Approval. The PPAP submission is waiting to be approved internally.

Approval Rejected. The PPAP submission was rejected.

Submit for Customer Approval. The PPAP submission is approved and is waiting to be submitted to the customer for approval.

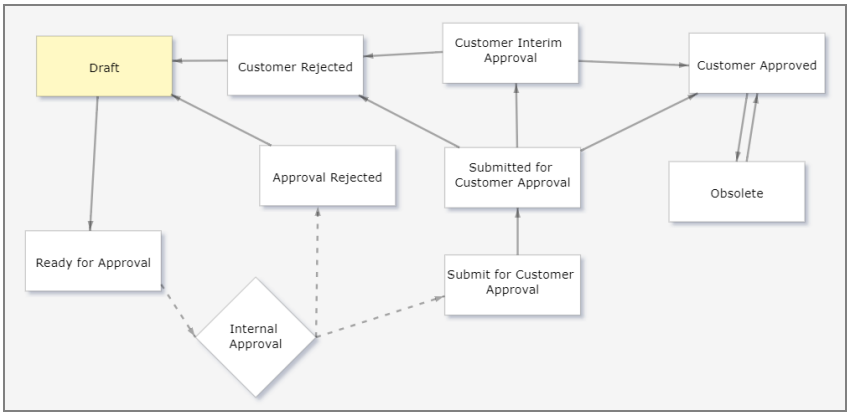
Submitted for Customer Approval. The PPAP submission is submitted for customer approval.

Customer Interim Approval. The PPAP submission was approved by the customer, but the project is still in the prototype stage.

Customer Approved. The PPAP submission was approved by the customer.

Customer Rejected. The PPAP submission was rejected by the customer.

Obsolete. An obsolete version of the PPAP submission. This version shall not be used.



PPAP Submissions Tasks

Adding a New PPAP Submission

1. There are two ways to add a new PPAP submission:
    1. Select PPAP Submissions from the left navigation panel. Then, click the Add Item button in the toolbar.
    2. In a manufacturing document, navigate to the PPAP Submissions tab and click the Add New Item button.
2. Select the manufacturing document. The Item, Customer, Owner, Domain, Entity, and Site fields automatically populate.

    Note: If the submission is added through a manufacturing document, then the Manufacturing Document field is automatically populated.

3. Navigate to the Submission Information tab. Select any check box relevant to the reason for submission.
4. Indicate whether any substances of concern information have been reported. Also indicate whether any polymeric parts have been identified with the appropriate ISO marking codes.
5. Navigate to the Requirements tab. Select a level in the PPAP Requirement Set field.

6. Navigate to the Part Information tab. Complete each field that pertains to the part being submitted. If the design record indicates a safety or government regulation for the part being submitted, then set the "Safety and/or Govt." toggle field to YES.
7. Navigate to the Organization Manufacturing/Customer Information tab. Enter the supplier's information.
8. Navigate to the Submission Results tab. Select all check boxes and toggle fields that indicate details covered in the submission.

   Note: The "Meets all Design Requirements" toggle field is typically set to YES, but if not, the reasons why should be detailed in the Explanation/Comments field.

9. Click Save to save the new record. When selecting the next state, click Ready for Approval.

Approving a PPAP Submission

1. The person responsible for approving a PPAP submission is automatically notified when it is time for approval through the inbox or optionally from an e-mail notification (clicking the link in that message takes you to the document for approval).
2. Open the inbox, either through the Home Page dashboard or by clicking the Inbox icon in the toolbar.
3. Upon opening the inbox, click the approval item under the APQP group to show the inbox action icons. Then click the Open icon. The screen navigates to the submission's detail screen.
4. In the detail screen, navigate to the Approval tab and click the Approve/Reject button in the Internal Approval field. A small window appears.
5. In the Sign Off window, enter your password and either approve or reject the change. Use the comments field to document any information about your decision. Comments are required for rejection.
6. Once all internal approvals are complete, the state automatically changes to Submit for Customer Approval. Click the state and select Submitted for Customer Approval to signify that the customer has received the PPAP submission.
7. After the customer has reviewed the PPAP submission, you can move the state to one of three options:
   - **Customer Rejected.** The customer rejects the submission. The record returns to the Draft state.
   - **Customer Approved.** The customer approves the submission. The record is complete.
   - **Customer Interim Approval.** The customer approves the submission but the project is still in the prototype stage.
8. Once the state is Customer Approved or Customer Interim Approval, enter the customer approval date and notes in the Approval tab. You can also upload a file that contains proof of customer approval, such as a PDF of the signed warrant form.
9. Click Save to save the record.

Starting a New Version of a PPAP Submission

Note: Revisions can only be made if the PPAP submission is in the Official state.

1. Open the detail screen of the PPAP submission you wish to change. If the submission does not already have a change initiated, then click the Commands button and select Start New Version.

   Note: If a submission already has a change initiated, then contact the Owner to see if the changes you want to make can be included in the current change.

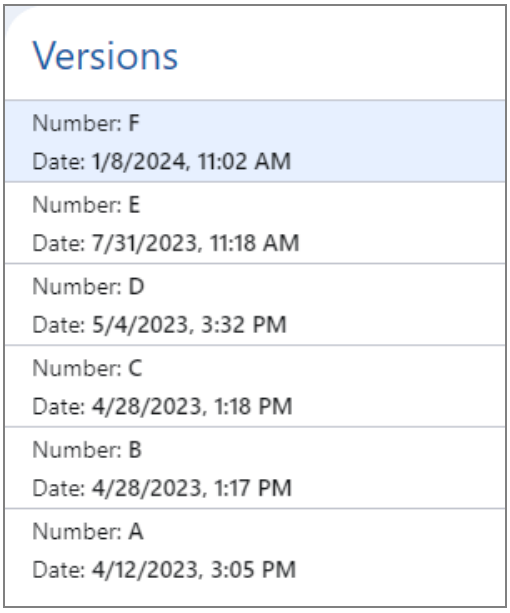
2. Click Save to save the record. Select Ready for Approval if you are finished with the changes or select Draft to save the submission as a draft and continue working.

When this version is approved, it becomes official and all previous versions become obsolete.

> ***Note:*** You can also make a PPAP submission record obsolete by moving the state to Obsolete and saving the record.

It can be helpful to see a historical version of the PPAP submission. You can quickly access historical versions from any version of the submission by clicking the Versions icon in the toolbar to expand the Versioning panel. Click one of these versions to switch your detail screen view to the selected version.

Fig. 138: List of Versions



Chapter 7

Inbox Messages

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Introduction to Inbox Messages

Most processes in the system require multiple people, departments, or groups to coordinate on completing a process. The inbox automates notifications sent to the appropriate users at specific times in the process.

An individual inbox action item represents a single task, approval, or notification that has been sent to you. This task will remain in your inbox until the necessary steps have been taken for completion.

Inbox messages can be separated into three different inbox action types:

- **Assignment.** You are required to take some action in the system to move it beyond your workflow.
- **Approval.** Your approval is requested. You must approve or reject the process item.
- **Acknowledgment.** This is only for your information. You can acknowledge the notification to remove it from your inbox.

See the User Interface user guide to learn how to access inbox messages.

Inbox Messages

The table below describes each inbox action item involved in the APQP Libraries module. In addition to title and description, the table indicates which process each item comes from, who receives the message, and when it is sent. See the User Interface user guide to learn more about inbox messages.

Process	Title	Message	Action Type	Sent To / Sent When
Processes	Owner – Approval Approved	The following process approval has been approved. This is just a notification of the approval.	Assignment	Sent to the process owner when the process has been approved.
Processes	Owner – Requires Review	The following process requires review. Please review the process and start a new change if changes are required or move the state back to official if no changes are required.	Assignment	Sent to the process owner when the state moves to Requires Review.
Processes	Owner – Approval Rejected	The following process approval has been rejected. This is just a notification of the rejection	Assignment	Sent to the process owner when the state moves to Approval Rejected.

Process	Title	Message	Action Type	Sent To / Sent When
Processes	Change Owner – Affected Process Ready for Change	Process {ProcessCode_f} is ready for change Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the change owner when the change owner is changed, or when the record is in the Draft state and is not linked to a change request.
Processes	Change Owner – Change Overdue	Process {ProcessCode_f} is past due for change Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the change owner when the record is not complete and the current due date is past the change due date.
Processes	Change Owner > Reports to – Change Overdue – Escalation	Process {ProcessCode_f} is past due for change - Escalation Please address this with {ChangeOwner_f} Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}.	Assignment	Sent to the user that the change owner reports to when the record is not in the Complete state and the current date is 7 days past the change due date.
Processes	Past Effective Date and Not Approved	Process {ProcessCode_f} is past effective date and has not been approved Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}.	Assignment	Sent to the process owner when the current date is past the effective date and the process has not been approved.

Process	Title	Message	Action Type	Sent To / Sent When
Processes	Past Effective Date and Not Approved – Escalation	Process {ProcessCode_f} is past effective date and has not been approved - Please address with {ProcessOwner_f} Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}.	Assignment	Sent to the user that the process owner reports to when the current date is 7 days past the effective date and the process has not been approved.
Processes	Approvers – Awaiting Approval	The following process is ready for approval, please approve or reject the change.	Approval	Sent to approvers when the process is ready for approval.
Family Templates	Owner – Approval Rejected	The following template's approval has been rejected. Please review the comments from the approvers, make the necessary changes and then re-submit the template for approval. Item Group: {ItemGroup_f} Item Type: {ItemType_f} Notes: {Notes_f}	Assignment	Sent to the owner when the template has been rejected.
Family Templates	Owner – Approval Complete	The following template's approval has been approved. This is just a notification of the approval. Item Group: {ItemGroup_f} Item Type: {ItemType_f} Notes: {Notes_f}	Assignment	Sent to the owner when the template has been approved.
Family Templates	Approvers – Awaiting Approval	The following template is ready for approval, please approve or reject the change Item Group: {ItemGroup_f} Item Type: {ItemType_f} Owner: {Owner_f} Notes: {Notes_f}	Approval	Sent to the approvers when the template is ready for approval.

Process	Title	Message	Action Type	Sent To / Sent When
Drawings	Owner – Approval Rejected	The following drawing's approval has been rejected. Please review the comments from the approvers, make the necessary changes and then re-submit the drawing for approval. Title: {DrawingTitle_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the drawing owner when the state becomes Approval Rejected.
Drawings	Owner – Approval Approved	The following drawing's approval has been approved. This is just a notification of the approval. Title: {DrawingTitle_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the drawing owner when the drawing has been approved.
Drawings	Owner – Approver Escalation	The approval for the following drawing's is past due. This is just a notification that the approval is past due. To view the approvers who have not yet approved or rejected the current change, please view the drawing's details. Title: {DrawingTitle_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the drawing owner when the current state is Awaiting Approval and the current date is past the approval due date.
Drawings	Notification – Drawing Official State	The following document's current state has become official. Title: {DrawingTitle_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the drawing viewers when the current state moves to Official.
Drawings	Change Owner – Affected Drawing Ready for Change	Drawing {DrawingNumber_f} is ready for change Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the change owner when the current change owner is changed and the record is not linked to a change request.

Process	Title	Message	Action Type	Sent To / Sent When
Drawings	Change Owner – Change Overdue	Drawing {DrawingNumber_f} is past due for change Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the change owner when the record is not complete and the current date is past the change due date.
Drawings	Change Owner > Reports to – Change Overdue – Escalation	Drawing {DrawingNumber_f} is past due for change - Escalation Please address this with {ChangeOwner_f} Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the user that the change owner reports to when the record is not complete and the current date is 7 days past the due date.
Drawings	External Supplier Contacts – Drawing Official State	The following drawing has been shared with your company. Title: {DrawingTitle_f} Change Description: {ChangeDescription_f} Open the link below to access this drawing.	Assignment	Sent to the External Supplier role when the drawing becomes official and the Share With All Suppliers field is true.
Drawings	External Supplier Role – Drawing Official State	The following drawing has been shared with your company. Title: {DrawingTitle_f} Change Description: {ChangeDescription_f} Open the link below to access this drawing.	Assignment	Sent to the External Supplier contacts when the drawing becomes official and the Share With These Suppliers field is populated.

