



Florida Department of TRANSPORTATION



Geosynthetic Products Reviewed by the State Materials Office

December 5, 2024



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Introduction

The Job Guide Schedule (JGS) lists the Geosynthetic Materials requirements under MAC Spec 985.

There are two types of samples for geosynthetic products. For some types, a physical sample and certification statement are required ([Earthwork Lab/Field Testing Summary](#)). For other types, an APL tracking sample is needed ([APL Tracking Sample Life Cycle Instructions](#)). MAC Spec 985 has the following category / types:

Category / Types with a Physical Sample and Certification Document

D-1:

- Revetment (Special)
- Rock, Rubble without bedding stone
- Ditch Pavement (Rubble Riprap) without bedding stone
- Other

D-2:

- Revetment (Standard)
- Articulating Block
- Gabions
- Rock, Rubble, and Broken Concrete with bedding stone
- Ditch Pavement (Rubble Riprap) with bedding stone
- Joint Cover for MSE Wall with Coarse Aggregate Backfill
- Joint Cover for MSE Wall Supporting Spread Footing Foundations
- Other

D-3:

- Underdrain
- French Drain
- Sheet Piling Filter
- Filter Fabric Jacket (Culvert)
- Box Culvert Joints
- Concrete Pavement Subdrainage
- Joint Cover for MSE Wall with Sand or Limerock Backfill
- Other

D-4:

- Slope Pavement
- Ditch Pavement (Sand-Cement Riprap or Concrete)
- Coarse Aggregate Wrap
- Other

D-5:

- Separation Geotextile
- Cast-In-Place Retaining Wall
- Other

Category / Types with a physical sample (cont.)

R-1:
Geosynthetic Reinforced Soil (GRS-IBS)

R-2:
Reinforcement of Foundations over Soft Soils

R-3:
Reinforced Soil Slopes

R-4:
Reinforced Embankment

R-5:
Construction Expedient

Category / Types no Physical Sample Requiring an APL Tracking sample

APL & BABA Tracking

- E-3 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 1)
- E-4 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 2)
- E-5 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 3)

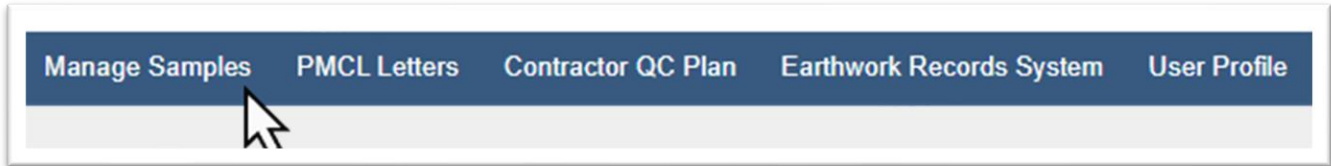
NOTE: Do not log an APL Tracking sample unless the material is left in place permanently. Most erosion control items are considered temporary and APL Tracking samples are not required for temporary items. It is only when the erosion control product is left in place permanently that an APL Tracking sample is required.

For products requiring a physical sample, only one physical sample submittal is needed for each product when the product is used in multiple applications (refer to item 12 under [A. Creating the Sample](#) for additional information).

Chapter 1 – Creating a Sample with Physical Sample and Certification Document

A. Creating the Sample

You must be in your company roles to log a sample into MAC.

