

**STATE OF OHIO**  
**DEPARTMENT OF TRANSPORTATION**  
**SUPPLEMENT 1102**

**ACCEPTANCE OF NON-SPECIFICATION MATERIAL ON  
CONSTRUCTION PROJECTS**

**December 31, 2012**

**1102.01 General**

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**1102.03 Determining Fair Market Value and Administrative Fees**

**1102.04 Non Specification Determination Documentation**

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**1102.06 Final Project Documentation of Non Specification Materials**

**1102.01 General** This supplement establishes the process for evaluating, accepting, and determining a Fair Market Value for non-specification material incorporated in a Department construction project. This supplement also establishes the appeals process for non-specification materials.

**1102.02 Determining if Non Specification Material Remains in Place**

The Project or Area Engineer will report all non specification materials to the DCA. The Engineer will include any acceptance, verification and quality control test data; the physical condition of the in-place material; and a report of the expected life cycle performance (See Appendix A) of the non specification material along with any other supporting information, test data, Contractor quality control information, etc..

The Engineer or DCA may require additional testing by the Department and the Contractor to help in the determination of whether the material will remain in place. As part of the District's determination, they may consult with the Office of Materials Management, or other offices, or agencies to help determine if or what additional testing is needed; to evaluate the actual field conditions; and to make recommendations on the possibility of performance of the non specification material.

The District Construction Administrator (DCA) will evaluate whether the in-place non specification material will provide some level of acceptable performance and determine if the material can remain

Upon completion of the DCA's evaluation to determine if the material remains in place or is removed, the DCA will report to the Division of Construction Management the type of the non specification material, all supporting test data, and the DCA's basis for final determination of the non specification material.

### **1102.03 Determining Fair Market Value and Administrative Fees**

If the DCA determines the non specification material will remain in place, a fair market value for the in place non specification material will need to be determined.

When evaluating the fair market value for the non specification material, the evaluation should reflect the overall performance of the material, including life cycle cost. (Appendix B provides guidance for some material types on when deductions and even some information on when removal and replacement is the recommended alternative.) Appendix B does not specifically include possible future maintenance cost.

The fair market value for any non-specification material remaining in place will be determined as a percentage of the construction item's bid price that the non specification material was incorporated in.

For material deficiencies that are less common and not covered in Appendix B, the DCA will independently establish a fair market value (appropriate deduction) for the materials following a life cycle concept.

#### **A. Administrative Fees (AF)**

A minimum AF will be determined and applied for any non specification material. If the final determined Fair market value deduction is greater than the administrative fee, the AF can be waived but it should be recognized that the administrative costs were created due to the material not meeting specification.

The AF will be applied as follows:

- 1 an AF of \$500 will apply to all deficient materials that do not require additional investigations or testing by the Department beyond the original not approved tests or evaluation of original submitted test data.
- 2 If the District evaluation process of the non specification material requires additional Department sampling and testing, including additional investigations, the minimum administrative deduction will be increased to the total of the actual sampling, testing and labor costs, including overhead, of all Departmental staff involved in the material's sampling, testing, investigation and evaluation.

The DCA may combine deficient materials into the same change order and apply only one administrative fee provided the material was similar, produced on the same day, and installed on the same project.

#### **B. Applying Fair Market Value and AF**

If the calculated AF is less than the Determined Fair Market Value deduction apply the greater.

If the total bid price for the construction item the non specification material is incorporated in is less than the AF or the Determined Fair Market Value deduction the final deduction will be the the total bid price for the construction item.

### **1102.04 Non Specification Determination Documentation**

If the recommendation is that the non specification material will remain in place, the Engineer will provide a Report on Disposition and Fair Market Value of Non-specification Materials for the project.

Upon the DCA's final determination a copy of the Report on Disposition and the construction item price adjustment will be provided to the Contractor.

#### **1102.05 Appeal Procedure**

Appeal the decision within 10 days of receipt of the Report on Disposition. Failure to file an appeal within the allotted time waives any right to the appeal process.

Submit the appeal in writing to the DCA. The appeal will be accompanied by supporting material documentation disputing the DCA decision including additional test information, other supporting test data that supports the appeal, etc., that the material does indeed conform to specification requirements or the deduction should be reduced. Appeals submitted without supporting documentation will be denied.

The DCA may handle the appeal informally, evaluating the information provided with the Contractor's appeal request and, if warranted, revise the District determination. The DCA may also forward the appeal to the Central Office Review Committee listed below.