Process	Title	Message	Action Type	Sent To / Sent When
Drawings	Owners Supervisor – Approver Escalation	Drawing {DrawingNumber_f} is past due for change - Please address with the Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the drawing owner's supervisor when the current date is Awaiting Approval and the current date is 7 days past the due date.
Drawings	Approvers – Awaiting Approval	The following drawing is ready for approval, please approve or reject the change by {ApprovalDueDate_f}. Title: {DrawingTitle_f} Owner: {Owner_f} Change Description: {ChangeDescription_f}	Approval	Sent to approvers when the drawing is ready for approval.
Manufacturing Documents	Owner – Approval Rejected	The following document's approval has been rejected. Please review the comments from the approvers, make the necessary changes and then re-submit the document for approval. Item: {Item_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the document owner when the state becomes Approval Rejected.
Manufacturing Documents	Owner – Approval Approved	The following document's approval has been approved. This is just a notification of the approval. Item: {Item_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the document owner when the record is approved.

Process	Title	Message	Action Type	Sent To / Sent When
Manufacturing Documents	Owner – Approver Escalation	The approval for the following document's is past due. This is just a notification that the approval is past due. To view the approvers who have not yet approved or rejected the current change, please view the document's details. Item: {Item_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the document owner when the record requires approval and the current date is beyond the due date.
Manufacturing Documents	Owner – Requires Review	The following document requires review. Please review the document and start a new change if changes are required or move the state back to official if no changes are required. If the document no longer applies, then move the state of the document to Obsolete.	Assignment	Sent to the document owner when the state moves to Requires Review.
Manufacturing Documents	Skip Lot Review	A Manufacturing Document that has recently been moved to Approval has broken some Skip Lot rules. The owners of the Skip Lot rules have been notified and they'll need to correct. Once corrected the Manufacturing Document will need to be moved to Awaiting Approval. Item: {Item_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the document owner when the current state moves to Skip Lot Review.
Manufacturing Documents	Change Owner – Affected Document Ready for Change	Manufacturing Document {ManufacturingDocumentNumber_f} is ready for change Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the change owner when the current change owner is changed and the record is not linked to a change request.

Process	Title	Message	Action Type	Sent To / Sent When
Manufacturing Documents	Change Owner – Change Overdue	Manufacturing Document {ManufacturingDocumentNumber_f} is past due for change Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the change owner when the record is not complete and the current date is past the due date.
Manufacturing Documents	Change Owner > Reports to – Change Overdue – Escalation	Manufacturing Document {ManufacturingDocumentNumber_f} is past due for change - Escalation Please address this with {ChangeOwner_f} Reason: {ReasonforChange_f} Due date: {ChangeDueDate_f}	Assignment	Sent to the user that the change owner reports to when the record is not complete and the current date is 7 days past the due date.
Manufacturing Document	Owner - Draft Created from New Mfg Document Request	The following draft Manufacturing Document was created as a result of a New Mfg Document Request Item: {Item_f} Change Description: {ChangeDescription_f}	Assignment	Sent to the Owner when the record was created as a result of a new manufacturing document request.
Manufacturing Document	Rejected: Owner - Obsoletion Approval Rejected	The following manufacturing document's obsoletion approval has been rejected. Please review the comments from the approvers, make the necessary changes and then re-submit the manufacturing document for obsoletion approval. Item: {Item_f} Change Description: {ChangeDescription_f} Reason for Obsoleting: {ReasonforObsoleting_f}	Assignment	Sent to the Owner when the current state changes from Awaiting Obsoletion Approval to Official.

Process	Title	Message	Action Type	Sent To / Sent When
Manufacturing Documents	Approvers – Awaiting Approval	The following document is ready for approval, please approve or reject the change by {ApprovalDueDate_f}. Item: {Item_f} Owner: {Owner_f} Change Description: {ChangeDescription_f}	Approval	Sent to approvers when the document is ready for approval.
PPAP Submissions	Customer Has Not Approved PPAP	PPAP {PPAPSubmissionNumber_f} for item {Item_f} belonging to customer {Customer_f} is past due. The customer was expected to approve this PPAP on {CustomerApprovalTargetDate_f}.	Assignment	Sent to the PPAP submission owner when the customer has not approved the PPAP and the current date is past the customer target approval date.
PPAP Submissions	Owner – Approval Rejected	The following PPAP Submission's approval has been rejected. Please review the comments from the approvers, make the necessary changes and then re-submit the PPAP Submission for approval.	Assignment	Sent to the owner when the current state moves to Approval Rejected.
PPAP Submissions	Customer Has Not Approved PPAP – Escalation	The following PPAP Submission has not been approved by the customer and no action has been taken to address this. Please work with the PPAP owner to address this situation. Item: {Item_f} Manufacturing Document: {Manufacturing Document_f}	Assignment	Sent to the owner's supervisor if the customer has not approved the PPAP and the current state is past the customer target approval date.

Process	Title	Message	Action Type	Sent To / Sent When
PPAP Submissions	Approvers – Ready for Approval	The following PPAP Submission is ready for approval, please approve or reject the change Item: {Item_f} Manufacturing Document: {ManufacturingDocument_f} Notes: {Notes_f}	Approval	Sent to the approvers when the current state moves to Ready for Approval.

Chapter 8

Metrics and Reports

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Introduction to Metrics and Reports

The QMS system includes reporting and metric features that let you analyze the data in each process, measuring efficiency and effectiveness. The metrics and reports available differ between each process.

Report are generated within each process, either from the search screen or the detail screen. Metrics and key process indicators (KPIs) are gadgets that can be placed on one of your dashboards.

See the User Interface user guide to learn how to access reports, metrics, and KPIs.

Reports

Pre-set reports have been set up to be pulled on a process by process basis, though not every process has a pre-set report. Certain reports require additional parameters in order to be previewed. The parameters are listed on the right side of the preview window. If a report requires parameters, then this pane will automatically appear. Once you have selected the desired parameters, click the Preview button to see the report preview.

Below is a table that describes each report available in the APQP module. In addition to title and description, the table indicates which process each report comes from and whether it is pulled from the search screen or detail screen. Lastly, if the report requires specific parameters in order to be generated properly, a description of those parameters is included below that report. See the User Interface user guide to learn more about reports.

Process	Pulls From	Title	Description
Sample Sizes	Detail Screen	Audit Trail – Sample Sizes	Provides a path of how the record has progressed over time with changes (who, what, and when).
Unit of Measures	Detail Screen	Audit Trail – Unit of Measures	Provides a path of how the record has progressed over time with changes (who, what, and when).
Process Symbols	Detail Screen	Audit Trail – Process Symbols	Provides a path of how the record has progressed over time with changes (who, what, and when).
Special Symbols	Detail Screen	Audit Trail – Special Symbols	Provides a path of how the record has progressed over time with changes (who, what, and when).
Drawing Types	Detail Screen	Audit Trail – Drawing Types	Provides a path of how the record has progressed over time with changes (who, what, and when).
Item Types	Detail Screen	Audit Trail – Item Types	Provides a path of how the record has progressed over time with changes (who, what, and when).

Process	Pulls From	Title	Description
Item Groups	Detail Screen	Audit Trail – Item Groups	Provides a path of how the record has progressed over time with changes (who, what, and when).
Product Lines	Detail Screen	Audit Trail – Product Lines	Provides a path of how the record has progressed over time with changes (who, what, and when).
Reaction Plans	Detail Screen	Audit Trail – Reaction Plans	Provides a path of how the record has progressed over time with changes (who, what, and when).
Project Identification Question DFMEA	Detail Screen	Audit Trail – Project Identification Question DFMEA	Provides a path of how the record has progressed over time with changes (who, what, and when).
Project Identification Question PFMEA	Detail Screen	Audit Trail – Project Identification Question PFMEA	Provides a path of how the record has progressed over time with changes (who, what, and when).
Project Identification Question FMEA-MSR	Detail Screen	Audit Trail – Project Identification Question FMEA-MSR	Provides a path of how the record has progressed over time with changes (who, what, and when).
DFMEA Control Methods	Detail Screen	Audit Trail – DFMEA Control Methods	Provides a path of how the record has progressed over time with changes (who, what, and when).
PFMEA Control Methods	Detail Screen	Audit Trail – Control Methods	Provides a path of how the record has progressed over time with changes (who, what, and when).
FMEA-MSR Monitoring Control Methods	Detail Screen	Audit Trail – FMEA-MSR Control Methods	Provides a path of how the record has progressed over time with changes (who, what, and when).
Specification Categories	Detail Screen	Audit Trail – Specification Categories	Provides a path of how the record has progressed over time with changes (who, what, and when).
Specification Names	Detail Screen	Audit Trail – Specification Names	Provides a path of how the record has progressed over time with changes (who, what, and when).
Specification Date Ranges	Detail Screen	Audit Trail – Specification Date Ranges	Provides a path of how the record has progressed over time with changes (who, what, and when).
Inspection Types	Detail Screen	Audit Trail – Inspection Types	Provides a path of how the record has progressed over time with changes (who, what, and when).
Inspection Stations	Detail Screen	Audit Trail – Inspection Stations	Provides a path of how the record has progressed over time with changes (who, what, and when).

Process	Pulls From	Title	Description
FMEA-MSR System Responses	Detail Screen	Audit Trail – FMEA-MSR System Responses	Provides a path of how the record has progressed over time with changes (who, what, and when).
PPAP Requirement Status	Detail Screen	Audit Trail – PPAP Requirement Status	Provides a path of how the record has progressed over time with changes (who, what, and when).
PPAP Requirements	Detail Screen	Audit Trail – PPAP Requirements	Provides a path of how the record has progressed over time with changes (who, what, and when).
PPAP Submission Requirement Sets	Detail Screen	Audit Trail – PPAP Submission Requirement Sets	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Severity Criteria	Detail Screen	Audit Trail – Design FMEA Severity Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Occurrence Criteria	Detail Screen	Audit Trail – Design FMEA Occurrence Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Detection Criteria	Detail Screen	Audit Trail – Design FMEA Detection Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Occurrence Zone	Detail Screen	Audit Trail – Design FMEA Occurrence Zone	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Detection Zone	Detail Screen	Audit Trail – Design FMEA Detection Zone	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Priority Levels	Detail Screen	Audit Trail – Design FMEA Priority Levels	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Priority Levels	Detail Screen & Search Screen	Design FMEA Risk Limiting Method Setup	Displays the occurrence zone, detection zone, and priority zone tables that are used to determine the design FMEA risk limiting method.
Process FMEA Severity Criteria	Detail Screen	Audit Trail – Process FMEA Severity Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).
Process FMEA Occurrence Criteria	Detail Screen	Audit Trail – Process FMEA Occurrence Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).
Process FMEA Detection Criteria	Detail Screen	Audit Trail – Process FMEA Detection Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).

Process	Pulls From	Title	Description
Process Risk Priority Levels	Detail Screen	Audit Trail – Process Risk Priority Levels	Provides a path of how the record has progressed over time with changes (who, what, and when).
Process FMEA Occurrence Zone	Detail Screen	Audit Trail – Process FMEA Occurrence Zone	Provides a path of how the record has progressed over time with changes (who, what, and when).
Design FMEA Detection Zone; Process FMEA Occurrence Zone; Process FMEA Detection Zone; Process FMEA Priority Levels	Detail Screen & Search Screen	Process FMEA Risk Limiting Method Setup	Displays the occurrence zone, detection zone, and priority zone tables that are used to determine the process FMEA risk limiting method.
Process FMEA Detection Zone	Detail Screen	Audit Trail – Process FMEA Detection Zone	Provides a path of how the record has progressed over time with changes (who, what, and when).
FMEA-MSR Frequency Criteria	Detail Screen	Audit Trail – FMEA-MSR Frequency Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).
FMEA-MSR Monitoring Criteria	Detail Screen	Audit Trail – FMEA-MSR Monitoring Criteria	Provides a path of how the record has progressed over time with changes (who, what, and when).
FMEA Action Priority	Detail Screen	Audit Trail – FMEA Action Priority	Provides a path of how the record has progressed over time with changes (who, what, and when).
FMEA-MSR Action Priority	Detail Screen	Audit Trail – FMEA-MSR Action Priority	Provides a path of how the record has progressed over time with changes (who, what, and when).
DFMEA Systems Library	Detail Screen	Audit Trail – DFMEA Systems Library	Provides a path of how the record has progressed over time with changes (who, what, and when).
Processes	Detail Screen	Audit Trail – Processes	Provides a path of how the record has progressed over time with changes (who, what, and when).
Processes	Search/Detail Screen	Management System Standard Coverage	Provides a report by Management Standards that shows which process support the standard.
Processes	Search/Detail Screen	Process Audit Coverage	Displays each process for a selected site and whether or not the process has been audited in the last 12 months from the current date.