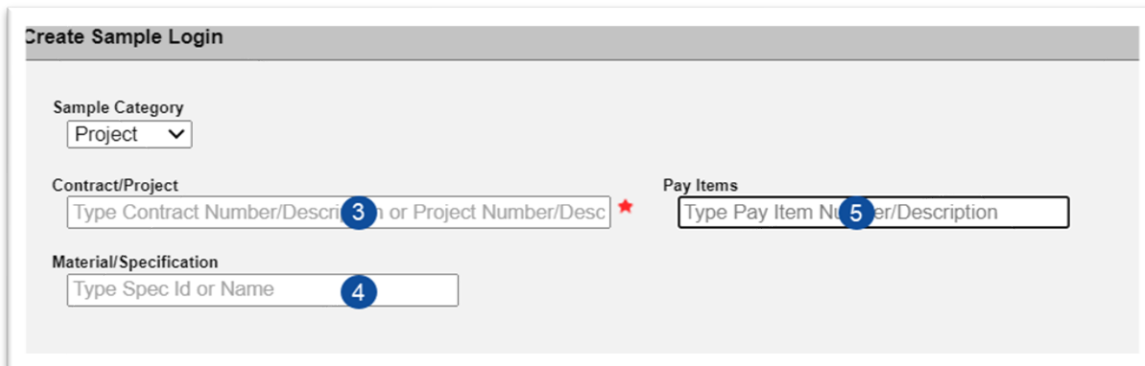


1. Select the Manage Samples menu option.



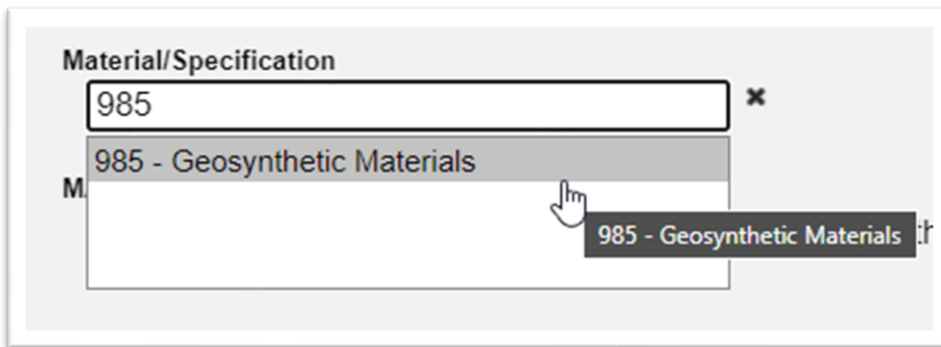
2. Select the Create Sample Login option.

The Create Sample Login dialog box will appear. It defaults to the sample category of Project. Leave it as the Project option.

A screenshot of a 'Create Sample Login' dialog box. It contains several input fields: a 'Sample Category' dropdown menu set to 'Project'; a 'Contract/Project' text box with a red asterisk and a blue circle '3' next to it, containing the placeholder text 'Type Contract Number/Description or Project Number/Description'; a 'Pay Items' text box with a blue circle '5' next to it, containing the placeholder text 'Type Pay Item Number/Description'; and a 'Material/Specification' text box with a blue circle '4' next to it, containing the placeholder text 'Type Spec Id or Name'.

3. **Contract/Project** – begin typing in the project or contract ID. MAC will search on either. MAC will return a list of entries that match the search criteria. Select the appropriate entry from the returned list.

4. **Material/Specification** – enter 985 in the Material/Specification list and select it from the returned list.

A screenshot of a dropdown menu for 'Material/Specification'. The input field above the menu contains the number '985'. The dropdown list is open, showing a single option: '985 - Geosynthetic Materials'. A mouse cursor is pointing at this option, and a tooltip with the same text is visible next to it.

5. **Pay Items** – this field is optional and multi-select. Click on the dropdown list to select a pay item or pay items, if desired. Do **NOT** select the pay item if the contract is Lump Sum or Design Build.

Once you have selected a Material/Specification, a link to Continue to the Sample Information Screen will appear on the dialog box.

The screenshot shows a 'Create Sample Login' dialog box with the following fields and values:

- Sample Category: Project
- Contract/Project: E7R27 / 254677-1-52-34: TRAFFIC OPERATIONS DESIGN
- Pay Items: No Pay Items found related to all selected projects/materials
- Material/Specification: Type Material Id or Name
- MAC Spec: 985 - Geosynthetic Materials, Supplemental Specification, 01/2019, v3.2

A blue button labeled 'Continue to Sample Information Screen' is located at the bottom of the dialog box.