If the District chooses to forward the Contractor appeal, provide to the secretary of the Central Office Non Specification Materials Appeals Committee a copy of the original District non specification materials report from 1102.02 along with any additional supporting information from the District. Additionally provide the Contractor's appeal submittal and its supporting documentation.

The committee consists of:

1. Deputy Director, Division of Construction Management, Chair.
2. Administrator, Office of Construction Administration.
3. Administrator, Office of Materials Management
4. Claims engineer, Division of Construction Management, Secretary

The Committee will meet and in its review and resolution the Committee may, at its discretion, rely on internal or external expertise. The Committee will meet on an as needed basis as determined by the Chair.

The Central Office Review Committee Chair will notify the DCA, in writing, of the committee's decision for appropriate final action.

After the Contractor's appeal time has elapsed or the appeal process is complete, the District will process a change order that documents the material that failed to meet the plan requirements and specifications. The change order will include the appropriate adjustment to the contract price. .

#### **1102.06 Final Project Documentation of Non Specification Materials**

In addition to the District report on disposition and any reports from the appeals process conforming to 108.02 G, the District will complete the documentation form in Appendix C and incorporated into project records.

| The District will also complete the letter format in Appendix D for all projects. Include reference to the form and information required in Appendix C.

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## **APPENDIX A: Life Cycle Evaluation Process**

Material test results only provide a spot measure of a single location at the time of the test. Applying a direct reduction based on the comparison of a single minimum required test value to the actual tested value may not be a true cost reflection of the effective life of the non-specification material to the Department or the ability of the non-specification to perform at some reasonable level at a lower quality.

The common deductions in Appendix B only establish recommended deductions assuming all other material conditions have been evaluated, including other tests, field conditions, quality of service, maintenance costs, and expected life cycle performance of the material is not drastically affected.

Before using Appendix B deductions perform a practical life/cycle evaluation of the non specification material. This should include:

- A. Evaluating the actual field conditions related to the non specification material. The Engineer should include other district offices and any other entities the Engineer believes would be beneficial in the evaluation of the durability of the non specification material.
  1. Discuss and determine with your design offices what effect the non specification materials will have on design safety factors
  2. Discuss with your maintenance offices what possible additional maintenance costs there might be.
  3. Is additional testing required by the Contractor to help in the evaluation

Use the additional information gathered to estimate a loss of service life and along with additional maintenance costs to compare to the common deductions of Appendix B to see if they appear appropriate. Complete a report with your recommendation on the non-specification material (i.e. remove and replace or deduction) to the DCA.

A lifecycle evaluation may not be required on every non specification item but some form of field evaluation should be performed.

## Appendix B Common Deductions

Upon completing a practical life/cycle evaluation of the non specification material the common deductions provided in this Appendix may apply to your specific non specification material issue.

### I Deficient Strength - Miscellaneous Materials

[limited to materials for which the tested strength is not less than 85% of the required minimum value. Additional evaluation should include the designer of record.]

#### A. For Miscellaneous Materials (i.e. steel strength, plastic, other manufactured materials)

If a material has deficient strength, then the following deduction shall apply:

$$PD\% = \text{Deduction (percent)} = 100 \times [1 - \{\text{actual tested strength} / \text{required specification strength}\}]$$

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided under.

Q = quantity of the bid item the non specification material was used in

$$\text{Price Adjustment deduction} = PD/100 \times Cu \times Q$$

**II Deficient Strength - Portland Concrete** - Use this calculation for determination of deductions for concrete for which sample cylinders broke at a low strength.

When the Department's specification has no specific deduction requirements for concrete strength follow the below procedures to calculate a deduction:

A. When the test report value for the 28 day compressive strength is no more than 10% below the required 28 Day Design Compressive Strength (28DDCS), and a non destructive field evaluation of the concrete strength has been made by either District personnel or by a private laboratory (either swiss hammer or Windsor probe testing): [e3].

1. If the field evaluation results show values above the 28DDCS accept the concrete after applying an administrative deduction [cost][e4].
2. If the field evaluation results are within the 10% of the 28DDCS use the original lab result and the formula below.

For reported field cores or Lab test values within 10% of the 28DDCS

$$\frac{[28DDCS - \text{original lab test value}]}{(28DDCS)^2} \times 100 = \text{Percent Deduction (PD)}_{[e5]}$$

3. If the field evaluation results are below the 10% limit from the 28DDCS require additional testing conforming to II.B

B. When the concrete test value results from a lab report of field testing are more than 10% less than the 28DDCS require at least two cores be obtained from the below strength concrete. Have the cores tested by either OMM or a private testing laboratory that is CCRL (Cement and Concrete Reference Laboratory) certified for concrete testing.