Process	Pulls From	Title	Description
Processes	Detail Screen	Process Card	Displays the details of a process in a convenient card format.
Processes	Detail Screen	Process Turtle Diagram	Displays the details of a process in a turtle diagram format. Typically the turtle diagram is the starting point for conducting a process-based audit.
Library Specifications	Detail Screen	Audit Trail – Library Specifications	Provides a path of how the record has progressed over time with changes (who, what, and when).
Control Library	Detail Screen	Audit Trail – Library Controls	Provides a path of how the record has progressed over time with changes (who, what, and when).
DFMEA Structural Analysis Library	Detail Screen	Audit Trail – DFMEA Structural Analysis Library	Provides a path of how the record has progressed over time with changes (who, what, and when).
DFMEA Failure Analysis Library	Detail Screen	Audit Trail – DFMEA Failure Analysis Library	Provides a path of how the record has progressed over time with changes (who, what, and when).
DFMEA Causes Library	Detail Screen	Audit Trail – DFMEA Causes Library	Provides a path of how the record has progressed over time with changes (who, what, and when).
PFMEA Structural Analysis Library	Detail Screen	Audit Trail – DFMEA Causes Library	Provides a path of how the record has progressed over time with changes (who, what, and when).
PFMEA Failure Analysis Library	Detail Screen	Audit Trail – Library Process FMEA	Provides a path of how the record has progressed over time with changes (who, what, and when).
PFMEA Causes Library	Detail Screen	Audit Trail – PFMEA Causes Library	Provides a path of how the record has progressed over time with changes (who, what, and when).
Family Templates	Detail Screen	Audit Trail – Family Templates	Provides a path of how the record has progressed over time with changes (who, what, and when).
Family Templates	Detail Screen	Family Template Differences	Shows the differences between the family template and the manufacturing documents created from this template.
Family Templates	Detail Screen	Uncontrolled Specification	Provides a report that shows specifications that are not currently controlled on the control plan.

Process	Pulls From	Title	Description
Drawings	Detail Screen	Audit Trail – Drawings	Provides a path of how the record has progressed over time with changes (who, what, and when).
Items	Detail Screen	Audit Trail – Items	Provides a path of how the record has progressed over time with changes (who, what, and when).
Manufacturing Documents	Detail Screen	AIAG Format Document Set	Provides a report with the process flow, PFMEA, and control plan in one report.
Manufacturing Documents	Detail Screen	AIAG & VDA Design FMEA	Displays the design FMEA in the AIAG & VDA format.
Manufacturing Documents	Detail Screen	AIAG & VDA DFMEA Software View	Displays the design FMEA in the AIAG & VDA format, software view.
Manufacturing Documents	Detail Screen	AIAG & VDA FMEA-MSR Software View	Displays DFMEA with the inclusion of a summary of the associated Supplemental FMEA-MSR Controls and Optimizations for those DFMEA items with high severity (9 or 10) or those specifically linked to an MSR chain.
Manufacturing Documents	Detail Screen	AIAG & VDA FMEA-MSR Stand-Alone	Displays FMEA-MSR results alone without referencing the design failure chain.
Manufacturing Documents	Detail Screen	AIAG & VDA FMEA-MSR Standard Form	Displays DFMEA with the inclusion of the details of the associated Supplemental FMEA-MSR Control and Optimizations for those DFMEA items with high severity (9 or 10) or those specifically linked to an MSR chain.
Manufacturing Documents	Detail Screen	AIAG & VDA PFMEA Software View	Displays the process FMEA in the AIAG & VDA format, software view.
Manufacturing Documents	Detail Screen	AIAIG Format Document Set (4th Edition)	Displays the Process Flow, Process FMEA, and Process Control Plan in the AIAG format for the current Manufacturing Document as one report.
Manufacturing Documents	Detail Screen	Audit Trail – Manufacturing Document	Provides a path of how the record has progressed over time with changes (who, what, and when).

Process	Pulls From	Title	Description
Manufacturing Documents	Detail Screen	Checksheet Report	Provides a report of the items to be controlled at a particular inspection station on the control plan.
Manufacturing Documents	Detail Screen	Command Log	Provides feedback from a selected command so a user can troubleshoot if the command does not populate the record as expected.
Manufacturing Documents	Detail Screen	Design FMEA (4th Edition)	Displays the design FMEA in the 4th edition format.
Manufacturing Documents	Detail Screen	Design FMEA Risk Limiting Method Setup	Shows the setup for the severity versus occurrence and the severity versus detection zones and the associated priority zones.
Manufacturing Documents	Detail Screen	Design Verification Plan and Report	Provides a report of DVP&R set up for the related manufacturing document.
Manufacturing Documents	Detail Screen	Family Template Difference Report	Displays differences between the Family Template and the Manufacturing Document.
Manufacturing Documents	Detail Screen	GM Design FMEA Report (4th Edition)	Provides a design FMEA report using the GM RPL setup.
Manufacturing Documents	Detail Screen	GM Process FMEA Report (4th Edition)	Provides a report using the GM FMEA report with RPL setup.
Manufacturing Documents	Search & Detail Screen	Manufacturing Document Difference Report	Displays differences between the current manufacturing document and the manufacturing document used to create it.
Manufacturing Documents	Detail Screen	Manufacturing Document Process Control Plan Report	Provides an AIAG compliant control plan report.
Manufacturing Documents	Detail Screen	Manufacturing Document Process Flow Report	Provides an AIAG compliant process flow report.
Manufacturing Documents	Detail Screen	Manufacturing Document Process FMEA Report (4th Edition Version)	Provides an AIAG complaint PFMEA report.
Manufacturing Documents	Detail Screen	Manufacturing Document Work Instruction Report	Provides a report showing the work instructions related to the manufacturing document.

Process	Pulls From	Title	Description
Manufacturing Documents	Detail Screen	PQCT Format Document Set	Displays the process quality control in the PQCT format, a format created by Honda.
Manufacturing Documents	Search Screen	Process FMEA Risk Limiting Method Setup	Provides a report that shows the severity and detection zone set up for Risk Limiting Method setup.
Manufacturing Documents	Detail Screen	Specification Report	Provides a report that shows specifications that are controlled on the control plan.
Manufacturing Documents	Detail Screen	Uncontrolled Specification	Provides a report that shows specifications that are not currently controlled on the control plan.
Manufacturing Documents	Detail Screen	VDA Process FMEA	Provides a VDA compliant process FMEA report.
Manufacturing Documents	Detail Screen	VDA Product FMEA	Provides a VDA compliant product FMEA report.
Design Verification Reports	Detail Screen	Audit Trail – Design Verification Reports	Provides a path of how the record has progressed over time with changes (who, what, and when).
PPAP Submissions	Detail Screen	AIAG Part Submission Warrant 4th Edition	Provides a report of the PSW for signing and submission to the customer.
PPAP Submissions	Detail Screen	Audit Trail – PPAP Submissions	Provides a path of how the record has progressed over time with changes (who, what, and when).
PPAP Submissions	Detail Screen	PPAP Submission Coverpage	Provides a cover page for the PPAP submissions report that is used with the PPAP bundle option.

Metrics

Below is a table that describes each metric available in the APQP module. In addition to title and description, the table indicates which process each metric comes from. Lastly, if the metric requires specific parameters in order to be generated properly, a description of those parameters is included below that metric. See the User Interface user guide to learn more about metrics.

Process	Pulls From	Title	Description
Drawings	Gadget	Total Official Drawings	The total number of official drawings in the system.
Drawings	Gadget	Total Official Drawings by Drawing Type	The total number of official drawings grouped by drawing type.

Process	Pulls From	Title	Description
Drawings	Gadget	Total Official Drawings by Site	The total number of official drawings grouped by site.
Manufacturing Document	Gadget	Average Days to Complete Change	The average of the number of days between draft and approved states, divided by how many versions the document has gone through.
Manufacturing Document	Gadget	Maximum Revision Number	The maximum revision number the document has completed.
Manufacturing Document	Gadget	Revision Count	The number of revisions the document has gone through.

KPIs

See the User Interface user guide to learn more about KPIs.

There are no KPIs available for this module.

Chapter 9

Security Settings

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Security Roles

Security roles define how various users access and control different types of processes and data. These roles are then assigned to each user. Some roles are used by many users, while others may only be applied to one or two individuals.

The following security roles apply in the APQP module.

All Roles

This security role is system-controlled. Any security applied to this special system role grants that security access to all users of the system.

APQP Administrator

This security role allows you to add, edit, and remove records in any process in the APQP module.

APQP Champion

This security role allows you to add records in any process in the APQP module.

APQP Library Maintenance

This security role allows you to add, edit, and remove records in Specifications, Library FMEA, and Library Controls.

APQP Maintenance

This security role allows you to add, edit, and remove specification names, process symbols, special symbols, FMEA detection/occurrence/severity ratings, frequency events, drawing types, and control methods. Besides being able to add and remove items for those processes, you can also view and edit all of the fields of the processes noted. Typically this maintenance account is only given to one or two individuals who are responsible for setting up this data for others to use.

APQP Navigation

This security role allows you to navigate to the APQP module.

Connect Maintenance

This security role allows you to add and remove company types. Besides being able to add and remove items for those processes, you can also view and edit all of the fields of the processes noted. Typically this maintenance account is only given to one or two individuals responsible for setting up this data for others to use.

Design Engineer

This role allows you to add and adjust records related to Manufacturing Documents, Family Templates, and Design Failure Mode Effects Analysis.

Document Maintenance

This security role allows you to add and remove document types, drawing types, document templates, and record types, as well as add review frequencies. Besides being able to add and remove items for those processes, you can also view and edit all of the fields of the processes noted. Typically this maintenance account is only given to one or two individuals responsible for setting up this data for others to use.

Documents Administrator

This security role allows you to add, edit, and remove records in any process in the Document Control module.

Documents Champion

This security role allows you to add records in any process in the Document Control module.

Drawing Add/Edit

This security role allows you to add and edit new Drawings and Specifications. Upon adding a drawing, you become the drawing owner by default. The drawing owner and the Drawing Administrator security role are the only users who can edit the drawing.

Drawing Administrator

This security role allows you to add new drawings and drawing features. The drawing administrator also has the ability to edit any drawing as if he or she were the owner of the drawing owner.

Equipment Add

This security role allows you to add new and edit equipment.

Equipment Administrator

This security role allows you to add, edit, and remove records in any process in the Equipment module.

Equipment Champion

This security role allows you to add records in any process in the Equipment module.

Equipment Maintenance

This security role allows you to add, edit, and remove equipment types, equipment sub-types, equipment status, equipment cavity, equipment downtime logs, and asset meters. Typically this maintenance account is only given to one or two individuals responsible for setting up this data for others to use.

Equipment Maintenance Administrator

This security role allows you to add and remove maintenance work order types, maintenance fault codes, and maintenance teams. The Worksheet Administrator is also assigned as an approver to maintenance work orders that require approval.

Equipment Navigation

This security role allows you to navigate to the Equipment module.

Equipment Type Maintenance

Allows users to maintain equipment types and equipment sub-types.

Family Template Maintenance

This security role allows you to add, edit, and remove records in processes related to family templates. This includes family templates, family template process flow, family template process FMEA, family template specifications, family template process control plan, and more.

Gauge Add/Edit

This security role allows you to add new and edit gauges.

Gauge Administrator

This security role allows you to add new, edit, and remove gauges, gauge calibrations, and gauge R&R studies.

Gauge Champion

This security role allows you to add records in any process in the Gauge module.

Gauge Maintenance

This security role allows you to add, edit, and remove gauge types, gauge sub-types, gauge sub-type calibration standards, and gauge statuses. Typically, this maintenance account is only given to one or two individuals responsible for setting up this data for others to use.

Gauge Navigation

This security role allows you to navigate to the Gauge module.

Inspection & SPC Administrator

This security role allows you to add records in any process in the Inspection & SPC module.

Items Maintenance

This security role allows you to add, edit, and remove items and item types.

Manufacturing Documents Add/Edit

This security role allows you to add and edit the following data based on work flow security rules: manufacturing documents, manufacturing documents BOM, manufacturing documents process control plan, manufacturing documents process flow, manufacturing documents process FMEA, manufacturing document specifications, and manufacturing document work instructions.

Manufacturing Documents Maintenance

This security role allows you to add, edit, and remove the following data: manufacturing documents, manufacturing documents BOM, manufacturing documents process control plan, manufacturing documents process flow, manufacturing documents process FMEA, manufacturing document specifications, and manufacturing document work instructions.

Meetings Add/Edit

This security role allows you to add and edit meetings.

PO Item Log Maintenance

This security role allows you to add new, edit, and remove PO item logs.

PPAP Maintenance

This security role allows you to add, edit, and remove the following data: PPAP Submissions, PPAP Submission Levels, PPAP Requirements, PPAP Requirement Status.

PPAP Submissions Add/Edit

This security role allows you to add and edit PPAP Submissions based on work flow security rules.

