



Florida Department of TRANSPORTATION



QC Program Maintenance User & SMO Technical Product Management

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Introduction

What are products in MAC?

In MAC products can be generic products or producer specific products. A generic product is a material that is defined as a product on the MAC Spec like a coarse aggregate. A producer specific product is that same generic product that has been assigned to a specific production facility. The producer specific product may have additional information that a generic product does not have, like product specific targets and limits or a brand name.

What materials have products?

Not all materials have products. Most product assignment and management is handled by the State Materials Office (SMO). A few are managed by the District Materials and Research Offices (DMRO). The SMO and DMRO technical units that assign products are as follows:

Material	Products	Managed By
Aggregate	Coarse Aggregate, Fine Aggregate, Base Materials, Riprap, etc.	SMO Aggregate Control Program Maintenance Users (PMUs)
Cementitious Materials	Cement, Fly Ash, Slag, etc.	SMO QC PMUs
Liquid Asphalt	Asphalt Binder, Emulsions, Asphalt Rubber, etc.	SMO QC PMUs
Flexible Pipe	PVC, Corrugated Steel Pipe, HDPE, etc.	SMO QC PMUs
Fiber Reinforced Polymers	Fender Piles, Splice Plates, etc.	SMO QC PMUs
Asphalt	Crushed RAP, Milled Material, Local Sand, Shingles, etc.	DMRO PMUs

These instructions describe the process for managing products on production facilities in MAC. It is a supplement to the [QC Program Maintenance User Manual](#). Additional QC PMU functions associated with the production facility profile can be found there.

Some functions may require a user with the role of SMO Technical. The product instructions are provided for the entire product life cycle. If you don't have the functions available for certain steps, it may be due to not having the role assigned.

Chapter 1 – Creating a Product on a Production Facility

In order to assign the product, an SMO Technical Unit user must first have established:

- The Material
 - For example - 901 Coarse Aggregates
- A MAC Spec with the material associated to it
 - For example - Program MAC Spec 901 Coarse Aggregates
- The generic products on the MAC Spec designated as a product
 - For example, C10, C12, C17
- Or the generic products created in the Product Definition table

Source Facility	Transfer Type	Product	Brand Name	Material	Process Number	Geological Type	Current Status	Status Date	
B01 - Limerock Base		911 - Limerock Material for Base and Stabilized Base		1	Limestone, Ocala	In Progress	11/2/2018	Details	Create Product Pull Product

1. Click on the Products tab to expand it.
2. Select the Create Product option.

A Create Product dialog box will appear.

Create Product

Material

901

901 - Coarse Aggregate

2. **Material** – enter the Material and select it from the returned list to begin; for example, 901.

The dialog box will expand to display the products that have been associated to that material.

3. **Product** – select the product from the Product dropdown list. This list is built from the Material you selected in step 2.

4. **Brand Name** – if the product has a brand name, enter the brand name.

NOTE: Most products do not have brand names. Examples of products with brand names are silica fume and some liquid asphalt products.

5. **Process Number** – enter the process number as defined by the Aggregate Control Program. This field only applies to aggregate products.

6. **Comments** – enter any comments about this product, if desired.

7. **Choose File** – select the Choose File option if you wish to attach a document ([Chapter 4 - Documents and Comments on a Product](#)).

8. **Description** – add a description for the document, if desired.

9. **+ Add Another Document** – select this option to add more document(s).

10. Select the Save option to add the product to the production facility.

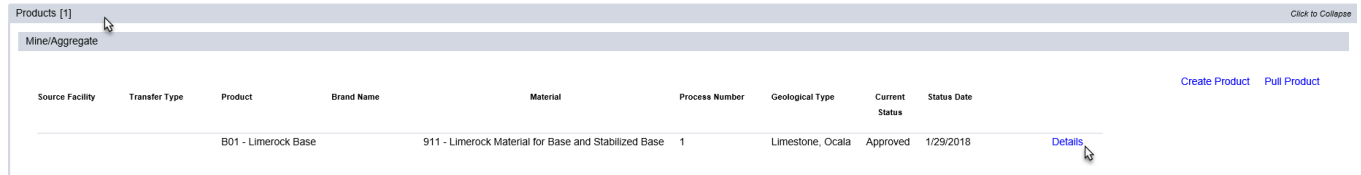
You will receive a message that the product was added successfully.

Create Product was successful

Chapter 2 – Product Details

Once a product is associated to a production facility, there are maintenance functions related to the specific product under the Product Details option. This section will describe each function under the Product Details.

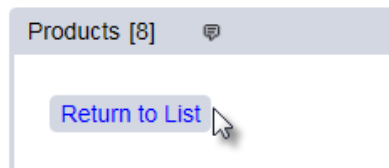
These instructions begin after the user has selected the Details option next to the product.



The screenshot shows a table with the following columns: Source Facility, Transfer Type, Product, Brand Name, Material, Process Number, Geological Type, Current Status, and Status Date. A single row is visible with the following data: B01 - Limerock Base, 911 - Limerock Material for Base and Stabilized Base, 1, Limestone, Ocala, Approved, 1/29/2018. A 'Details' link is located at the end of the row. Above the table, there are buttons for 'Create Product' and 'Pull Product'. The table is part of a 'Products [1]' tab, and there is a 'Click to Collapse' link in the top right corner.