1. Average the two cores values.
  - a. If the averaged core value is above the 28DDCS accept the concrete after applying an administrative deduction cost.
  - b. If the averaged core value is below the 28DDCS but within 10% of the 28DDCS follow the deduction requirements in II.A.
  - c. If the average core value is more than 10% below the 28DDCS contact the project designer of record and request a determination that the reported core strength is acceptable for the design requirements. If the designer accepts the field core average strength follow the deductions below
2. Concrete Deduction Values

For average compressive strength values more than 10% less than the 28DDCS

$$\frac{[28DDCS - \text{reported field test value}]}{(28DDCS)} \times 100 = \text{Percent Deduction (PD)}$$

The PD is allied to the quantity and unit cost as follows:

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided under.

Q = quantity of the bid item the non specification material was used in

$$\text{Price Adjustment deduction} = \text{PD}/100 \times \text{Cu} \times \text{Q}$$

**III. Deficient Coating Thickness (traffic markings, paints, etc where the specification has no specific deductions or where the deficiency is beyond the specification limits)**

If a material has deficient coating thickness, after evaluating the conditions of the materials in the field apply the following deduction:

$$PD \text{ [Deduction (percent)]} = 100 \times [1 - \{\text{actual determined thickness/specification required thickness}\}]$$

$$\text{Price Adjustment deduction} = PD/100 \times Cu \times Q$$

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in.

Q = quantity of the bid item the non specification material was used in

**IV. Excess Water (Moisture) in Non Asphalt based Liquid Materials (i.e. waterbased traffic markings, paints)**

If a liquid material has excess water (moisture) the following formula applies for the non specification materials Deduction:

$$PD \text{ (deduction\textbf{Appeal Procedure} percent)} = \{WA - WM\}/WM$$

Where: WA = actual water (moisture) content (%)

WM = maximum allowed water (moisture) content (%)

$$\text{Price Adjustment deduction} = PD/100 \times Cu \times Q$$

Cu = Cost per construction item unit = the actual unit cost of the bid item the water was in.

Q = Quantity of the Constuction Bid item that the excess Water was incorporated into.

**V. Aggregate Items**

A. Gradation (304) applies to in field quality assurance testing results.

<b>Percent Out of Gradation</b>	<b>Percent Deduction (PD) for all sieves except No. 200 sieve</b>	<b>Percent Deduction (PD) for the No. 200 sieve</b>
- 1.0	(1)	(1)
- 2.0	5%	10%
- 3.0	10%	20%
- 4.0	15%	(2)
- 5.0	25%	(2)
5.1 or greater	(2)	(2)

Notes: (1) Minimum administrative fee shall apply  
(2) Material removed and replaced at no cost to the Department.

The deduction is not cumulative, when the aggregate fails to meet the specified gradation on more than one sieve, the largest deduction shall apply. This deduction shall apply to all material represented by the sample.

$$\text{Price Adjustment deduction} = [\text{PD}(\text{largest})]/100 \times \text{Cu} \times \text{Q}$$

Cu = Cost per construction item unit = the actual unit cost of the bid item the aggregate material was provided in

Q = Quantity of the 304 Construction Bid item the deduction applies to

B. Gradation<sup>[e7]</sup> of other aggregate materials

When random samples fail to meet specification gradation requirements at discharge from the mixer or pugmill or after the spreading operation, the following scale deduction shall be used for each failed sample and on each sieve:

[e8]

Percent Out of Gradation		Percent Deduction (PD) for all sieves except the No. 200 sieve	Percent Deduction (PD) for the No 200 sieve
0.1	- 1.0	(1)	(1)
1.1	- 2.0	3%	10%
2.1	- 3.0	5%	20%
3.1	- 4.0	15%	(2)
4.1 or greater		(2)	(2)
Notes: (1) Minimum administrative fee shall apply (2) Material removed and replaced at no cost to the Department			

The deduction is not cumulative, when the aggregate fails to meet the specified gradation on more than one sieve, the largest deduction will apply. This deduction will apply to all material represented by the sample.