Quality Engineer

This role allows you to add and adjust records related to Manufacturing Documents, Family Templates, and Process Failure Mode Effects Analysis.

Quality Manager

This role allows you to add and adjust records related to Manufacturing Documents, Family Templates, and Process and Design Failure Mode Effects Analysis.

System Administrator

This maintenance security role allows you to add and remove security roles, domains, entities, sites, locations, generalized code types and codes, product lines, item groups, item types, review frequencies, company types, cost accounts, and units of measure. Besides being able to add and remove items, you can also view and edit all of the fields for the processes noted. Typically this maintenance security role is only given to one or two individuals who are responsible for setting up the data for others to use.

System View

System view is a generic role that most users and module use. This role allows you to view (but in most cases not edit) much of the non-sensitive data in the system. being able to view the data is still subject to you having the ability to navigate to, and open, a process.

Every user should have this security role because it allows users to view non-secure data for most processes. For users who typically only have to approve data, but do not have to add or edit data, this System View role is what they need.

Process Security Roles

Each list below displays the security roles that provide you with permissions to add items for the indicated individual process.

Frequency Event

- APQP Maintenance

Sample Sizes

- APQP Administrator
- APQP Champion
- APQP Maintenance

Unit of Measures

- APQP Administrator
- System Administrator

Process Symbols

- APQP Administrator
- APQP Champion
- APQP Maintenance

Special Symbols

- APQP Administrator
- APQP Champion
- APQP Maintenance

Drawing Types

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Document Maintenance

- Documents Administrator
- Drawing Administrator

Item Types

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Items Maintenance
- Systems Administrator

Item Groups

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Items Maintenance
- RFQ Administrator
- RFQ Planner
- System Administrator

Product Lines

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Items Maintenance
- System Administrator

Reaction Plans

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Quality Engineer

AQL Level

- APQP Administrator
- APQP Champion
- APQP Maintenance

AQL

- APQP Administrator
- APQP Champion
- APQP Maintenance

Project Identification Question DFMEA

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

Project Identification Question PFMEA

- APQP Administrator
- APQP Champion
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance
- Process Engineer

Project Identification Question FMEA-MSR

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

PFMEA Control Methods

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance
- Process Engineer

FMEA-MSR Monitoring Control Methods

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

Specification Categories

- APQP Administrator
- APQP Champion
- APQP Maintenance

Specification Names

- APQP Administrator
- APQP Champion
- APQP Maintenance

Specification Date Ranges

- APQP Administrator
- APQP Champion
- APQP Maintenance

Inspection Types

- APQP Maintenance
- APQP Administrator
- APQP Champion
- Inspection & SPC Administrator
- Inspection & SPC Champion

Inspection Stations

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Inspection & SPC Administrator
- Inspection & SPC Champion

FMEA-MSR System Responses

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

PPAP Requirement Status

- APQP Administrator
- APQP Champion
- APQP Library Maintenance
- APQP Maintenance
- PPAP Maintenance

PPAP Submission Requirement Sets

- APQP Administrator
- APQP Champion
- PPAP Maintenance

PPAP Requirements

- APQP Administrator
- APQP Champion
- APQP Maintenance
- PPAP Maintenance

Design FMEA Occurrence Zone

- APQP Administrator
- APQP Champion
- APQP Maintenance

Design FMEA Detection Zone

- APQP Administrator
- APQP Champion
- APQP Maintenance

Design FMEA Priority Levels

- APQP Administrator
- APQP Champion
- APQP Maintenance

Process FMEA Priority Levels

- APQP Administrator
- APQP Champion
- APQP Maintenance

Process FMEA Occurrence Zone

- APQP Administrator
- APQP Champion
- APQP Maintenance

Process FMEA Detection Zone

- APQP Administrator
- APQP Champion
- APQP Maintenance

Process Risk Priority Levels

- APQP Administrator
- APQP Champion
- APQP Maintenance

DFMEA Control Methods

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

DFMEA Systems Library

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

Processes

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Auditing Administrator
- Auditing Champion
- Auditing Maintenance

Library Specifications

- APQP Administrator
- APQP Champion
- APQP Library Maintenance
- APQP Maintenance
- Drawing Add/Edit
- Drawing Administrator

Control Library

- APQP Administrator
- APQP Champion
- APQP Library Maintenance
- APQP Maintenance
- Quality Engineer

DFMEA Structural Analysis Library

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

DFMEA Failure Analysis Library

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

DFMEA Causes Library

- APQP Administrator
- APQP Champion
- Design Engineer
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance

PFMEA Structural Analysis Library

- APQP Administrator
- APQP Champion
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance
- Process Engineer

PFMEA Failure Analysis Library

- APQP Administrator
- APQP Champion
- APQP Library Maintenance
- APQP Maintenance
- Process Engineer

PFMEA Causes Library

- APQP Administrator
- APQP Champion
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance
- Process Engineer

Family Templates

- APQP Administrator
- APQP Champion
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance
- Process Engineer

Drawings

- APQP Administrator
- APQP Champion
- Documents Administrator
- Drawing Add/Edit
- Drawing Administrator

Items

- APQP Administrator
- APQP Champion
- Drawing Add/Edit
- Drawing Administrator
- Items Maintenance
- RFQ Administrator

Manufacturing Documents

- APQP Administrator
- APQP Champion
- Manufacturing Documents Add/Edit
- Manufacturing Documents Maintenance
- Quality Engineer
- Quality Manager

Design Verification Reports

- APQP Administrator
- APQP Champion
- APQP Maintenance
- Manufacturing Documents Add/Edit

PPAP Submissions

- APQP Administrator
- APQP Champion
- PPAP Maintenance
- PPAP Submissions Add/Edit
- Quality Engineer
- Quality Manager

State Change Security

As you complete tasks in the system, changes occur based on your activities (such as changing a record's state) and when other events occur (such as a specific amount of time passing). The changes based on your activities are called **actions**, while the event-based changes are called **transactions**. The main difference between the two is the initiator: actions are performed by users, and transactions are managed by the system.

Each system change may depend on a number of factors, including where you are in the system, who is involved, which fields are populated, and more. It is important to know the actions and transactions for each process because these affect your ability to complete a task.

The state change security for each process is separated into two sections:

1. **Security.** Which users (by security role or field role) can change the state of a record. Field roles are indicated with an asterisk*.
2. **Transactions.** The conditions that must be met to initiate a transaction.

Unit of Measures

Transitions	APQP Administrator	System Administrator
Active >> Inactive	✓	✓
Inactive >> Active	✓	✓

Process Symbols

Transitions	APQP Administrator	APQP Maintenance
Active >> Inactive	✓	✓
Inactive >> Active	✓	✓

Special Symbols

Transitions	APQP Administrator	APQP Maintenance
Active >> Inactive	✓	✓
Inactive >> Active	✓	✓

Drawing Types

Transitions	APQP Administrator	Drawing Administrator
Active >> Inactive	✓	✓
Inactive >> Active	✓	✓

Item Types

Transactions	APQP Administrator	Items Maintenance	System Administrator
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

Item Groups

Transitions	APQP Administrator	RFQ Administrator	System Administrator
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

Product Lines

Transactions	APQP Administrator	APQP Maintenance	System Administrator
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

Project Identification Question DFMEA

Transitions	APQP Administrator	APQP Champion	Design Engineer	Manufacturing Documents Add/Edit	Manufacturing Documents Maintenance
Active >> Inactive	✓	✓	✓	✓	✓
Inactive >> Active	✓	✓	✓	✓	✓

Project Identification Question PFMEA

Transitions	APQP Administrator	APQP Champion	Manufacturing Documents Add/Edit	Manufacturing Documents Maintenance	Process Engineer
Active >> Inactive	✓	✓	✓	✓	✓
Inactive >> Active	✓	✓	✓	✓	✓

Project Identification Question FMEA-MSR

Transitions	APQP Administrator	APQP Champion	Design Engineer	Manufacturing Documents Add/Edit	Manufacturing Documents Maintenance
Active >> Inactive	✓	✓	✓	✓	✓
Inactive >> Active	✓	✓	✓	✓	✓

Specification Names

Transitions	APQP Administrator	APQP Maintenance
Active >> Inactive	✓	✓
Inactive >> Active	✓	✓

FMEA-MSR System Responses

Transitions	APQP Administrator	APQP Champion	Design Engineer
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

PPAP Submission Requirement Sets

Transitions	APQP Administrator	PPAP Maintenance
Active >> Inactive	✓	✓
Inactive >> Active	✓	✓

Design Verification Reports

Transitions	APQP Administrator	APQP Champion	APQP Maintenance	Manufacturing Documents Add/Edit
Complete >> Draft	✓	X	✓	✓
Draft >> Complete	✓	✓	✓	✓

DFMEA Systems Library

Transitions	APQP Administrator	Design Engineer
Active >> Inactive	✓	✓
Inactive >> Active	✓	✓

Processes

Transitions	APQP Administrator	APQP Champion	APQP Maintenance	Auditing Administrator	Auditing Champion	Auditing Maintenance	Change Coordinator*	Change Owner*
Approval Rejected >> Ready for Approval	✓	X	✓	✓	X	✓	✓	✓
Draft >> Ready for Approval	✓	✓	✓	✓	✓	✓	✓	✓

Transitions	APQP Administrator	APQP Champion	APQP Maintenance	Auditing Administrator	Auditing Champion	Auditing Maintenance	Change Coordinator*	Change Owner*
Obsolete >> Ready for Approval	✓	X	X	✓	X	X	✓	X
Ready for Approval >> Draft	✓	X	✓	✓	X	✓	✓	✓

Library Specifications

Transitions	APQP Administrator	APQP Library Maintenance	APQP Maintenance	Drawing Administrator
Active >> Inactive	✓	✓	✓	✓
Inactive >> Active	✓	✓	✓	✓

Control Library

Transitions	APQP Administrator	APQP Library Maintenance	APQP Maintenance
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

DFMEA Structural Analysis Library

Transitions	APQP Administrator	APQP Champion	Design Engineer
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

DFMEA Failure Analysis Library

Transitions	APQP Administrator	APQP Champion	Design Engineer
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

DFMEA Causes Library

Transitions	APQP Administrator	APQP Champion	Design Engineer
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

PFMEA Structural Analysis Library

Transitions	APQP Administrator	APQP Champion	Process Engineer
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

PFMEA Failure Analysis Library

Transitions	APQP Administrator	APQP Champion	Process Engineer
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

PFMEA Causes Library

Transitions	APQP Administrator	APQP Champion	Process Engineer
Active >> Inactive	✓	✓	✓
Inactive >> Active	✓	✓	✓

Family Template

Transitions	APQP Administrator	Manufacturing Documents Maintenance	Owner*
Active >> Draft	✓	✓	✓
Active >> Inactive	✓	✓	✓
Approval Rejected >> Awaiting Approval	✓	✓	✓
Awaiting Approval >> Draft	✓	✓	✓
Draft >> Awaiting Approval	✓	✓	✓
Inactive >> Draft	✓	✓	✓

Drawings

Transitions	APQP Administrator	Change Owner*	Drawing Add/Edit	Drawing Administrator	Owner*
Approval Rejected >> Awaiting Approval	✓	✓	✓	✓	✓
Awaiting Approval >> Draft	✓	X	✓	✓	✓
Draft >> Awaiting Approval	✓	✓	✓	✓	✓

Manufacturing Documents

Transitions	APQP Administrator	Change Owner*	Manufacturing Documents Add/Edit	Manufacturing Documents Maintenance	Quality Engineer	Quality Manager
Approval Rejected >> Awaiting Approval	✓	X	✓	✓	✓	✓
Approval Rejected >> Draft	✓	✓	✓	✓	✓	✓
Awaiting Approval >> Draft	✓	✓	✓	✓	✓	✓
Draft >> Ready for Approval	✓	✓	✓	✓	✓	✓
Ready for Approval >> Draft	✓	✓	✓	✓	✓	✓
Skip Lot Review >> Awaiting Approval	✓	X	✓	✓	✓	✓
Skip Lot Review >> Draft	✓	X	✓	✓	✓	✓

PPAP Submissions

Transitions	APQP Administrator	PPAP Maintenance	PPAP Submissions Add/Edit	Quality Engineer	Quality Manager
Approval Rejected >> Ready for Approval	✓	✓	✓	✓	✓
Customer Approved >> Obsolete	✓	✓	X	✓	✓
Customer Interim Approval >> Customer Approved	✓	✓	X	✓	✓
Customer Interim Approval >> Customer Rejected	✓	✓	X	✓	✓
Customer Rejected >> Draft	✓	✓	X	✓	✓
Draft >> Ready for Approval	✓	✓	✓	✓	✓
Obsolete >> Customer Approved	✓	✓	X	X	X

Transitions	APQP Administrator	PPAP Maintenance	PPAP Submissions Add/Edit	Quality Engineer	Quality Manager
Submit for Customer Approval >> Submitted for Customer Approval	✓	✓	X	✓	✓
Submitted for Customer Approval >> Customer Approved	✓	✓	X	✓	✓
Submitted for Customer Approval >> Customer Interim Approval	✓	✓	✓	✓	✓
Submitted for Customer Approval >> Customer Rejected	✓	✓	X	✓	✓

Transactions

Drawing Types

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

First Save

Upon the first save, the system links the employee who created the drawing type to the Approvers list.