Source Facility	Transfer Type	Product	Brand Name	Material	Process Number	Geological Type	Current Status	Status Date	
B01 - Limerock Base		911 - Limerock Material for Base and Stabilized Base		1	Limestone, Ocala	Approved	1/29/2018	Details	

1. Click on the Products tab to expand it.
2. Select the Details option.



3. To return to the production facility's products list, select the Return to List option.

A. Updating an Existing Product

An existing product can only be updated while it is in the "In Progress" status. Once a product has been approved, the Update option is not available unless you revise the status to "In Progress" by changing the status to Open ([C. Updating a Product Status](#)).

To update the information about an existing product:



1. Select the Update option.

NOTE: Some fields available here are not available when the product is originally added. For products that these fields apply to, this dialog box needs to be updated as soon as the product is added. Some fields may not appear on all products dialog boxes.

An Update dialog box will appear.

2. **Brand Name** – revise or add the brand name, if needed.
3. **Process Number** – revise or add the process number, if needed.
4. **GsB** – enter the GsB (bulk specific gravity), if applicable.
5. **Percent Binder** – enter the percent binder, if applicable.

6. **Start Mass Lookup Product Definition** – For products with product specific targets, enter the generic product with the start mass closest to the specific product and select it from the list.
7. **Fineness Modulus** – enter the fineness modulus value, if applicable.
8. Select the Save option to update the product information.

You will receive a message that the product was successfully updated.

Update Product was successful

B. Pushing a Product to another Production Facility

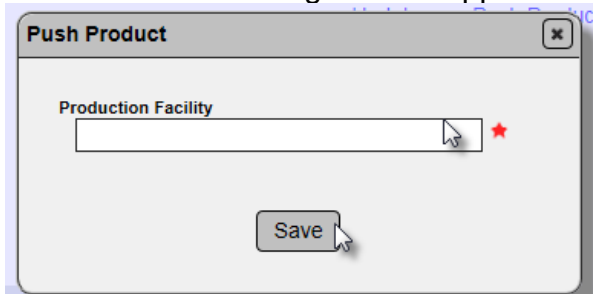
Products from a source can be assigned to a terminal or in some cases, another production facility, by using the Push Product Option.

To assign (push) an existing product from one production facility (source facility) to another (distribution facility):

Update Push Product Update Status De

1. Select the Push Product option.

A Push Product dialog box will appear.



2. **Production Facility** – enter the Production Facility the product will be pushed to.
3. Select the Save option to save the product on the distribution production facility's profile.

You will receive a message that the product was transferred successfully.

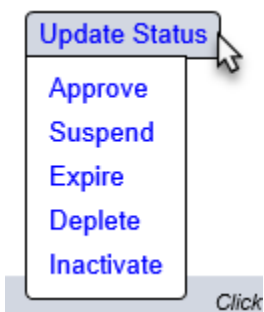
Transfer Product was successful

The product will appear on the distribution production facility product tab with an indicator that it was pushed from the source production facility.

Source Facility	Transfer Type	Product	Brand Name	Material	Current Status	Status Date	
01011 - Coral Rock, Inc.	Push	2227: C10 - 57 Stone - Process 1		2227 - Material Title by Lani	In Progress	9/17/2015	Details

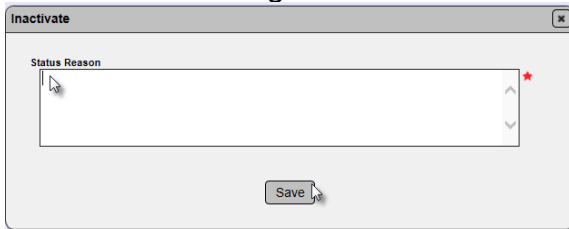
C. Updating a Product Status

For production facilities with products, the products have a status independent of the production facility status. Each product status can be designated as follows:



1. Select the Update Status option.
2. Select the appropriate product status.
 - a. **Open** – the product status will be set to In Progress. The product can be updated or deleted.
 - a. **Approve** – the product is approved to be produced for FDOT contracts
 - b. **Suspend** – the product is suspended from being produced or supplied to FDOT contracts.
 - c. **Expire** – the product is no longer being produced or supplied by the production facility.
 - d. **Deplete** – a stockpile has been used up and the no additional material can be added to that stockpile.
 - e. **Inactivate** – the production facility requests to temporarily stop shipment of the product to FDOT contracts and performing QC testing.

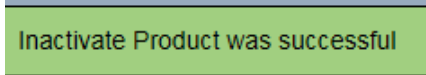
After selecting one of the statuses, a dialog box will appear. There is a dialog box for each status. Not all status dialog boxes are shown because the basic functionality is the same.



3. **Status Reason** – provide a reason for the status change. This field is not required for all statuses.

4. Select the Save option to change the status.

You will receive a message that the product status change was successful.



The product status will be updated.

Product C10 - 57 Stone	Brand Name	Material 2227 - Material Title by Lani	Current Status Inactive	Status Date 9/17/2015
Process Number 1	Geological Type Andesite			

D. Deleting a Product

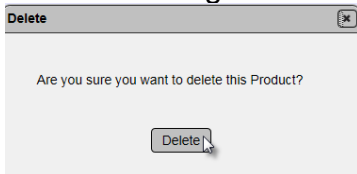
A product that is "In Progress" status can be deleted from the production facility. Once a product has been revised from "In Progress" to any other status, it cannot be deleted.

To delete an "In Progress" product:

[Update](#) [Update Status](#) [Delete](#) [Update Product Reset Clock Date](#)

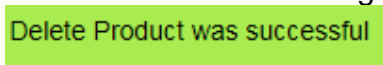
1. Select the Delete option.

A Delete dialog box will appear.



2. Select the Delete option on the dialog box to delete the product.

You will receive a message that the product was successfully deleted.