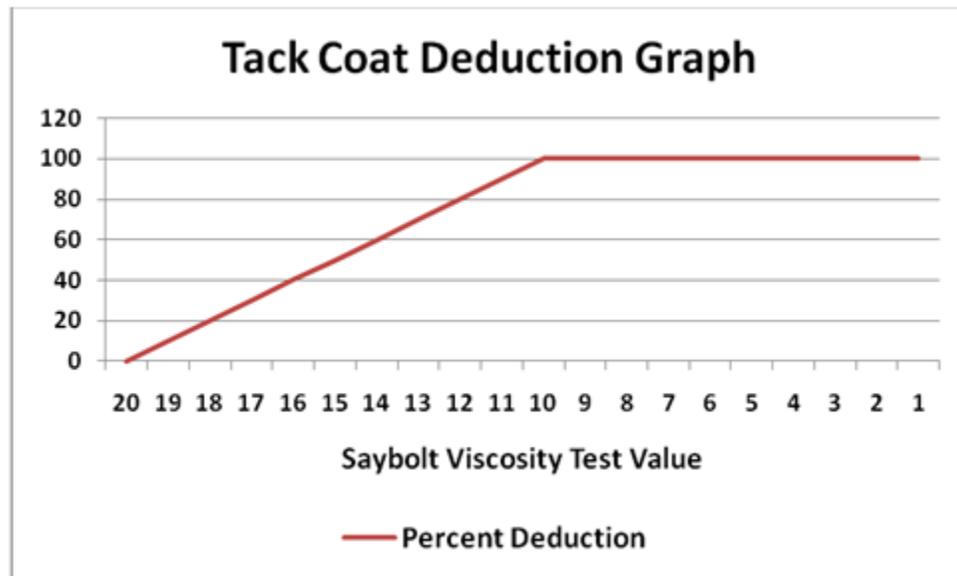
$$\text{Price Adjustment deduction} = [\text{PD}(\text{largest})]/100 \times \text{Cu} \times \text{Q}$$

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in

Q = Quantity of the aggregate material Construction Bid item the deduction applies to

## **VI Asphalt Items**

**A. Tack Coat Materials** – This deduction should be used only after a field determination of the tack quality is believed to be durable and capable of performing.



$$\text{Price Adjustment deduction} = \text{PD}/100 \times \text{Cu} \times \text{Q}$$

Where:

Q = quantity of non specification Tack Coat represented by the Test result

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in

PD = Tack Deduction (%) (see graph above)

Formula for PD (if tested Saybolt Viscosity is below 20) =  $[(20 - \text{Tested Saybolt Viscosity})/10] \times 100$

**Note: Deductions for items VI, A thru H can be cumulative<sup>[e9]</sup> for a non specification material**

### **B. Fines/Asphalt (F/A) Ratio**

Any instance of a material having a non specification F/A Ratio (C&MS 441.09 B.) of 1.5 or greater will be evaluated for removal under this supplement. Evaluation should include contacting central office for input.

If the determination is made for the asphalt to remain in place the Deduction percent (PD) will be 20% for a asphalt concrete surface course or 10% <sup>[e10]</sup> for other asphalt concrete courses.

For any non-specification F/A Ratio between 1.2 and 1.5 accept the very first non-specification test of the project JMF without a price deduction or administrative fee, if the

Contractor brought the following F/A test into the specification limits. Any subsequent F/A tests with a between 1.2 and 1.5 will require a Deduction (PD%) of 10% be applied to the quantity of material that test represents. If the Contractor does not immediately (441.09 paragraph 2) adjust and retest per the QC Plan the Deduction (PD%) of 10% will apply to all the asphalt concrete material with F/A test results between 1.2 and 1.5.

$$\text{Price Adjustment deduction} = \text{PD}/100 \times \text{Cu} \times \text{Q}$$

Where:

Q = quantity of non specification materials

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in

PD = Deduction percent

**Note: Deductions for items VI, A thru H can be cumulative for a non specification material.**

### C. Air Void

Any instance of an asphalt concrete material having an Air Void result greater than 6.0% or less than 2.0% will be evaluated for removal under this supplement. Evaluation will include contacting central office for input. If allowed to remain in place the Deduction percent (PD%) will be 20% for an asphalt concrete surface course and 10% for all other courses.