Site Isn't ITAR Restricted

When the selected site is not ITAR restricted, the ITAR Restricted field is set to FALSE and is hidden.

Reaction Plans

Hide Document Field if No Document Required is true.

The Document Cross-reference field is hidden when the "No Document Required" check box is empty.

DFMEA Control Methods

Detection and Prevention are not null

When either the Detection or Prevention field contains a value other than null, the field "Yes must be selected for Detection and/or Prevention" is hidden.

DFMEA Systems Library

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Site Isn't ITAR Restricted

When the site is not ITAR restricted, the ITAR Restricted field is set to False and hidden.

Processes

Approval Rejected

When the current state changes to Approval Rejected, a notification is sent to the Process Owner to notify them that a review of the process is rejected.

Awaiting Effective Date

When the current state changes to Awaiting Effective Date, the following changes occur:

- A notification is sent to the Process Owner to notify them that the approval for the process has been approved.
- The linked Change Order is saved and its state is updated to Ready for Release....
- The current Process record is saved.
- The linked Change Item's state is updated to Complete.

Awaiting Obsoletion Approval Rejected

When the current state changes from Awaiting Obsoleting Approval to Official, a notification is sent to the Process Owner to notify them that the obsoletion approval for the process has been rejected.

Change Due Date Changed

When the Process record's overall change due date is changed, the system updates the change due date on the linked change items.

Change Order is NULL

When no change orders are linked to the process, the Update from Change Order Effective Date field is hidden.

Change Owner Changed

When the Change Owner is changed and the current state is Draft, the Change Owner is updated on the linked change items.

Additionally, a notification is sent to the new Change Owner informing them that the process is ready for change.

Change Request is NULL

When no change requests are linked to the process, the Change Coordinator field is hidden.

Created from Process Request

When the current record is created from a new process request, the process request is updated.

Current Date 7 Days Greater or Equal to Effective Date and Not Approved

When the current state is Ready for Approval and the current date is seven days past or equal to the effective date, a notification is sent to the user to whom the Process Owner reports, notifying them that the process is late and requires approval.

Current Date Greater Than Effective Date and Not Approved

When the current state is Ready for Approval and the current date is one day past or equal to the effective date, a notification is sent to the Process Owner, notifying them that the process is late and requires approval.

Current Date Greater Than or Equal to Effective Date

When the current state is Awaiting Effective Date and the Effective Date field is before or equal to the current date, the system updates the current state to Official.

If the Effective Date field is blank, then once the current state is changed to Awaiting Effective Date, it automatically transitions to Official.

Current Date Greater Than or Equal to Next Review Due

When the current state is Official and the Next Review Due is before or equal to the current date, the system selects the "Requires Review" check box.

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Draft

When a new version is created, the previous version's state becomes Official – Draft Pending and the current version's state becomes Draft.

Draft Created from New Process Request

When a new Process record is created from a new process request and is in the Draft state, a notification is sent to the Process Owner to notify them that a draft process was created as a result of a new process request.

Draft, No Change Request

When the record is in the Draft state and is not linked to a change request, a notification is sent to the Change Owner to inform them that the process is ready for a change.

First Save

When the process is saved for the first time, the system creates a risk associated with the process for each record in the Risk Library linked to a risk driver that is ultimately linked to the System Driver "Processes".

Note that the system should insert a record if it is not found based on the key match of Title.

List Process FMEA in APQP is False then PFMEA Failure Analysis Library is Not Null

The FMEA Label field is visible if the "List Process in APQP" check box is selected and the PFMEA Failure Analysis Library is null.

Not Completed, No Change Request, 1 Day Past the Change Due Date

The Change Owner receives a notification that the process is past due for a change when the following rules are met:

- The record is not in the Complete state.
- The current date is one day past the change due date.
- The record is not linked to a change request.

Not Completed, No Change Request, 7 Day Past the Change Due Date

The person to whom the Change Owner reports receives a notification that the process is past due for a change when the following rules are true:

- The record is not in the Complete state.
- The current date is seven days past the change due date.
- The record is not linked to a change request.

Obsoletion Fields

When the current state is NOT Obsolete, the following fields are hidden:

- Reason for Obsoleting
- Obsoletion Approval

Official

When the current state changes to Official, the following changes occur:

- The linked change order is saved and can create action notifications.
- The linked change item is updated to the Complete state.
- The Library Specification Process field is updated to the new Official version of the process.

Official – Create Training Event Checkbox is Checked

When the "Create Training Event" check box is selected and the state is changed to Official, the system creates a new training event based on the Progress information.

Process Owner Changed

When the Process Owner field changes and the current state is Draft or Approval Rejected, the Risk Owner field is updated based on the Process Owner.

Processes FMEA Field is Not Null then Processes Control Field is Hidden

The Process Controls field is hidden when the Processes FMEA field is not null.

Ready for Approval

When the current state is Ready for Approval, the system unlinks employees **without** training roles selected in the Authorities field and links employees **with** training roles selected in the Authorities field.

In addition, the process approvers receive a notification when the process is ready for approval.

This action will remain on your action manager until you either approve or reject it.

Requires Review

When the "Flag for Requires Review" check box is selected and review was not previously required, the process owner receives a notification that a review of the process is required.

Responsible Site Changed to non-ITAR Compliant and ITAR Restricted is True

When the site is changed to a non-ITAR compliant site and the ITAR Restricted field is True, the ITAR Site Warning field is hidden.

Responsible Site Isn't ITAR Restricted

When the linked site is not ITAR restricted, the ITAR Restricted field is set to False and hidden.

Review Frequency = None

When the Review Frequency is set to 0, the following fields are hidden:

- Last Review
- Next Review Due
- Review Completed By

State is Obsolete

When the current state is Obsolete, the Process Specifications field is hidden.

Sys: Create Change Order is True

When the current Sys: Create Change Order is changed to True, the system creates a change order for the current process. This only takes place if the process is in the Draft state and already has a change request with no linked change order.

Once the new change order is saved, it can create action notifications.

Training is Not Required

When the "Requires Training" check box is not selected, the Create Training Event field is hidden.

Update From CO is True and Effective Date Doesn't Match CO

When the "Update Effective Date from Change Order" field is set to true and the effective date does not match the effective date from the linked change order, the current record's effective date is set to the linked change order's date.

Library Specifications

Active

When the current state is Active, the system updates the value of the Sample Data Type field based on the value of the Specification Data Type field.

Current User isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Data Type = Date

When the Specification Data Type field is set to Date, the following fields are hidden:

- Customer Unit of Measure
- Lower Limit
- Number of Decimals
- Target
- Unit of Measure
- Upper Limit

Data Type = Logical

When the Specification Data Type field is set to Logical, the following fields are hidden:

- Customer Unit of Measure
- Lower Days
- Lower Limit
- Number of Decimals
- Target
- Unit of measure
- Upper Days
- Upper Limit

Data Type = Numeric

When the Specification Data Type field is set to Numeric, the following fields are hidden:

- Lower Days
- Upper Days

Data Type changed to Date

When the data type changes to Date, the numeric fields are null.

Data Type changed to Logical

When the data type changes to Logical, the numeric and date fields are null.

Data Type changed to Numeric

When the data type changes to Numeric, the date fields are null.

Special Classification Updated

When the special classification is updated, the PFMEA Special Classification and PFMEA Custom Symbol Calculation fields are updated.

Control Library

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Inspect is Unchecked

When the Inspect field is FALSE or NULL, the following fields are hidden:

- Inspection Types
- Inspection Stations

Sampling Technique = AQL and Batch Size

When the Sampling Technique field is set to AQL and Batch Size, the following fields are hidden:

- Sample Size Description
- Sample Size

Sampling Technique = Fixed

When the Sampling Technique field is set to Fixed, the following fields are hidden:

- AQL Table
- AQL Level

Sampling Technique = Other

When the Sampling Technique field is set to Other, the following fields are hidden:

- AQL Level
- AQL Table
- Sample Size
- Sample Size Description

DFMEA Structural Analysis Library

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Hide When Site Does Not Conflict With ITAR

When the linked site's ITAR Restricted field is set to NULL or TRUE, the following fields are hidden:

- Acknowledge ITAR Restricted Change
- ITAR Site Warning

ITAR Restricted Changed

When the ITAR Restricted field is changed, the ITAR Restricted field is updated on the linked DFMEA Functional Analysis Library record.

SIte Isn't ITAR Restricted

When the current site is not ITAR restricted, the ITAR Restricted field is set to False and hidden.

DFMEA Failure Analysis Library

Cause(s) Exist

When the record contains causes, the Occurrence and Detection fields are updated.

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Functionality Analysis Not is Null

When the Next Higher Level-Functional field is not null, the ITAR Restricted field is hidden.

ITAR Restricted Changed

When the ITAR restriction is changed, the ITAR restrictions are updated on the linked causes.

DFMEA Causes Library

Controls Added

When controls are added to the Controls field, the following changes occur:

- The Detection level is updated
- The Occurrence level is updated
- A save is initiated on the linked DFMEA Failure Analysis

Controls Have Been Added

When a control is added to the Controls field, the field "It is recommended to have at least one control so Best Occurrence and Best Detection levels are assessed" is hidden.

ITAR Restricted Changed

When the ITAR Restricted field is changed, the ITAR restrictions on the linked Controls records are updated.

PFMEA Structural Analysis Library

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

ITAR Restricted Changed

When the ITAR Restricted field value changes, the ITAR restrictions are updated on the linked functional analysis.

PFMEA Failure Analysis Library

Cause(s) Exist

When the record contains causes, the Detection and Occurrence fields are updated.

Changes in Occurrence, Detection, Severity

When a change occurs in the Occurrence, Detection, or Severity fields, the system calculates the priority level and adjusts the coloring in the Priority Level field accordingly.

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Functional Analysis Not is Null

When the Process Item System/Subsystem - Structural field is populated, the ITAR Restricted field is hidden.

Green

When the Sys: Priority Levels color is green, the Priority Level field's background color is set.

ITAR Restricted Changed

When the ITAR Restricted field value changes, the ITAR restrictions are updated on the linked PFMEA Causes Library.

Process Item System/Subsystem – Structural is Null

When the Process Item System/Subsystem – Structural field is empty, the following fields are hidden:

- Function of Process Item System, Subsystem – Your Plant
- Function of Process Item System, Subsystem – Ship To Plant
- Function of Process Item System, Subsystem – End User
- Failure Effect – End User
- Failure Effect – Ship to Plant
- Function of Process Step & Product Characteristic
- Function of Process Work Element – Functional

Process Step Name was Changed and is Not Equal to the Functional Value Above

When the Process Step Name – Structural field in the PFMEA Functional Analysis Library is changed and not null, the field is updated to match the field of the same name on the Failure Analysis.

Process Work Element – Structural is Null

The Process Work Element – Structural field is hidden when empty.

Red

When the Sys: Priority Levels color is red, the Priority Level field's background color is set.

Requirement Not Updated, Special Classification Updated

When the Requirement field is maintained and the Special Classification field is updated, the custom symbol is calculated.

Requirement Updated, Linked Special Classification is not Null

The Special Classification field is updated when the following conditions are met:

- The Requirement field's value is changed
- The linked Library Specification record's Special Classification field is not null

Requirement Updated, No New Special Classification, No Old Custom Special Classification

The Special Classification field is updated when the following conditions are met:

- The Requirement field is updated
- The new requirement's Special Classification field is null
- The old record's Special Classification field is equal to the old linked Requirements Special Classification field

Yellow

When the Sys: Priority Levels color is yellow, the Priority Level field's background color is set.

PFMEA Causes Library

Controls Are Added

When a control is added, the Occurrence and Detection fields are updated in the following processes:

- PFMEA Failure Analysis Library
- PFMEA Causes Library

Failure Analysis Library: Process Item System/Subsystem – Structural is Null

When the Process Item System/Subsystem – Structural field is empty, the Applicable Work Element field is hidden.