E. Updating the Product Reset Clock Date

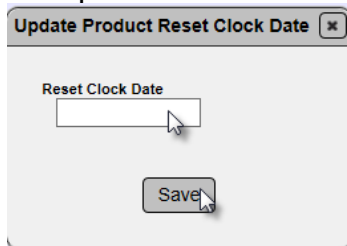
For **aggregate products only**, the product clock date can be reset. The product reset clock date initiates a new start date, before which no Quality Control data is used in the determination of compliance or the comparison package. QC data is analyzed using the last running 30 results, but never goes back more than one calendar year. If a producer encounters a problem for which QC result(s) would show a non-compliance in the running 30 and if the producer takes immediate action to solve the non-compliance issue, the product reset clock date reset the start time for the count of the running 30.

To reset the product clock.

Update Status Update Product Reset Clock Date

1. Select the Update Product Reset Clock Date option.

An Update Product Reset Clock Date dialog box will appear.



2. Enter the Reset Clock Date.

3. Select the Save option to reset the clock date.

You will receive a message that the reset clock date was successful.

Update Product Reset Clock Date was successful

The Reset Clock Date will appear on the product record.

Product	Brand Name	Material	Current Status	Status Date	Reset Clock Date
C10 - 57 Stone		2227 - Material Title by Lani	Inactive	9/17/2015	9/4/2015

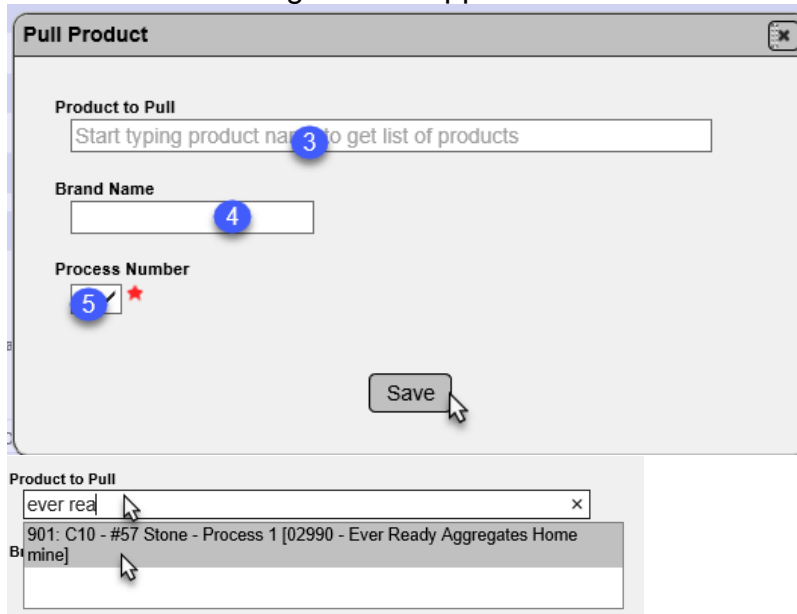
Chapter 3 - Pulling a Product from a Source Facility to a Distribution Facility

You can pull products from another production facility (source facility) to the current facility. This is when facilities act as a distribution facility for the source production facility, like an aggregate terminal.



1. Click on the Products tab to expand it.
2. Select the Pull Product option.

A Pull Product dialog box will appear.



3. **Product to Pull** – enter the product to be pulled and select it from the list.
4. **Brand Name** – enter the brand name of the product at the distribution facility, if applicable.
5. **Process Number** – enter the process number as defined by the Aggregate Control Program. This field only applies to aggregate products.
5. Select Save to add the product to the distribution facility.

Chapter 4 – Products Tabs

Once the Details option is selected, additional tabs appear for further functions related to products. This chapter will describe the functions under these tabs.

A. Transferred to Productions Facilities

When a product is pulled from another facility or pushed to from facility (the original source), it will appear under this tab. It tells you the product's distribution source information.

The screenshot displays a software interface for product details. At the top, there is a header for 'Production Facility 87'. Below this, several tabs are visible: 'Parent Company (for DOJ)', 'Previous Owner (for DOJ)', and 'Date Sold (for DOJ)'. A blue callout bubble labeled 'Original Production Facility' points to the 'Parent Company (for DOJ)' tab.

Below the tabs, there are sections for 'Geological Types' (Limestone, Miami), 'Published Comment' (Design Capacity: 3,000.00 tons per d...), 'Open Date', and 'Closed Date'. Further down, there are sections for 'Profile Managers [1]', 'Contacts [2]', 'Locations', and 'QC Plans [1]'. The 'Products [68]' section is expanded, showing a 'Return to List' link and a table of product details. A blue callout bubble labeled 'Product' points to the 'Product' column header.

Product	Brand Name	Material	Current Status	Status Date
C16 - #8 Stone	# 8 Stone	901 - Coarse Aggregate	Expired	9/19/2015

Below the product table, there are sections for 'Process Number' (1) and 'Geological Type' (Limestone, Miami). A blue callout bubble labeled 'Distribution Source' points to the 'Geological Type' section.

The 'Transferred to Production Facilities [1]' section contains a table with the following data:

Production Facility	TransferBrand Name Type	Process Number	Geological Type	APL Number	Current Status	Status Date
1 TM44	- Terminal/Aggregate	Pull # 8 Stone	Limestone, Miami		Expired	9/19/2015 Detail

At the bottom, there is a 'Product Extensions [0]' section.