6. Click on the Continue to Sample Information Screen link to access more login fields.

The screenshot shows the 'Sample Info' form with the following fields and values:

- Method of Acceptance: Sampling And Testing
- Sample Level: VT
- Category: D-2 / Articulating Block
- Manufacturer: (empty)
- APL Product: Start typing product name to get list of APL
- Date Sample Taken: (empty)
- Material Description: (empty)
- Intended Use: (empty)
- Soil Description: (empty)

Blue circles with numbers 7 through 13 are placed over the following fields:

- 7: Category dropdown
- 8: Manufacturer text box
- 9: APL Product text box
- 10: Date Sample Taken text box
- 11: Material Description text box
- 12: Intended Use text box
- 13: Soil Description text box

7. **Category** – select the Category or Category and Type matching the geosynthetic product being used.

8. **Manufacturer** – type the name of the manufacturer of the geosynthetic product being used.

9. **APL Product** – begin typing the name of the geosynthetic product being used. MAC will return a list of entries that match the search criteria from the list of approved APL products. *Be sure to select the APL number for the product that matches the category chosen.*

Sample Info

Method of Acceptance: Sampling And Testing

Sample Level: VT

Category: D-2 / Articulating Block

Manufacturer: [Empty Field]

APL Product: [Active Field]

- Geosynthetics [985-006-001 - Drainage Geotextiles, D-1]
- Geosynthetics [985-007-001 - Drainage Geotextiles, D-2]
- Geosynthetics [985-008-001 - Drainage Geotextiles, D-3]

10. **Date Sample Taken** – enter the date the geosynthetic material was sampled from the job.

11. **Material Description** – type a short description of the geosynthetic material being used.

12. **Intended Use** – enter a detailed description of what the geosynthetic material is being used for. If the product is being used for more than one application include a description of all uses.

NOTE: If the same material is being used for various applications under *the same category* (e.g. D-3 geotextile used for a French Drain and for Filter Fabric Jacket (Culvert) wrapping) only one MAC sample is required with all uses described under Intended Use. If the same material is used for a different application under *a separate category* (e.g. a geotextile used for a D-2 / Ditch Pavement and for a D-3 / Sheet Piling Filter), *separate* MAC samples are required so the APL number matches the category and intended use description. Tip: The *Create New Sample Login from this Sample* button in MAC can be used to expedite this process.

13. **Soil Description** – for D-1, D-2, and D-3 applications, list the class type (a, b, c, d, e, or f) based on the in-situ (meaning in place or onsite) soil type the geosynthetic material is being used with (refer to FDOT's [Standard Specifications for Road and Bridge Construction, Section 985, Table 985-2](#)).

The Testing Lab Id defaults to the State Materials Office (SMO) lab id (DSM001).