Hide Label

The Occurrence and Detection levels Label field is hidden before the first record save, or when detection controls exist.

ITAR Restricted Changed

When the ITAR Restricted field is changed, the ITAR restrictions on the linked PFMEA Controls Library record are updated.

Family Templates

Active

When the current state changes to Active, a notification is sent to the Owner to inform them that approval for the template has been approved.

Approval Rejected

When the current state changes to Approval Rejected, a notification is sent to the Owner to inform them that approval for the template has been rejected.

Auto Fill Current Owner Site

When the Site field is empty and the current state is Draft, the system automatically fills the Site field using the selected owner's site.

Awaiting Approval

When the current state changes to Awaiting Approval, the system updates the current state to Locked for the following linked processes:

- Family Template Process Control Plan
- Family Template Process Flow
- Family Template Process FMEA
- Family Template Specifications
- Family Template Process FMEA Causes

- Family Template PFMEA Functional Analysis
- Family Template PFMEA Function Analysis Work Elements
- Family Template PFMEA Structural Analysis

Current State Not Equals Draft

When the current state is **not** Draft, the following fields are hidden:

- Item Group Approvers
- Item Type Approvers

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Family Template is 2019 AIAG/VDA FMEA

When the Show AIAG 4th Edition toggle field is set to NO, the following fields are hidden:

- Process FMEAs
- Process FMEA Grid

Family Template is AIAG 4th Edition

When the Show AIAG 4th Edition toggle field is set to YES, the following fields are hidden:

- Step 2 – Structural Analysis
- Process FMEA Analysis
- RESULTS DOCUMENTATION
- InTent Results Comments
- Team Results Comments – List of participants
- Timing Results Comments – FMEA due date
- Document the status to the original Team goals
- Tool Results Comments – How do we conduct analysis – method used
- How the Functions were Developed Summary
- High-risk Failure Actions Taken/Planned Summary
- Summary of actions taken or planned to address high – risk failures and status
- Process FMEA Analysis Grid
- High-risk Failure Summary

ITAR Restricted or Item or Site Changed

When the ITAR Restricted field is changed, the Item Group field is Changed, or the Sites field is changed, the ITAR Restricted field is updated on the following linked records:

- PFMEA Causes
- PFMEA Controls
- PFMEA Failure
- PFMEA Functional
- PFMEA Structural
- Process Flow
- Specifications

ITAR Restricted or Item Type or Site Changed

The system generates a list of approvers based on the Item Group approvers when the following items are true:

- The ITAR Restricted field is changed
- The Item Type field is changed
- The Sites field is changed
- The current state is **not** Active

Note that if the record is ITAR restricted, then only ITAR compliant users will be added to the approval. If the Item or ITAR Restricted fields are modified, then the list of employees will be updated.

ITAR Restricted Site Checkbox is Null or True

When the linked site's ITAR Restricted field is set to Null or True, the following fields are hidden:

- Acknowledge ITAR Restriction Change
- ITAR Site Warning

Link Current User Site

When the site from the Old Site field is absent from Sites, the system automatically fills the Sites field using the current user's site.

Not Awaiting Approval or Active

When the current state was Awaiting Approval or Active but is no longer one of these states, the system updates the current state to Unlocked for the following linked processes:

- Family Template Process Control Plan
- Family Template Process Flow
- Family Template Process FMEA
- Family Template Specifications
- Family Template Process FMEA Causes
- Family Template PFMEA Functional Analysis
- Family Template PFMEA Function Analysis Work Elements
- Family Template PFMEA Structural Analysis

Site Isn't ITAR Restricted

When the site linked to the record is not ITAR restricted, the Family Template's ITAR Restricted field is set to FALSE and hidden.

Site Isn't ITAR Restricted and ITAR Restricted is True

When the site linked to the record is not ITAR restricted but the Family Template's ITAR Restricted field is set to TRUE, the Family Template's ITAR Restricted field is updated to FALSE.

Drawings

Approval Past Due

When the current state is Awaiting Approval and the approval due date is past the current date, a notification is sent to the Owner to notify them that not all approvers have approved or rejected the current change and it is beyond the approval due date.

Approval Past Due – Escalation

When the current state is Awaiting Approval and the current date is seven days past the approval due date, a notification is sen tot the user the Owner reports to, notifying them that not all approvers have approved or rejected the current change and it is beyond the approval due date.

Approval Rejected

When the current state changes to Approval Rejected, the system updates all features associated with this drawing to the Unlocked state.

Additionally, a notification is sent to the Owner to inform them that the approval for the drawing has been rejected.

Awaiting Approval

When the current state changes to Awaiting Approval, the system updates all features associated with the drawing to the Locked state. Additionally, the Approval Start Date field is updated to the current date and time.

Awaiting Effective Date

When the current state changes to Awaiting Effective Date, the following changes occur:

- The system saves the linked change order after initial creation; this allows the change order to send action notifications, as it was originally created by stored procedure.
- The associated change order's state is updated to Ready for Release.
- The current record is saved.
- The associated change items' state is updated to Complete.
- A notification is sent to the Owner to inform them that approval for the drawing has been approved.

Awaiting Obsoletion Approval Rejected

When the current state changes from Awaiting Obsoletion Approval to Official, the Owner receives a notification that the approval for the drawing has been rejected.

Change Due Date Changed

When the record's change due date is changed, the change due date is updated on all change items.

Change Order is NULL

The Update from Change Order Effective Date field is hidden when there is no linked change order.

Change Owner Changed

When the drawing's Change Owner is changed, it is updated on linked change items.

Change Request is NULL

The Change Coordinator field is hidden when there is no change request.

Changed to Draft

When the current state changes to Draft, the following transactions occur:

- All features associated with this drawing are updated to the state of Unlocked.
- The items linked to this drawing series are updated with this drawing version.
- The Change Item field is set.
- The current state is updated to Official – Draft Pending.

Created from New Drawing Request

When the drawing record is created as a result of a new drawing request, the linked change item is updated.

Current Date greater than Effective Date

When the current state is Awaiting Effective Date and the Effective Date field is before or equal to the current date, the system updates the current state to Official.

If the Effective Date field is blank, then once the current state is changed to Awaiting Effective Date, it automatically transitions to Official.

Current User Isn't ITAR Compliant

When the current user is not an ITAR compliant employee, the ITAR Restricted field is hidden.

Draft Created from New Drawing Request

When the drawing is in the Draft state and was created as a result of a new drawing request, a notification is sent to the Owner to notify them that a new drawing has been created.

Draft, No Change Request, Change Owner Changed

When the Change Owner is changed, the record is in the Draft state, and the record is NOT linked to a change request, the Change Owner receives a notification that the drawing is ready for change.

First Time Official and Initial Version

When the current state changes to Official, the previous state was not Requires Review, and the VersionMasterID is equal to zero, the system updates the Version Date field with the previous version date.

> ***Note:*** The VersionMasterID field is equal to zero for a new document created using the Add Item ⊞ button.

ITAR Restricted and Current User Has Permission

If the record is ITAR restricted and the current user is ITAR compliant, then the ITAR Restricted warning is hidden.

ITAR, Restricted, Current User Isn't ITAR Compliant, and Not Draft or Rejected

The ITAR Restricted field is hidden when the following conditions are met:

- The drawing is ITAR restricted.
- The current user is not an ITAR compliant employee.
- The current state is not Draft or Approval Rejected.

New Draft, Not the First Version

When a draft is created and it is not the first version, the "Inspection Plans – Requires Review" check box is selected.

Not Completed, No Change Request, 1 Day Past the Change Due Date

A notification is sent to the Change Owner to inform them that the drawing is past due for a change when the following items are true:

- The state is either Draft, Awaiting Approval, Approval Rejected, or Awaiting Effective Date
- The current date is equal to or past the change due date
- The drawing is not linked to a change request

Not Completed, No Change Request, 7 Day Past the Change Due Date

A notification is sent to the person that the Change Owner reports to, which informs them that the drawing is past due for a change when the following items are true:

- The state is either Draft, Awaiting Approval, Approval Rejected, or Awaiting Effective Date
- The current date is equal to or past the change due date
- The drawing is not linked to a change request

Not the Initial Version

When the VersionMasterID is not equal to zero, the following fields are hidden:

- Starting Version Date
- Starting Version Number

> ***Note:*** The VersionMasterID field is equal to zero for a new document created using the Add Item ⊞ button.

Obsoletion Fields

When the current state is NOT Obsolete, the following fields are hidden:

- Obsoletion Approval
- Reason for Obsoleting

Official

When the current state changes to Official, the following changes occur:

- The change items are updated to Complete
- The drawing version is updated on any manual documents that include the drawing
- Items linked to the drawing are unlinked and then re-linked to the latest version
- The state of the associated change order moves to Closed

Responsible Site Changed to non-ITAR Compliant and ITAR Restricted is True

When the responsible site is changed to a site that is not ITAR Compliant, and ITAR Restricted is True, the ITAR Site Warning field is hidden.

Share with All Suppliers is True

When the Share with All Suppliers field is True, the Share With These Suppliers field is hidden.

Share with All Suppliers is True and Drawing Becomes Official

When the current state changes to Official and the Share With All Suppliers field is true, a notification is sent to the External Supplier role to inform them that the drawing's current state is Official.

Share with These Suppliers is Not Null and Drawing Becomes Official

When the current state changes to Official and the Share With These Suppliers field is populated, a notification is sent to the External Supplier contacts to inform them that the drawing's current state is Official.

Site isn't ITAR Restricted

When the site connected to the drawing is not ITAR restricted, the following fields are hidden:

- ITAR Restricted
- ITAR Restricted Warning

State Is Not Draft, Source Drawing is Null

The Source Drawing field is hidden when it is empty and the current state is not Draft.

Sys: Create Change Order is True

When the current Sys: Create Change Order is changed to True, the system creates a change order for the current drawing. This only takes place if the drawing is in the Draft state and already has a change request with no linked change order.

Once the new change order is saved, it can create action notifications.

Update from CO is True and Effective Date Doesn't Match CO

The current record's effective date is set to match the effective date on the linked change order when the "Update Effective Date from Change Order" field is selected and the drawing's effective date does not match the linked change order's effective date.

Items

Out of Service Date is filled in

When the Out of Service Date field is filled in, the system adds a year to the Disposal Date of all linked records.

There are no Program Items or First Save

When there is no value in the Program Item reverse cross-reference field, the system automatically creates a program item for the current Item upon its initial creation. Each item should have a single Program Item associated with it.

Manufacturing Document

Accept Warning equals True

When the "Accept Warning?" field is true, information is copied from the selected manufacturing document or family template to the current manufacturing document.

Approval Past Due

When the current state is Awaiting Approval and the field labeled Approval Due Date is past the current date, a notification is sent to the Owner to inform them that not all approvers have approved or rejected the current change and it is beyond the approval due date.

Approval Rejected

When the current state changes to Approval Rejected, a notification is sent to the Owner to notify them that approval has been rejected.

Associated Drawings is Null

When the Associated Drawings field is empty, the following fields are hidden:

- Import Drawing Features
- Update Suggested Drawing Features

Auto Fill Current Owner Site

When the Sites field is empty and the current state is Draft, the system automatically fills the Sites field using the current user's information.

Awaiting Approval

When the current state changes to Awaiting Approval, the following items are updated to the Locked state:

- All related BOM records
- All related Process FMEA Causes records
- All related Control Plan records
- All related Design FMEA Team records
- All related DFMEA Causes records
- All related DFMEA Controls records
- All related DFMEA Failure Analysis records
- All related DFMEA Functional Analysis records
- All related DFMEA Structural Analysis records
- All related DFMEA Systems records
- All related FMEA-MSR Causes records
- All related FMEA-MSR Controls records
- All related FMEA-MSR Failure Analysis records
- All related FMEA-MSR Functional Analysis records
- All related FMEA-MSR Structural Analysis records
- All related PFMEA 4th Ed. Failure Analysis records
- All related PFMEA Causes records
- All related PFMEA Failure Analysis records
- All related PFMEA Functional Analysis records
- All related PFMEA Structural Analysis records
- All related Process Flow records
- All related Process FMEA Team records
- All related Specs records
- All related Work Ins. records

Additionally, the Approval Start Date field is updated to the current date/time and the Versioning field is updated to properly populate the new version of the document after the "Start New Version" command.