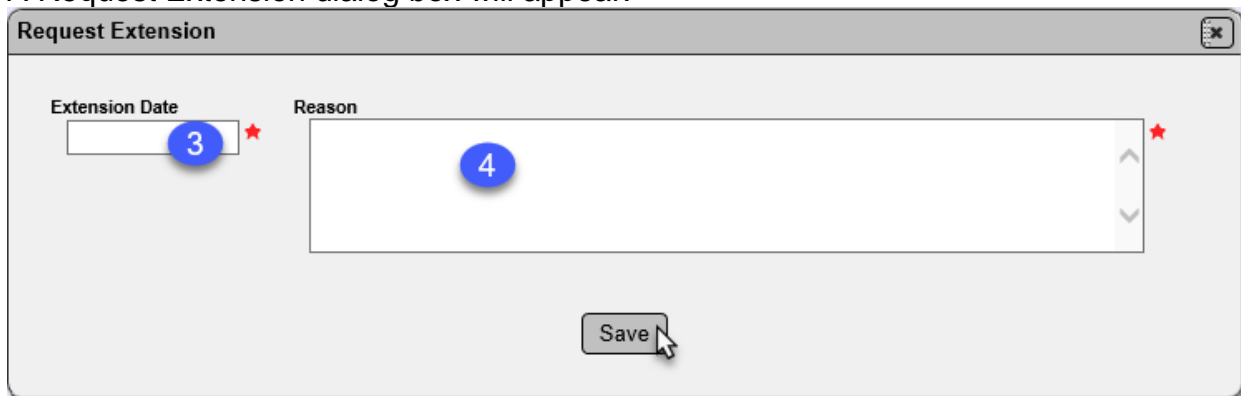
B. Product Extensions

This tab appears for all products, but only applies to aggregate production facilities with a single product. If an aggregate production facility with a single product does not ship the product to a Department project in one year, the production facility automatically expires, unless the producer requests a one year extension. If the producer request a one year extension, use this option to enter that date as a trigger for action. If after two years have gone by, nothing was shipped in the second year then the production facility is expired.



1. Click on the Products Extensions tab to expand it.
2. Select the Request Extension option.

A Request Extension dialog box will appear.

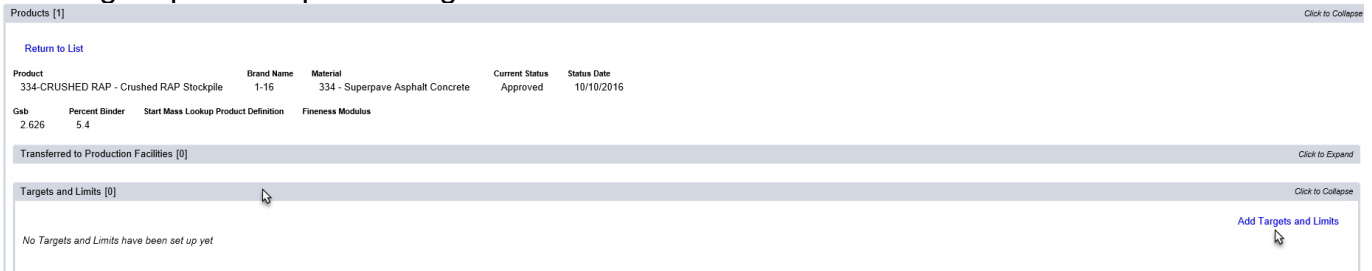


3. **Extension Date** – enter the one year date for the Extension.
4. **Reason** – enter a reason for the extension.
5. Select the Save option.

C. Targets and Limits

Some products have product specific targets and limits. When product specific targets and limits are entered, the product specific targets and limits take precedence over any targets and limits assigned in the MAC Spec for the product. Targets and limits cannot be assigned by a PMU. You must have the system role of SMO Technical Unit to assign product targets and limits.

To assign a product specific target:



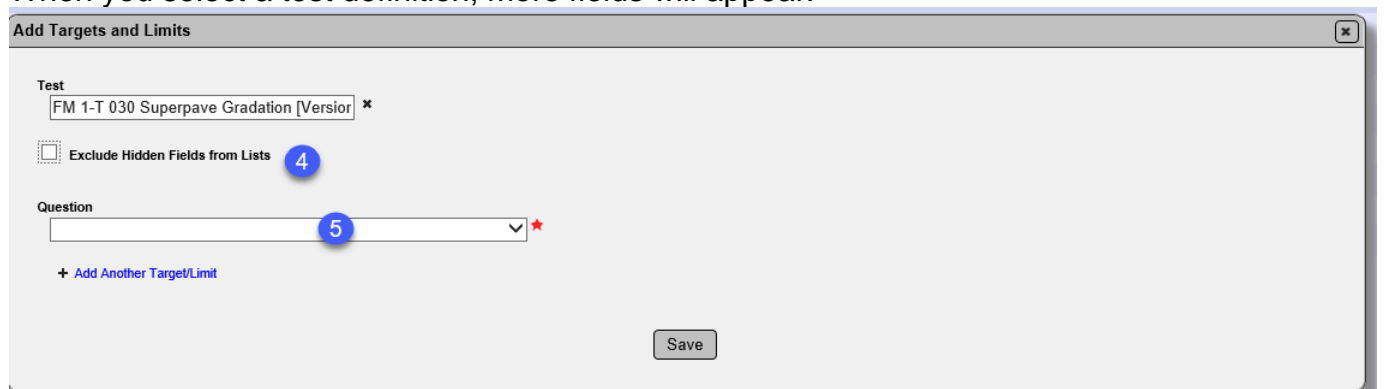
1. Click on the Targets and limits tab to expand it.
2. Select the Add Targets and Limits option.

An Add Targets and Limits dialog box will appear. Targets and Limits are always assigned to Test Definitions in MAC.