Testing Lab

Testing Lab
DSM001 - State Materials Office

Location Info

Sampled From 14

Contact Info

Contact Name 15 * Cell Phone # 16 * Office Phone # * Email 17 *

Comment

Comment 18

Document

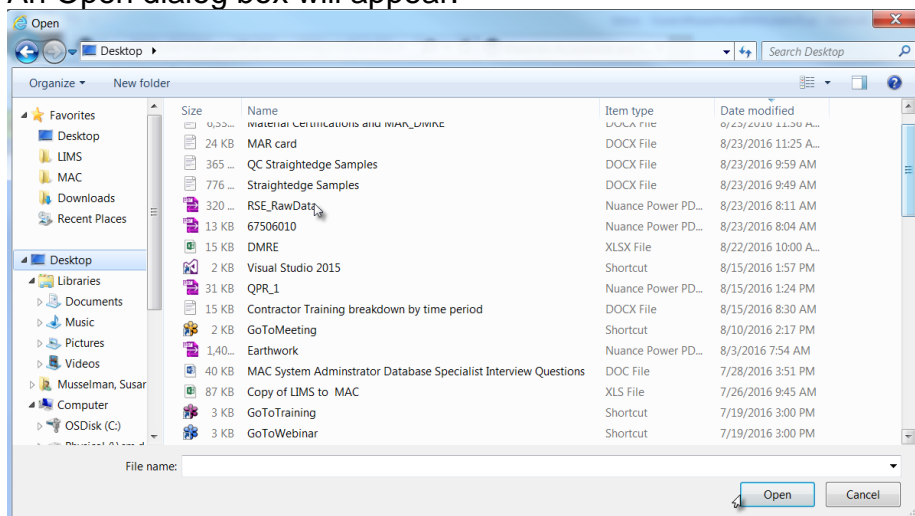
19 No file chosen

Description 20

21

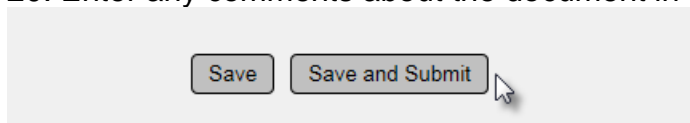
14. **Sampled From** – enter location where the physical sample was obtained.
15. **Contact Name** – enter a contact name. This is someone who can answer specific questions about the certification document and the physical sample.
16. **Cell Phone # or Office Phone Number** – enter either contact phone number in one of these fields. Only one is required. When one is entered the red asterisk will disappear by the other field.
17. **Email** – enter an email address for the contact person in the field.
18. **Comments** – enter any comments about the sample.
19. **Choose File** – select this option to upload the certification document to the sample. This document can be (1) manufacturer’s unaltered original certification letter that includes contractor’s and project information and material properties, (2) date stamped photos of the labels on the rolls at the jobsite that clearly show the product name and LOT numbers, (3) delivery ticket/invoice that clearly shows the product and the contractor’s company/address.

An Open dialog box will appear.



- Navigate to the location where the document is stored.
 - Click on the document to select it.
 - Click on the Open option to upload the document to the sample.
- The document will appear as attached to the sample.

20. Enter any comments about the document in the Description field.



21. **Save & Submit** –

- Save** – select Save if you are not ready to submit the sample but want to save the data you have entered so far.
- Save and Submit** – select Save & Submit if you are ready for the SMO to review the sample.

B. SMO Sample Processing

When the SMO receives the physical sample, we will review it for several different items:

- Is the product the correct product?
- Is the product correct for the specific application?
- Are there any issues with the certification document?

During the review SMO may identify an issue with the data entered in MAC. In most cases, if there are sample data entry issues, the sample may be returned for corrections. This may include the category / type. Most of the time this is not allowed even when the system allows a user to do so. MAC Spec 985 is a rare exception where changing the category / type does not impact the list of required tests. If you are directed by SMO to revise the category / type to match the correct product and/or application, this is permitted for MAC Spec 985 samples.

Chapter 2 – Creating an APL Tracking Sample

Creating an APL Tracking Sample is described in detail in the [APL Tracking Sample Life Cycle Instructions](#). The permanent erosion control materials' APL Tracking sample is as follows:

The screenshot shows a web form titled "Create Test Sample". At the top, it displays "MAC Spec" and "985 - Geosynthetic Materials, Supplemental Specification, 01/2019, v3.3 [Draft]". Below this is a "Sample Info" section with several fields: "Method of Acceptance" (Sampling And Testing), "Sample Level" (VT), and "Category" (APL & BABA Tracking / E-3 / Plastic Erosion Mat (Turf Reinforcement Mat) (Type 1) with a dropdown arrow). The "APL Product" field contains "36" and "ent" with an asterisk. "Date Sample Taken" is "10/17/2024". "Quantity Installed" is "250" and "Unit of Measure" is "Linear Feet" with an asterisk. The "Intended Use" field is a large text area containing "Describe the use of the permanent installation." and a character count of "47 of 2000".

1. **Category** – select the appropriate APL & BABA Tracking category / type for the product being permanently installed.
2. **APL Product** – enter the APL number or product description and select the appropriate entry from the returned list.

NOTE: Make sure the appropriate number is selected. Some products have more than one APL number because they are approved for multiple applications. Project personnel must ensure that the correct APL product is being used for the specific application.

NOTE: A product may not be acceptable even though you are able to find the APL Product in this field. Per the APL Tracking Sample instructions, you must review the specific product in the PATH application to ensure there are no conditions or limitations that make it ineligible to be used on your project.

3. **Date Sample Taken** – enter the date the product was installed.
4. **Quantity Installed** – enter the total amount of the product that was (or will be) placed on the project.
5. **Unit of Measure** – enter the measure for the quantity placed and select it from the returned list; for example linear feet or square yards.
6. **Intended Use** – enter a description of the use of the product installed permanently.