Awaiting Effective Date

When the current state changes to Awaiting Effective Date, the following changes occur:

- The system saves the linked change order after initial creation; this allows the change order to send action notifications, as it was originally created by stored procedure
- A notification is sent to the Owner to inform them that the approval for the document has been approved
- The linked change order is updated to the Ready for Release state

- The current manufacturing document is saved
- The linked change items record(s) are updated to the Complete state

Awaiting Obsoletion Approval Rejected

When the current state changes from Awaiting Obsoleting Approval to Official, a notification is sent to the Owner to inform them that the obsoletion approval has been rejected.

Change Due Date Changed

When the record's change due date is changed, the system updates the change due date on all linked change items.

Change Order for New Mfg Document Request

When the record is created from a new manufacturing document request, the draft document is inserted into a change order.

Change Order is NULL

When there is no linked change order, the Update from Change Order Effective Date field is hidden.

Change Owner Changed

When the change owner is changed, the system updates the current change owner on all linked change items.

Change Request is NULL

When there is no change request, the Change Coordinator field is hidden.

Copy from Family Template Command Check is True and Previous Version Data is not True

When the "Copy from Family Template" command is used and the record does not use a previous version's data, the system copies information from the selected family template to the current manufacturing document.

Copy from FT Changed

When the "Copy from Family Template" field is changed, the record must be saved.

Copy from Mfg Document Command Check is True and Previous Version Data is not True

When the "Copy from Manufacturing Document" command is used and the record does not use a previous version's data, the system copies information from the selected manufacturing document to the current manufacturing document.

Created from New Mfg Document Request

When the record is created from a new manufacturing document request, the relevant change item is updated.

Current Date greater than Effective Date

When the current state is Awaiting Effective Date and the effective date is before or equal to the current date, the following changes occur:

- The current state is updated to Official
- The linked change item(s) are updated to the Complete state
- The latest Skip Lot Inspection Event Definitions are updated to Active, and the previous Skip Lot Inspection Event Definitions are set to Obsolete.
- The linked part skip lot rules are updated
- The linked change order is updated to the Closed state
- All existing inspection event questions currently linked to the manufacturing document are removed, and new ones are created

If the Effective Date field is blank, then once the current state is changed to Awaiting Effective Date, it automatically transitions to Official.

Current State is Not Draft

When the current state is not Draft, the following fields are hidden:

- Copy from Family Template
- Copy from Manufacturing Document
- Generate DFMEA
- Generate Suggested Design Verification Plans
- Import Drawing Features
- Update Suggested Drawing Features
- Import and Link Process Spec
- Generate FMEA
- Item Group Approvers

Current State is Not Official or Official Draft Pending

When the current state is not Official or Official – Draft Pending, the Create Inspection Event Questions field is hidden.

Current User Isn't ITAR Compliant

When the current user is not ITAR compliant, the ITAR Restricted field is hidden.

Customer Approval is not Required

When the "Requires Customer Approval" check box is not selected, the following fields are hidden:

- Control Plan Customer Approval Documentation
- Customer Approval Documentation
- Customer PFMEA Approval Date
- Engineering Approval Date
- Engineering Approval Owner
- Engineering Approval Spacer

- FMEA Customer Approval Documentation
- Quality Approval Date
- Quality Approval Owner
- Quality Approval Spacer

Customer entered or changed after initial save

When the Customer field is populated or changed after the initial save, the system defaults to the source customer name value.

DFMEA Company Name entered or changed after initial save

When the DFMEA Company Name field is populated or changed after the initial save, the system defaults to the source company name value.

DFMEA Revision Date is Null

When the DFMEA/PFMEA Revision Date fields are empty, the system defaults to the source version date value.

Draft

When the current state changes to Draft, the following items are updated to the Unlocked state:

- All related BOM records
- All related Process FMEA Causes records
- All related Control Plan records
- All related Design FMEA Team records
- All related DFMEA Causes records
- All related DFMEA Controls records
- All related DFMEA Failure Analysis records
- All related DFMEA Functional Analysis records
- All related DFMEA Structural Analysis records
- All related DFMEA Systems records
- All related FMEA-MSR Causes records
- All related FMEA-MSR Controls records
- All related FMEA-MSR Failure Analysis records
- All related FMEA-MSR Functional Analysis records
- All related FMEA-MSR Structural Analysis records
- All related PFMEA 4th Ed. Failure Analysis records
- All related PFMEA Causes records
- All related PFMEA Failure Analysis records
- All related PFMEA Functional Analysis records
- All related PFMEA Structural Analysis records
- All related Process Flow records
- All related Process FMEA Team records
- All related Specs records
- All related Work Ins. records

Draft Created from New Mfg Document Request

When a draft record is created from a new manufacturing document request, a notification is sent to the Owner to notify them of the creation.

Draft with Skip Lot Rules

When the current state is Draft and the count of the Utilized Skip Lots is greater than zero, the Utilized Skip Lots field is cleared.

Draft, No Change Request, and Not Initial Version

When the current state is Draft, the record is not the initial version, and the record is not linked to a change request, a notification is sent to the Change Owner to inform them that the affected document is ready for change.

Enable FMEA-MSR is not True

When the Show FMEA-MSR field is not set to TRUE, the following fields are hidden:

- FMEA-MSR Due Date
- FMEA-MSR Grid
- FMEA-MSR Start Date
- High-Risk Failure Actions Taken/Planned Summary
- High-Risk MSR Failure Summary
- How the MSR Functions were Developed Summary
- InTent
- InTent Results Comments – Purpose of FMEA-MSR
- Ongoing FMEA-MSR Improvement Actions Summary
- Project Identification
- RESULTS DOCUMENTATION
- Scope Analysis Summary
- Spacer FMEA-MSR 1
- STEP 1 – PLANNING AND PREPARATION
- Supplemental FMEA for Monitoring & System Response
- Task
- Task Results Comments – Scope of this FMEA-MSR
- Team Results Comments – List of MSR Participants
- Timing Results Comments – FMEA-MSR Due Date
- Tool
- Tool Results Comments – How do we conduct analysis – Method used

First Time Official and Initial Version

When the current state changes to Official, the previous state was not Requires Review, and the VersionMasterID is equal to zero, the system updates the version number and date for the selected document ID. This transition is only used for the initial version of a document.

> ***Note:*** The VersionMasterID field is equal to zero for a new document created using the Add Item ⊞ button.

First Time Official and Starting Version is being used

When the current state becomes Official for the first time, the Starting Version field is updated.

Hide: Obsoletion Fields

When the current state is not Obsolete, the following fields are hidden:

- Obsoleting Approval
- Reason for Obsoleting

ITAR Restricted Modified

When the ITAR Restricted field is modified, the ITAR Restricted field is updated on the relevant sub-processes.

ITAR Restricted or Item or Site Changed

Item Group approvers are added based on the item selected when one of the following fields are changed:

- ITAR Restricted
- Item
- Site

Users that are not ITAR compliant will be excluded if the record is set to be ITAR Restricted.

ITAR Restricted Site Checkbox is Null or True

When the ITAR Restricted field is set to Null or True, the following fields are hidden:

- Acknowledge ITAR Restriction Change
- ITAR Site Warning

Item field entered or changed after initial save

When the Item field is changed or populated for the first time after the initial save, the system defaults the Subject field with the item number and description.

Label Backcolor

The following fields are set with a blue backcolor:

- STEP 1 – PLANNING AND PREPARATION
  - *This item applies to DFMEA and PFMEA*
- DFMEA HEADER
- RESULTS DOCUMENTATION
  - *This item applies to DFMEA and PFMEA*
- STEP 2 – STRUCTURAL ANALYSIS
- PFMEA HEADER

The following fields are set with an orange backcolor:

- Warning Label Copy Mfg Document
- Warning Label Copy Family Template

Manufacturing Document is 2019 AIAG/VDA FMEA

When the "Show AIAG 4th Edition" toggle field is set to NO, the following fields are hidden:

- Process FMEA
- Process FMEA Grid

Manufacturing Document is AIAG 4th Edition

When the "Show AIAG 4th Edition" toggle field is set to YES, the following fields are hidden:

- High-risk Failure Summary
- STEP 1 – PLANNING AND PREPARATION
    - *This item applies to DFMEA and PFMEA*
- Project Identification
    - *This item applies to DFMEA and PFMEA*
- InTent
    - *This item applies to DFMEA and PFMEA*
- DFMEA Start Date
- DFMEA Due Date
- FMEA-MSR Due Date
- FMEA-MSR Grid
- FMEA-MSR Start Date
- Non-employee Team
    - *This item applies to DFMEA and PFMEA*
- Design Team
- Task
    - *This item applies to DFMEA and PFMEA*
- Tool
    - *This item applies to DFMEA and PFMEA*
- STEP 2 –STRUCTURAL ANALYSIS
- DFMEA HEADER
- Company Name
    - *This item applies to DFMEA and PFMEA*
- Subject
    - *This item applies to DFMEA and PFMEA*
- Engineering Location
- DFMEA Number
- DFMEA Revision Date
- Cross-Functional Team – DFMEA
- Cross-Functional Team – PFMEA
- Confidentiality Level
    - *This item applies to DFMEA and PFMEA*
- RESULTS DOCUMENTATION
    - *This item applies to DFMEA and PFMEA*
- Scope Analysis Summary
    - *This item applies to DFMEA and PFMEA*

- Show FMEA-MSR
- Tool Results Comments – How do we conduct analysis – method used
    - *This item applies to DFMEA and PFMEA*
- Task Results Comments – Scope of this FMEA
- Task Results Comments – Scope of this FMEA-MSR
- Team Results Comments – List of MSR participants
- Team Results Comments – List of participants
    - *This item applies to DFMEA and PFMEA*
- Timing Results Comments – FMEA-MSR due date
- Timing Results Comments – FMEA due date
    - *This item applies to DFMEA and PFMEA*
- InTent Results Comments – Purpose of PFMEA
- InTent Results Comments – Purpose of DFMEA
- InTent Results Comments – Purpose of FMEA-MSR
- How the Functions were Developed Summary
    - *This item applies to DFMEA and PFMEA*
- High-risk Failure Actions Taken/Planned Summary
    - *This item applies to DFMEA and PFMEA*
- High-Risk MSR Failure Summary
- How the MSR Functions were Developed Summary
- Ongoing DFMEA Improvement Actions Summary
- Ongoing PFMEA Improvement Actions Summary
- Ongoing FMEA-MSR Improvement Actions Summary
- PFMEA Header
- Process FMEA Grid
- Process FMEA
- Model Year / Programs
    - *This item applies to DFMEA and PFMEA*
- Customer Name
    - *This item applies to DFMEA and PFMEA*
- PFMEA Revision Date
- Manufacturing Location
- Task Results Comments – Scope of this FMEA

Model Years / Programs entered or changed after initial save

The Models Year(s) / Program(s) field self-updates when it is changed or populated after the initial save.

New Draft

When the current state is Draft, the system updates the current state of the manufacturing document to Official – Draft Pending and selects the "Was Draft" check box.

Not Completed, No Change Request, 1 day past the change due date

When the record is not in the Complete state, is not linked to a change request, and the current date is one day past the change due date, a notification is sent to the Change Owner to inform them that the manufacturing document is past due for change.

Not Completed, No Change Request, 7 days past the change due date

When the record is not in the Complete state, is not linked to a change request, and the current date is seven days past the change due date, a notification is sent to the person to whom the Change Owner reports to inform them that the manufacturing document is past due for change.

Not Official

When the current state is not Official, or is not becoming Official through a self-update transaction related to the Effective Date, the Requires Review field is set to False.

Not Received Inspection Document

When the "Use Document for Receiving Inspections?" toggle field is **not** set to "Yes", the following fields are hidden:

- Supplier
- Supplier Item
- Utilized Skip Lots
- Valid Skip Lot Rules

Not the Initial Version

When the VersionMasterID is not equal to zero, the following fields are hidden:

- Starting Version Date
- Starting Version Number

> ***Note:*** The VersionMasterID field is equal to zero for a new document created using the Add Item ⊞ button.

Official or Awaiting Effective Date, Create Training Event, Skill not Null

A new Training Event is created based on the manufacturing document's information when the following rules are met:

- The current state changes to Official or Awaiting Effective Date
- The Create Training Event check box is true
- The Skill field contains a value

On Start New Version

When starting a new version of a manufacturing document, the following changes occur:

- All cross-references are updated
- Linked Design and Process FMEA processes are versioned with the Start New Version command
- The linked Change Item process is updated

Ready for Approval

When the state moves to Ready for Approval, the state changes to Skip Lot Review if this document is used for skip lot inspection, otherwise it moves to Awaiting Approval. Additionally, affected skip lots are populated for the new manufacturing document version.