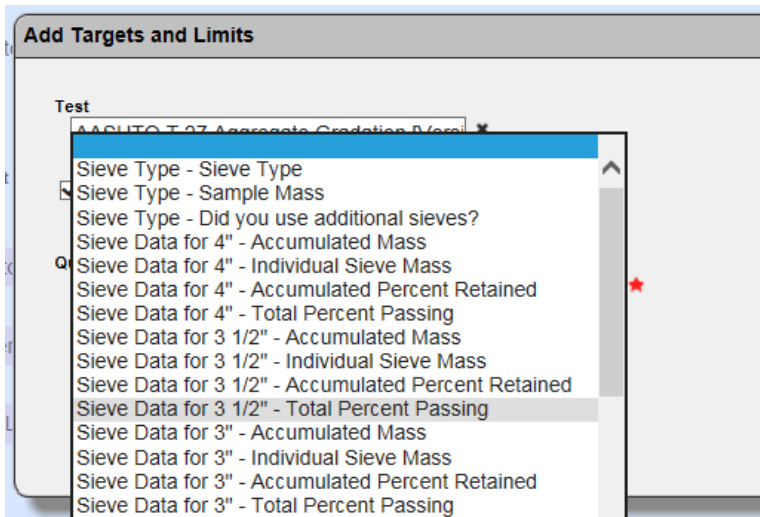


3. Test - enter the test name that the targets and limits will be applied to and select it from the list.

When you select a test definition, more fields will appear.

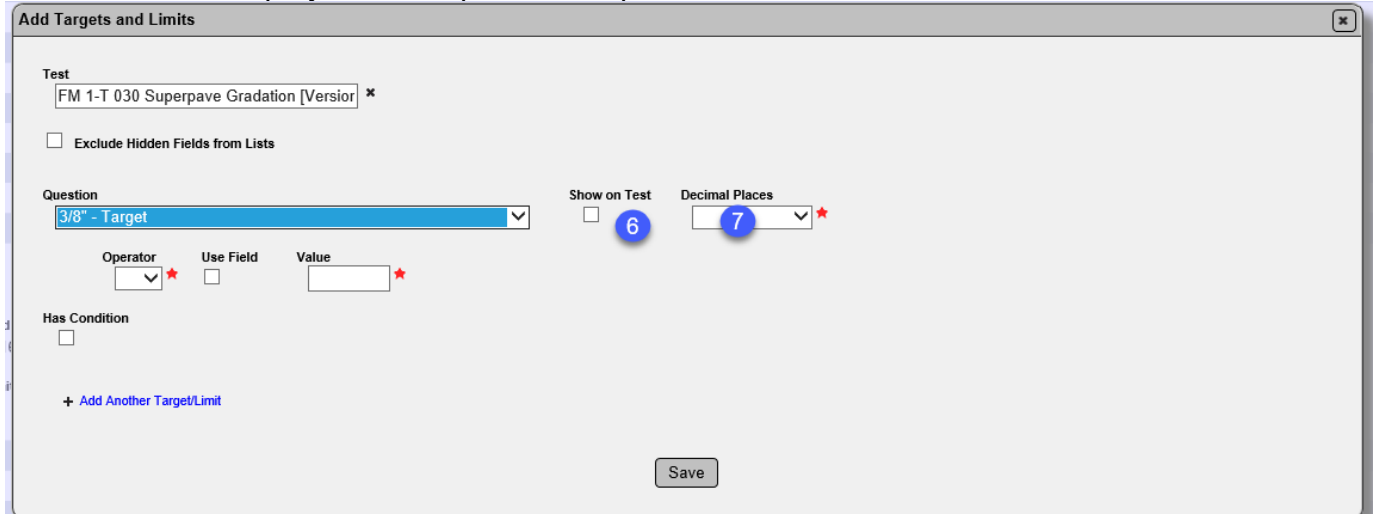


4. **Exclude Hidden Fields from Lists** – select this option if you don't want to see hidden fields on the Question drop down list. A hidden field is one that is in the background of the test that does not appear to the end user. For example, a field that was created to hold an interim calculation value is a hidden field. These fields do not have targets and limits applied to them so selecting this option is helpful in reducing the options in the next step.



5. **Question** – select the specific test component that the target and or limit will be assigned to.

More fields will display when a specific component is selected.



6. **Show on Test** – select this option. This assigns programming that will show the limit when a test result is failing. It is standard to select this so the user entering the results will know why a specific result fails.

7. **Decimal Places** – select the appropriate decimal places to display the target and limit.

NOTE: The numeric values will be stored in the system to the lowest decimal place appropriate. This function ensures that when the target and limit is visible, it is consistently displayed as indicated. The decimal place display will depend on the test method requirements and the Specifications or other governing documents. For example, if a Specification says that the range for pass fail is 1.00 to 6.00, select the 2 (0.01) option. The system will store 1 to 6 in the background, but the label will show “1.00 to 6.00”.

Operator: [dropdown] *
 Use Field: *
 Value: [10] *

8. **Operator** – select the appropriate operator for the limit formula.
 - a. = – Test result must be equal to the value or use to set a target with limits.
 - b. != – Test result must NOT be equal to the value
 - c. > – Test result must be greater than value
 - d. >= – Test result must be greater than or equal to value
 - e. < – Test result must be less than value
 - f. <= – Test result must be less than or equal to value
9. **Use field** – Select this box to use another field on the test definition. This would mean that the test result must be whatever the operator indicates from the field, i.e., equal to, less than or equal to, etc.
10. **Value** – if you don't select the Use Field option, you must supply a value. The value fields change depending on the operator.

