

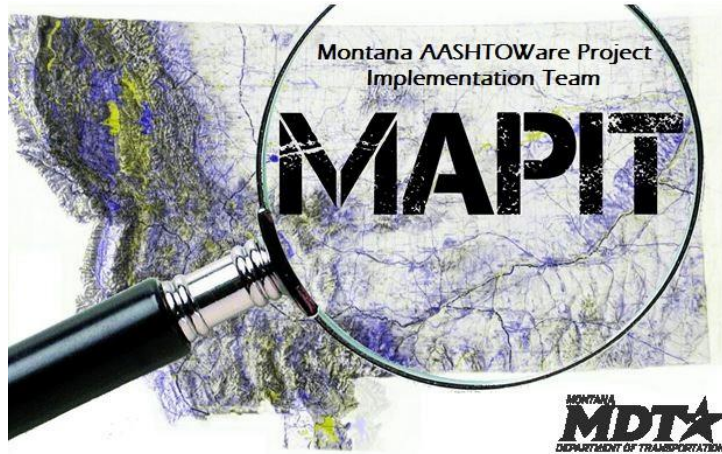


MONTANA DEPARTMENT OF TRANSPORTATION
AASHTOWare Project Construction and Materials



MDT Procedure
Process: Reference Specifications

Date: January 4, 2018
Updated: August 26, 2019





❑ **Process Definition**

Reference Specifications contain the material’s specifications/requirements used by the agency view to determine if the test passes or fails.

Reference Specifications are created on the action relationship on the material category or material. They consist of condition names and condition fields. The condition name is used to pull the specification values into the agency view. The condition fields contain the actual specification values. There are three types of condition fields: Alphanumeric, Numeric w/ Min/Max, and Numeric w/ Range. The Specification Condition Name and Condition Field are very sensitive. If a code table is used by the agency view, the condition fields must match the description of the field in the code table exactly. If the coding is all within the agency view, the condition fields must match that coding.

Coordination is needed with ESS staff to ensure that the specification condition name and condition field names are correct.

❑ **Acronyms and Definitions**

ESS – Engineering Systems Section

MDT – Montana Department of Transportation

❑ **MDT Procedure**

1. Navigate to the action relationship on the material category or material to which the specification is being added
2. Under the row action, select Create New Reference Specification

The screenshot shows a software interface for 'TEST - Physical Testing' with a 'Sample Record' for 'Cover Gradation'. The form includes fields for 'Action Type' (TEST - Physical Testing), 'Action Documentation Type' (Sample Record), 'Test Method - Description' (MT 202 - Sieve Analysis of Fine and Coarse Aggregates), 'Special Instructions', 'Acceptance Method' (TEST - Test Results), 'Sample Type' (PROJ - Project Acceptance), 'Sample Size' (30), 'Effective Date' (11/06/2017), and 'Expiration Date'. On the right side, there are dropdown menus for 'Action Relationship Description' (Cover Gradation), 'Test Start Duration', 'Test Responsibility' (FLD - Field Construction), 'Approved Source Required', 'Sample Responsibility' (FLD - Field Construction), 'Sample Location', 'Sample Units' (LBS -), and 'Status' (ACTIVE - Active). An 'Actions' dropdown menu is open, showing options like 'Delete', 'Duplicate Row', 'Exclude from Search Results', 'Insert Row', 'Open Reference Specifications', 'Views', 'Attachments', 'Links', and 'Tracked Issues'. The 'Create New Reference Specification' option is highlighted.

3. Enter the Specification Name

Note, this is the name that the user will select when on the sample record test



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Enter Test Results | Maintain Test Queue | Review Samples | Review Tests | Sample Record

Sample Record Test Summary

Sample Record ID: 2017111412513 Save ?

Test Number: 1.0 Test Method - Description: MT 202 - Sieve Analysis

General

Testers

Reference Specifications

Retests

Search: Type search criteria or press Enter Advanced Showing 1 of 1

Specification Name	Record Type	Record ID
MT 202 Sieve Analysis	Material Category	701.01-Concrete Aggregate
Use for Test <input type="checkbox"/>	Effective Date	Expiration Date
	11/01/2016	

4. Enter the effective date (the date of the specification)
5. Change the status to Active

Note, a new reference specification included on a future letting can be created and marked inactive by setting a future effective date. Enter the future Effective Date and Status equal to Active. Once the effective date is reached, the specification will automatically become Active.

Overview | Action Relationship

Reference Specification Summary

Reference Specification MT 202 Sieve Analysis - Successfully Saved x

Reference Specification

Specification Name *
MT 202 Sieve Analysis

Record ID
701.02.8-Cover Aggregate

Action Relationship Description
Cover Gradation

Test Method - Description
MT 202 - Sieve Analysis

Agency View Name - Title
-

Record Type
Material Category

Effective Date
03/10/2016 Calendar

Expiration Date
Calendar

Status
ACTIVE - Active ▼

Active
Yes

New

Specification Condition Name * ▼ Condition Fields
0

6. Click Save
7. Enter the Specification Condition Name

Note, in many instances, the action relationship and reference specification will be on the material category. In that case, the condition name will refer to the material. If a code table is being used, such as with aggregate, the name must match the code table field exactly.