Received Inspection Document

When the "Use Document for Receiving Inspections?" toggle field is set to "Yes", the following fields are hidden:

- Company Name
- Confidentiality Level
- Cross-Functional Team – DFMEA
- Customer
- Customer Addresses
- Customer Name
- Design FMEA
- Design FMEA Grid
- Design Responsibility
- Design Systems Scope
- Design Team
- Design Verification Plans
- DFMEA Due Date
- DFMEA HEADER
- DFMEA Number
- DFMEA Revision Date
- DFMEA Start Date
- Engineering Location
- FMEA-MSR Due Date
- FMEA-MSR Grid
- FMEA-MSR Start Date
- Generate DFMEA
- Generate Suggested Design Verification Plans
- High-risk Failure Actions Taken/Planned Summary
- High-Risk MSR Failure Summary
- How the Functions were Developed Summary
- How the MSR Functions were Developed Summary
- InTent
- InTent Results Comments – Purpose of DFMEA
- InTent Results Comments – Purpose of FMEA-MSR
- Item
- Material/Components
- Model Year / Programs
- Non-Employee Team
- Ongoing DFMEA Improvement Actions Summary
- Ongoing FMEA-MSR Improvement Actions Summary
- Project Identification
- Related Items

- RESULTS DOCUMENTATION
- Scope Analysis Summary
- Show FMEA-MSR
- Spacer
- Spacer3
- Spacer4
- STEP 1 – PLANNING AND PREPARATION
- STEP 2 – STRUCTURAL ANALYSIS
- Subject
- Supplemental FMEA for Monitoring & System Response
- Task
- Task Results Comments – Scope of this FMEA
- Task Results Comments – Scope of this FMEA-MSR
- Team Results Comments – List of Participants
- Team Results Comments – List of MSR Participants
- Timing Results Comments – FMEA due date
- Timing Results Comments – FMEA-MSR due date
- Tool
- Tool Results Comments – How do we conduct analysis – Method used

Review Complete

When the current date is less than or equal to the Next Review Date, the Requires Review field is set to False.

Review Frequency = None

When there is no review frequency, the following fields are hidden:

- Last Review
- Next Review
- Review Completed By

Review Required

When the current date is greater than the Next Review Date and the current state is Official, the Requires Review field is set to True. Additionally, a notification is sent to the Owner to inform them that the manufacturing document requires review.

Site Isn't ITAR Restricted

When the site linked to the manufacturing document is not ITAR restricted, the ITAR Restricted field is set to False and hidden.

Site Isn't ITAR Restricted and ITAR Restricted is True

When the site linked to the manufacturing document is not ITAR restricted and the ITAR Restricted field is set to True, the system updates the ITAR Restricted field to False.

Skill is Null

When the Skill field is null, the following fields are hidden:

- Create Training Event
- Requires Training

Skip Lot Review and All Skip Lots Are Valid

When the current state is Skip Lot Review and all skip lots are valid, the system moves the state to Awaiting Approval.

Skip Lot Review and Now Valid

When the current state moves to Skip Lot Review and the Valid Skip Lot Rules field is changed, the system moves the state to Awaiting Approval.

Sys: Create Change Order is True

When the current Sys: Create Change Order is changed to True, the system creates a change order for the current manufacturing document. This only takes place if the manufacturing document is in the Draft state and already has a change request with no linked change order.

Once the new change order is saved, it can create action notifications.

Training is not Required

When the "Requires Training" check box is not selected, the Create Training Event field is hidden.

Under Skip Lot Review

When the current state is Skip Lot Review, the owner is set to the Skip Lot Owner.

Update from CO is True and Effective Date Doesn't Match CO

When the Update Effective Date from Change Order field is set to true, and the effective date does not match the effective date from the linked change order, it is adjusted so that the two values match.

PPAP Submissions

All Requirements Met and State is Draft

The state is changed to Ready for Approval when the following items are met:

- At least one requirement exists
- All requirements have the "Requirement Met" check box selected
- The current state is Draft

Approval Rejected

When the current state changes to Approval Rejected, a notification is sent to the Owner to inform them of the approval rejection.

Canceled

The state is changed to Obsolete when the "Canceled" check box is selected.

Check for Internal Approvers

The Missing Internal Approvers field is hidden when the following conditions are met:

- The item group approvers is greater than zero.
- The Quality Manager on the selected site is populated.
- The state is **not** Ready for Approval.

Customer Approval Due

When the current state is Submitted for Customer Approval and the customer approval target date is past due, a notification is sent to the Owner to inform them that the PPAP is past due.

Customer Approval Due – Escalation

When the current date is Submitted for Customer Approval and the customer approval target date is seven days past due, a notification is sent to the person to whom the Owner reports to inform them that the PPAP is past due.

Manufacturing Document Changed

When the Manufacturing Document field is changed, the manufacturing document is re-saved and the Requirement Status field is updated.

Meets All Design Requirements is not set to No

The Explanation field is hidden unless the "Meets all design requirements" field is set to NO.

New Requirements Added

When a new PPAP requirement is added, the requirement is linked to the APQP project tasks. Additionally, its sequence is set in the PPAP Submission record.

No APQP Project

The Project field is hidden when empty.

Not Canceled

When the "Canceled" check box is not selected, the Cancellation Reason field is hidden.

Other – Please Specify is Not Checked

The Other Description field is hidden unless the "Other - Please Specify" check box is selected.

PPAP Requirement Set Changes

When the PPAP Requirement Set field changes, the system removes the record from the PPAP Submission Requirement Status process and reloads the requirement status.

Submitted for Customer Approval

When the current state is changed to Submitted for Customer Approval, the system updates the customer approval submission date with the current date.

Commands

Some processes utilize command buttons to perform pre-defined actions. Commands can be found under the Actions icon in the top toolbar of the appropriate process.

Below is a table that describes each command available in the APQP module. In addition to title and description, the table indicates which process each command comes from, the roles that can execute the command, and the states when the command can be executed.

Process	Title	Description	Used By	State When Used
Processes	Update Risks from Library	Adds a Risk record associated with the process for each record in the risk library linked to a risk driver with the system driver Processes.	All Roles	Draft
Processes	Start New Version	Initiates a new draft version of the record. The state of the previous version moves to Official – Draft Pending.	APQP Administrator; APQP Champion; APQP Maintenance; Auditing Administrator; Auditing Champion; Auditing Maintenance	Official
Processes	Obsolete Process?	Select Yes and save the record to move the process to the Awaiting Obsoletion Approval state.	Owner; APQP Administrator	Official
Processes	Delete Current Draft Process	Removes the current draft process from the system. Previous versions of this process are updated from Official – Draft Pending to Official.	All Roles	Draft
Family Templates	Import and Link Process Specs	Imports library specifications (linked to processes in the family template process flow) to the family template specifications.	Owner; APQP Administrator; Family Template Maintenance	Draft

Process	Title	Description	Used By	State When Used
Family Templates	Generate Suggested PFMEA	Imports library process FMEA items to family template-process FMEA based on the current process flow.	Owner; APQP Administrator; Family Template Maintenance	Draft
Drawings	Delete Current Draft Drawing	Removes the current draft drawing from the system. Previous versions of this drawing are updated from Official – Draft Pending to Official.	Owner; APQP Administrator	Draft
Drawings	Start New Version	Initiates a new draft version of the drawing. The state of the previous version moves to Official – Draft Pending.	Owner; APQP Administrator; APQP Champion; Drawing Add/Edit; Drawing Administrator	Official
Drawings	Copy Drawing Features	Copies drawing features from the drawing in the Source Drawing field.	Owner; APQP Administrator; Drawing Add/Edit; Drawing Administrator	Draft
Drawings	Delete Current Drawing	Removes the current obsolete drawing from the system.	APQP Administrator	Obsolete
Drawings	Obsolete Drawing?	Select Yes and save the record to move the drawing to the Awaiting Obsoletion Approval state.	Owner; APQP Administrator; Drawing Administrator	Official
Manufacturing Documents	Generate Suggested Design Failure Modes	Adds new items to the Design Failure Mode for each design system. The System or Subsystem, Function, and Requirement fields are populated.	APQP Administrator; Design Engineer	Draft
Manufacturing Documents	Generate Suggested Design Verification Plans	Generates the Design Verification Plan using the information from the Design FMEA. Multiple items may be created from one DFMEA if there is more than one control, but duplicate data will not transfer.	Owner; APQP Administrator; APQP Champion; Design Engineer; Manufacturing Documents Add/Edit	Draft

Process	Title	Description	Used By	State When Used
Manufacturing Documents	Copy from Family Template	Copy initial setup (Process Flow, Specifications, Process FMEA, and Control Plan) from the Family Template selected in the "Copy from Family Template" field.	Owner; APQP Administrator; Manufacturing Documents Add/Edit; Manufacturing Documents Maintenance	Draft
Manufacturing Documents	Copy from Manufacturing Document	Copy initial setup (Associated Drawings, Drawing Features, Process Flow, Specifications, Process FMEA, and Control Plan) from the Manufacturing Document selected in the "Copy from Manufacturing Document" field.	Owner; APQP Administrator; Manufacturing Documents Add/Edit; Manufacturing Documents Maintenance	Draft
Manufacturing Documents	Import Drawing Features	Adds specification data to the Specifications tab based on data from the linked drawing's Features tab.	Owner; APQP Administrator; Manufacturing Documents Add/Edit	Draft
Manufacturing Documents	Update Suggested Drawing Features	Updates the tolerance data for the Specifications tab of the Manufacturing Document with values from the Manufacturing Document.	Owner; APQP Administrator; Manufacturing Documents Add/Edit; Manufacturing Documents Maintenance	Draft
Manufacturing Documents	Import and Link Process Specs	Imports Library Specifications that are linked to Processes in the Process Specifications field into the Specifications tab of the Manufacturing Document. Additionally, the manufacturing document specifications are linked to the processes in the Process Flow tab, based on the specifications linked to that process.	Owner; APQP Administrator; Manufacturing Documents Add/Edit; Manufacturing Documents Maintenance	Draft

Process	Title	Description	Used By	State When Used
Manufacturing Documents	Generate Suggested PFMEA	Imports PFMEA Structural Analysis Library records that are linked to processes in the Process Flow tab into the Process FMEA tab of the Family Template. Additionally, controls are added to the Control Plan based on the current FMEA list.	Owner; APQP Administrator; Manufacturing Documents Add/Edit; Manufacturing Documents Maintenance	Draft
Manufacturing Documents	Create Inspection Event Questions	Creates inspection event questions for all control plans that are marked for inspection and have inspection type and stations defined. Then make these questions available to inspection events.	Owner; APQP Administrator; Manufacturing Documents Add/Edit; Manufacturing Documents Maintenance	All States
Manufacturing Documents	Start New Version	Initiates a new draft version of the manufacturing document. The state of the previous version moves to Official – Draft Pending.	Owner; APQP Administrator; Manufacturing Documents Add/Edit; Manufacturing Documents Maintenance	Official
Manufacturing Documents	Delete Current Draft Manufacturing Document	Removes the current draft manufacturing document from the system. Previous versions of this document are updated from Official – Draft Pending to Official.	Owner; APQP Administrator; Manufacturing Documents Maintenance	Draft
Manufacturing Documents	Obsolete Mfg Document?	Select Yes and save the record to move the manufacturing document to the "Awaiting Obsoleting Approval" state.	Owner, APQP Administrator	Official
PPAP Submissions	Start New Version	Initiates a new draft version of the PPAP submission.	APQP Administrator; APQP Champion; PPAP Maintenance; PPAP Submissions Add/Edit	All States

Chapter 10

Module Frequently Asked Questions

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Frequently Asked Questions

Why shouldn't I delete items?

Records should only be deleted when you are sure that they are no longer needed. Even though records use a soft delete mechanism, there is still work that must be done to restore an item once it has been deleted.

The best thing to do with an item that is no longer needed is to set it to Inactive, Retired, or Obsolete, whichever state is applicable. This way, the item historically remains in the system but cannot be used.

If you do need to delete an item for good, then use the Trash button in the toolbar. Typically, only the system administrator can delete items.

I just changed the state of a process. What happens now?

When a process' state makes a transition, the system typically takes some automated steps. Details about these steps are listed in the State Transitions section of each process in this user guide.

Typically, state transition steps perform one of three functions:

1. **Notifications.** Notifications are sent to the users that are responsible for the next state of a process.
2. **Field Update.** Fields that depend on a state, date, or action are updated.
3. **Another State Transition**. A process' state may be transitioned automatically by the system, depending on a state, date, or action update.

Some processes may not have any automatic state transitions. In that case, it is useful to check the States section (listed before the State Transitions section) to view the process' state map and read the definitions of each state.

You can also review the Task list for that process. Each list typically describes which state to select when saving a process record.