Operator: [=] *
 Use Field:
 Value: [3] + [1.5] - [1.5]

To enter a target with limits, the operator should be = and the target is input into the value field. The upper limit goes in the + field and the lower limit goes in the – field.

Operator: [>=] *
 Use Field:
 Value: [3.00]

Operator: [<=] *
 Use Field:
 Value: [10.]

To enter a range, select the >= operator for the lower end of the range and enter the lower end in the value field. Select the <= operator for the upper end of the range and enter the upper in the second value field.

Has Condition: *
 When: [dropdown] *
 Question: [dropdown] *
 + Add Another Target/Limit *
 Save

11. **Has Condition** – there are some preprogrammed conditions for fields on tests, mix designs, login screens, etc. that can be used to set a condition on the target and limit. If you have conditions, select this option.
12. **Question** – select the appropriate condition to designate the condition.
13. **+ Add Another Target/Limit** – select this indicator to add another target and limit to the same test definition.
14. Select the Save option to save the target and limits.

Here is an example of a target with limits with two conditions.

The screenshot shows a software interface for defining test conditions. At the top, the test is identified as "AASHTO T 27 Aggregate Gradation [Vers]". A checkbox "Exclude Hidden Fields from Lists" is checked. The first condition is for "Sieve Data for 4\" - Total Percent Passing". It has a "Show on Test" checkbox (unchecked) and "Decimal Places" set to "2 (0.01)". Below this, there are two operator-value pairs: ">=" with a value of "3.00" and "<=" with a value of "10.00". The "Has Condition" is checked, set to "When", with the question "Point of Sampling" and "Equals" to "Barge". The second condition is for "Sieve Data for No. 4 - Total Percent Passing". It has a "Show on Test" checkbox (unchecked) and "Decimal Places" set to "0 (1)". Below this, there is an operator "=" with a value of "75", followed by "+ 20" and "- 15". The "Has Condition" is checked, set to "When", with the question "Point of Sampling" and "Equals" to "Railroad Car".

D. Mix Design Product Sieve Values

Mix Design Product Sieve Values are used by DMO Asphalt PMUs to indicate the sieve values on asphalt products assigned to asphalt production facilities, such as recycled asphalt pavement. It is not used for any other products. The values assigned to the product are used in the MAC Mix Design Module to determine the job mix formula (JMF) of the mix design when the product is used as a component of a mix design.

To assign the sieve values on an asphalt product:

The screenshot shows the "Mix Design Product Sieve Values" tab. The tab is expanded, showing a list of sieve sizes: 1", 3/4", 1/2", 3/8", No. 4, No. 8, No. 16, No. 30, No. 60, No. 100, and No. 200. On the right side of the list, there is an "Update" button. The interface also includes a "Click to Collapse" button in the top right corner.

1. Click on the Mix Design Product Sieve Values tab to expand it.
2. Select the Update option.

An Update dialog box will appear.

The screenshot shows a dialog box titled "Update" with a close button in the top right corner. Below the title bar is a section labeled "Product Values". This section contains a list of sieve sizes on the left and corresponding input fields on the right. The values entered in the input fields are: 100 for 3/4", 99 for 1/2", 96 for 3/8", 78 for No. 4, 61 for No. 8, 50 for No. 16, 42 for No. 30, 35 for No. 50, 18 for No. 100, and 8.4 for No. 200. The input field for 3/8" is highlighted with a blue box containing the number "2". At the bottom of the dialog box is a "Save" button with a mouse cursor pointing to it.

Sieve Size	Value
1"	
3/4"	100
1/2"	99
3/8"	96
No. 4	78
No. 8	61
No. 16	50
No. 30	42
No. 40	
No. 50	35
No. 60	
No. 80	
No. 100	18
No. 200	8.4

3. Enter the values for the sieves for this product.
4. Select Save to save the sieve values.

NOTE: The actual values for a given product may differ than the example given above.

Chapter 5 - Documents and Comments on a Product

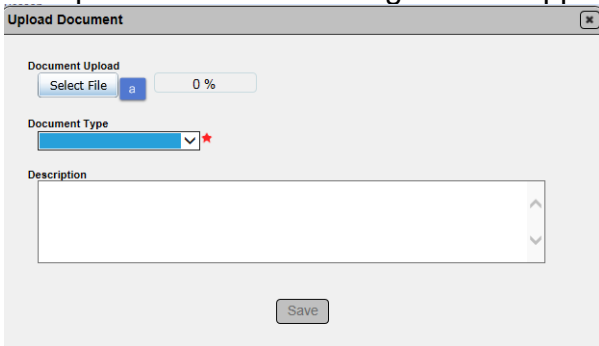
Documents and comments are standard features on every area in MAC. Do not add QC Plan related documents to the product documents tab. Use the documents tab to store backup information on the specific product.

A. Adding Documents to a Product



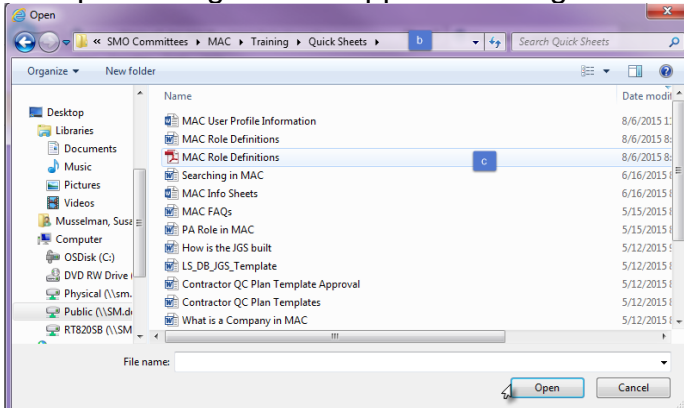
1. Click on the Upload Document option.