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Code Table / Values Summary

Code Table: AVAGG - Agency View - Aggregate Material Code to RefSpec Condition Name

Code Table ID: AVAGG Code Table Description: Agency View - Aggregate Material Code to RefSpec Condition Name

Search: Advanced Showing 3 of 3

New 0 added | 0 ma

Value	Description	Obsolete Date
701.02.08.01	CCA1	
701.02.08.02	CCA2	
701.02.08.03	CCA3	

Reference Specification Summary

Reference Specification

Specification Name:

701.02.8-Cover Aggregate

Action Relationship Description: Cover Gradation

Test Method - Description: MT 202 - Sieve Analysis

Agency View Name - Title: -

Record Type: Material Category

Effective Date: 03/10/2016

Expiration Date:

Status: ACTIVE - Active

Active: Yes

New

Specification Condition Name:

Screen shot showing multiple materials under the same reference specification:

Reference Specification Summary

Reference Specification

Specification Name:

Record ID: 702.02-Emulsified Asphalt

Action Relationship Description: Emulsified Asphalt Testing

Test Method - Description: Emulsion Properties - Emulsified Asphalt Property Tests

Agency View Name - Title: -

Record Type: Material Category

Effective Date: 09/01/2014

Expiration Date:

Status: ACTIVE - Active

Active: Yes

New 0 added | 0 marked for deletion | 0 changed

Specification Condition Name	Condition Fields
SS-1h	3
CSS-1h	3
CRS-2	3

8. Click Save
9. Click the arrow left of the label Specification Condition Name to expand it.



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10. Enter the Reference Specification Condition Field

Note, if a code table is being used, the field description much match the description in the code table

Code Table / Values Summary

Code Table: Coarse Sieves - Coarse Sieves

Code Table ID: Coarse Sieves

Code Table Description: Coarse Sieves

Q: 3/ Advanced Showing 2 of 2

The previously highlighted row is not in the current search results. Show previously highlighted row. ✖

New 0 added | 0

Value	Description	Obsolete Date
11	3/4 in. (19 mm)	
13	3/8 in. (9.5 mm)	

11. Select the Condition Field Type

12. Enter the field values

a. Numeric w/ Min/Max

Enter Min Limit and Max Limit

Field	Min Limit
3/8 in. (9.5 mm)	
Condition Field Type	Max Limit
Numeric w/ Min/Max	100.00

Field: 3/8 in. (9.5 mm) Condition Field Type: Numeric w/ Min/Max

Min Limit:

Max Limit:



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b. Alphanumeric

Enter the Operator (e.g. Greater Than Or Equal To), the Alphanumeric Value and whether or not it is case sensitive

Field	Operator
Residue	Greater Than Or Equal To
Condition Field Type	Alphanumeric Value
Alphanumeric	57

Field * Condition Field Type *

Operator *

Alphanumeric Value

Match Case

c. Numeric w/ Range

Enter Target Value, negative Target Deviation and positive Target Deviation

Note, this option is not being used at this time

13. Click Save

14. Under the row action, select New Reference Specification Condition Field

New 0 added | 0 marked for deletion | 0 changed

Specification Condition Name * <input type="text" value="CCA1"/>	Condition Fields <input type="text" value="1"/>	<ul style="list-style-type: none"> Actions Delete Duplicate Row Insert Row New Reference Specification Condition Field Views Attachments Links Tracked Issues
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15. Enter the condition field information

16. Create new condition fields as needed

Specification Condition Name * <input type="text" value="CCA1"/>	Condition Fields <input type="text" value="3"/>
3/8 in. (9.5 mm)	
> Numeric w/ Min/Max	100.00
4M (4.75 mm)	
> Numeric w/ Min/Max	15.00
Field	Min Limit
200M	0.00
> Condition Field Type	Max Limit
Numeric w/ Min/Max	2.00



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Rescind Table 701-12 and replace with the following:

TABLE 701-12
TABLE OF GRADATIONS - COVER MATERIAL

Percentage By Weight Passing Square Mesh Sieves			
Sieve Size	Type 1	Type 2	Type 3
½-inch (12.5 mm)			100
¾-inch (9.5 mm)	100	100	40-80
No. 4 (4.75 mm)	0-15	0-8	0-8
No. 200 (0.075 mm)	0-2	0-1	0-1



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- ❑ **IT Systems Interfaces Outside of AASHTOWare Project**
- ❑ **Process Exceptions**
- ❑ **Business Change Summary**

The concept of reference specifications is not new but they are entered a lot differently in the system. Additional care is required to make sure the specification name and condition field names are correct or the agency views will not work correctly.

- ❑ **Comments**

Coordination is needed with CSS staff to ensure that the specification condition name and condition field names are correct.