An Upload Document dialog box will appear.



a. Click on the Select File option.

An Open dialog box will appear to navigate to the file you wish to upload.



b. Navigate to the location where the file is stored.

c. Select the file you wish to upload.

d. Click on the Open option.

The document will be uploaded to MAC.

The screenshot shows a web form titled "Upload Document". It has three main sections: "Document Upload" with a "Select File" button (disabled) and a progress bar at 100%; "Document Type" with a dropdown menu showing 'f'; and "Description" with a text area containing 'g'. A "Save" button is located at the bottom right of the form.

- e. The Select File option will be grayed out when the document upload is at 100%.
- f. Select the document type from the drop down list; Approval Letter, Correspondence, Supporting Documents or Suspension Letter.
- g. Enter a description, if applicable.
- h. Click on the Save option to complete the upload.

The system will notify you that the document was added successfully.

Add Document to Production Facility was successful

B. Viewing a Document on a Product

To view a document any user has uploaded to the production facility profile:

Name	Type	Description	Tests		
1	list.pdf	Accreditation	This is a document relate...	ASTM C39	View Document Update Delete

1. Select the View Document option.

MAC will download the document. A download pop up window will appear.

The screenshot shows a download dialog box with the text: "Do you want to open or save site.pdf (54.9 KB) from fdotews1.dot.state.fl.us?". There are three buttons: "Open", "Save", and "Cancel". The "Open" button is highlighted with a mouse cursor.

2. Select Open to open the download.
The document will be opened in the file format in which is was saved; for example, pdf.

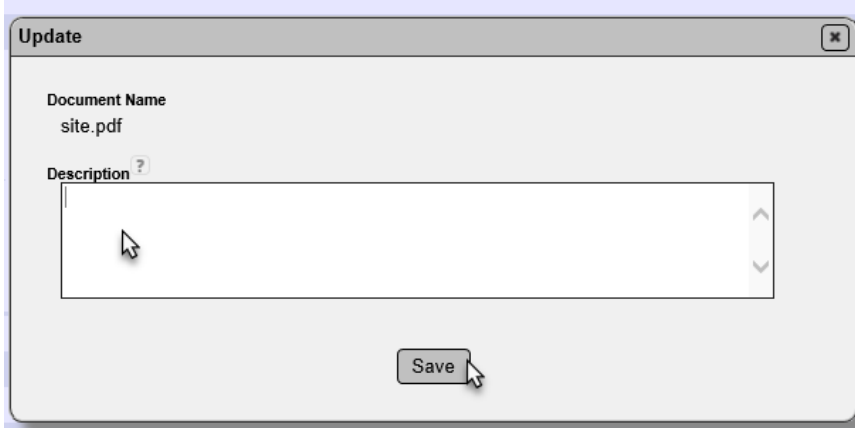
C. Updating a Document on a Product

You can update the description of a document you uploaded to a product. You cannot update the description of a document someone else uploaded.

ation This is a document relate... ASTM C39 [View Document](#) [Update](#) [Delete](#)

1. Select the Update option.

An Update dialog box will appear.



2. Revise the description, if needed.

3. Select Save to save the changes.

You will receive a message that the document was updated successfully.

Update Production Facility Document was successful

D. Deleting a Document from a Product

You can delete documents you added to a product. You cannot delete documents added to a product by others.

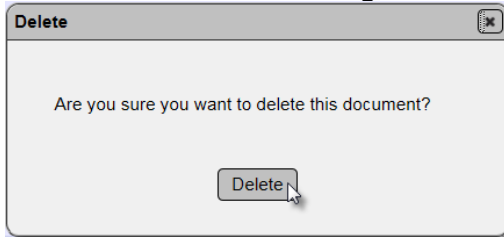
To delete a document:

Tests

ate... ASTM C39 [View Document](#) [Update](#) [Delete](#)

1. Select the Delete option.

A Delete Document dialog box will appear.



2. Select the Delete option to delete the document.

You will receive a message that the document was successfully deleted.

Delete Production Facility Document was successful

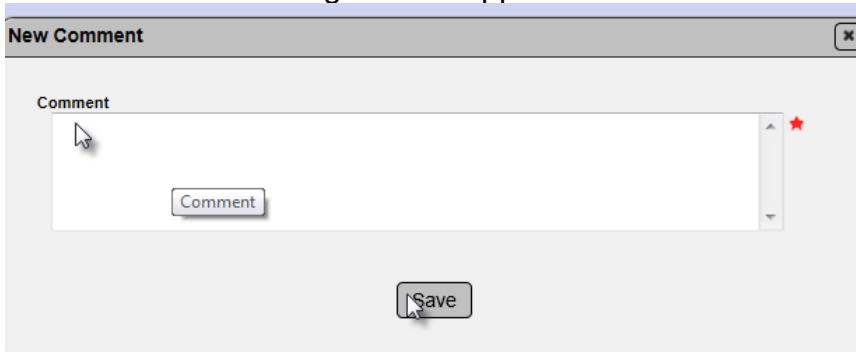
E. Adding a Comment to a Product

If you wish to add a comment to a product:



1. Click on the New Comment option.

A New Comment dialog box will appear.



2. Type in your comment.

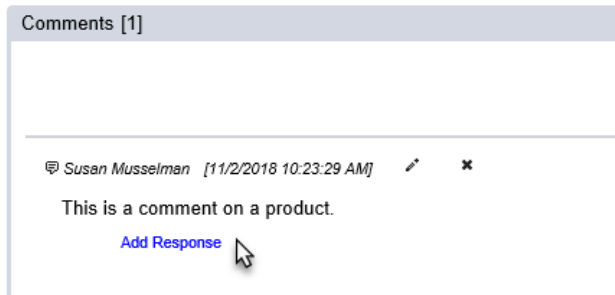
3. Click on the Save option to save the comment to the production facility profile.

The system will notify you that the comment was successfully added.

Create Production Facility Comment was successful

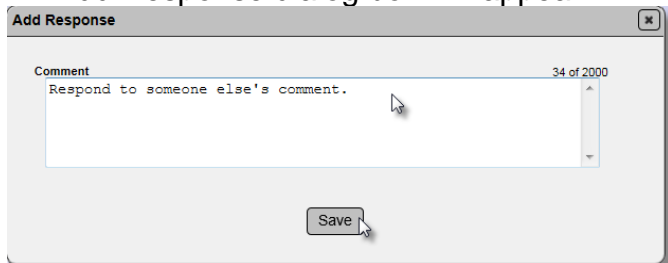
F. Responding to a Comment on a Product

You may need to respond to a comment on a product that was submitted by the Facility Profile Manager or others.



1. On the comment you wish to respond to, click on the Add Response option.

An Add Response dialog box will appear.



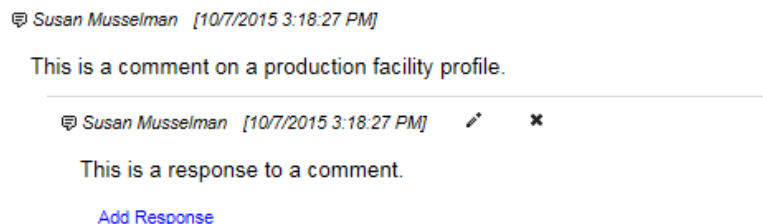
2. Enter your response to the original comment.

3. Click on the Save option to save the response to the record.

The system will notify you that the comment was successfully added.

Add Comment To Production Facility Comment was successful


A response to a comment looks like this in MAC.






G. Updating a Comment or Response

You can update a comment or response that you entered on a product. You cannot update comments and responses made by others.

To update a comment or response:


 Susan Musselman [10/7/2015 3:18:27 PM]

This is a comment on a production facility profile.

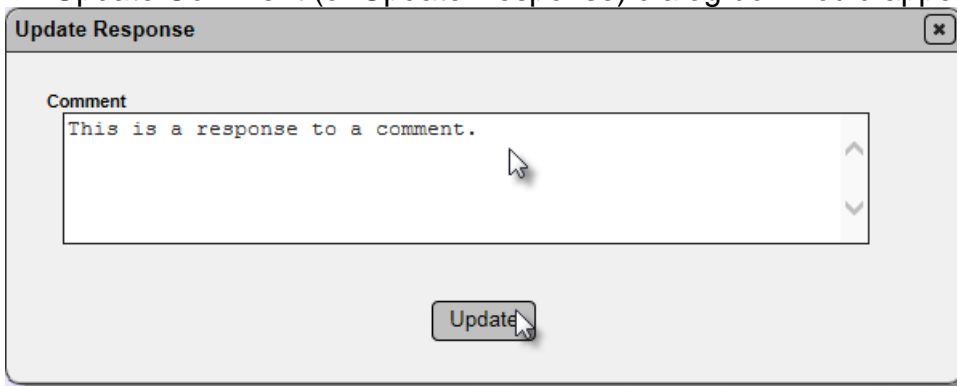
 Susan Musselman [10/7/2015 3:18:27 PM]  

This is a response to a comment.

[Add Response](#)

1. Click on the Update option () to select it.

An Update Comment (or Update Response) dialog box would appear.



2. Revise the comment or response, as needed.

3. Click on the Update option to update the comment or response.


You will receive a message that the comment or response was updated successfully.

Update Production Facility Comment was successful




H. Deleting a Comment or Response from the Product

You can update a comment or response that you entered on a product. You cannot update comments and responses made by others. If a comment has a response, it cannot be deleted unless the response is deleted.

To delete a comment:


 Susan Musselman [10/7/2015 3:18:27 PM]

This is a comment on a production facility profile.

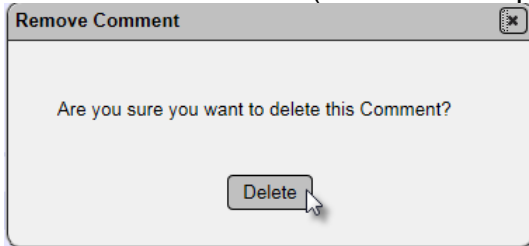
 Susan Musselman [10/7/2015 3:20:51 PM]  

This is a response to a comment.

[Add Response](#)

1. Click on the Delete option () to select it.

A Remove Comment (or Delete Response) dialog box would appear.



2. Click on the Delete option to delete the comment.

You will receive a message that the comment or response was deleted successfully.

Remove Production Facility Comment was successful

Chapter 6 – Status History

The Status History Tab gives you details about the history changes to the status of a product.

Status History [3]

		Date	By	Reason
1	Approved	9/19/2015 6:54:47 PM	Data Transfer Process	
2	In Progress	6/22/2016 10:30:14 AM	Marcus Madison	FM Target
3	Approved	6/22/2016 10:30:29 AM	Marcus Madison	

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