Accept any non-specification Air Void result between the specification limits of C&MS Table 441.10-1 and either 6.0% or 2.0% of a project JMF and do not apply a price deduction or administrative fee if the number of non-specification tests is less than or equal to 10% (up to 3 maximum) of the total number of QC tests run and if the out of specification tests are not consecutive in any manner. Otherwise apply the following:

1. For any non-specification Air Void result between the specification limits of C&MS Table 441.10-1 and 6% or 2% accept the very first non specification test of the project JMF and do not apply a price deduction or administrative fee, if the Contractor performed additional tests beyond the required frequency of the quality control plan and the results of the next additional test after the failed air void test shows the air voids have returned to within the specification limits.
2. All subsequent air void tests (consecutive or otherwise) with results between the specification limits of Table 441.10-1 and 6% or 2% will require a PD of 10% be applied to the quantity of material that air void test represents. If the Contractor does not immediately adjust and retest per the QC Plan and return the air void

results to within specification limits a PD of 10% will be applied to all materials with non specification test results between the specification limit of table 441.10-1 and 6% or 2%.

$$\text{Price Adjustment deduction} = \text{PD}/100 \times \text{Cu} \times \text{Q}$$

Where:

Q = quantity of non specification materials with air void results outside specification limits

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in

PD = Deduction percent

**Note: Deductions for items VI, A thru H can be cumulative<sup>[e17]</sup> for a non specification material.**

#### D. Low Asphalt Binder Content

If a sample of asphalt concrete has a low asphalt binder content (C&MS Tables 441.10-1 or 403.06-2) below the specification limits evaluate whether the asphalt should be removed. If, after evaluation, the asphalt concrete is allowed to remain in place then determine and apply the following deduction:

$$A (\$/\text{CY}) = [ \{ \text{BR} - \text{BA} - \text{L} \} \times \text{Q} \times \text{PI} ] / [ \text{QV} \times 100 ]$$

$$B (\$/\text{CY}) = \{ \text{BR} - \text{BA} - \text{L} \} \times \text{Cu} \times 0.233$$

$$\text{Price Adjustment deduction} (\$) = \{ A + B \} \times \text{QV}$$

Where:

BR = required binder content (%)

BA = actual binder content (%)

L = allowable limits from design (%)

Q = effected quantity of asphalt concrete (tons)

QV = effected quantity of asphalt concrete (cubic yards)

PI = placing index for material placed (\$/ton)

Cu = Construction Bid item unit price for the asphalt concrete material (\$/CY)

**Note: Deductions for items VI, A thru H can be cumulative<sup>[e19]</sup> for a non specification material.**

#### E. High Asphalt Binder Content

Any instance of an asphalt mix having a high out of specification asphalt binder content (C&MS Tables 441.10-1 or 403.06-2) will be evaluated for removal. If allowed to remain in

place accept the first out of specification test of a project without a deduction if the test is followed with an immediate correction and passing retest, otherwise apply the following deduction to all out of specification tests.

If the material continues to be produced outside the specification limits following the above allowance for one out of specification test, a Deduction percent (PD) of 5% will be applied to the non specification in place base and intermediate courses asphalt. Apply a PD of 10% for non specification in-place surface course asphalt.

$$\text{Price Adjustment deduction} = \text{PD}/100 \times \text{Cu} \times \text{Q}$$

Where:

Q = quantity of non specification materials with high asphalt binder results outside specification limits

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in

PD = Deduction percent

Note: Deductions for items VI, A thru H can be cumulative for a non specification material.

#### **F. Asphalt Gradation**

Any instance of an asphalt mix having an out of specification gradation (C&MS Tables 441.10-1 or 403.06-2) will be evaluated for removal. If allowed to remain in place accept the first out of specification gradation test of a project without a deduction if the test is followed with an immediate stock or plant correction and passing retest, otherwise apply the following deduction percent to all non specification materials represented by the out of specification tests:

For out of specification gradation tests a Deduction percent (PD) of 5% will be applied to the non specification in-place base and intermediate course asphalts and a PD of 10% for non specification in-place surface course asphalt.

$$\text{Price Adjustment deduction} = \text{PD}/100 \times \text{Q}$$

Where:

Q = quantity of non specification gradation asphalt concrete materials

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in

PD = Deduction percent

#### **G. Asphalt Binder Content or No. 4 (4.75 mm) Sieve Outside Range Limitation**

For Basic Mixes having range requirements per Table 403.06-2 apply the following. If tests of asphalt concrete are outside the range limitation specified for asphalt binder content or the 4.75 mm (No. 4) sieve apply a deduction of 5 [e23]% for the quantity represented by the tests.

**Note: Deductions for items VI, A thru H can be cumulative [e24] for a non specification material.**

**H. PG Binder**

If a PG Binder supplier notifies ODOT OMM, as required per their QCP, of a problem with a PG binder prior to ODOT discovering a problem thru PG binder testing, the deduct amount calculated below shall be reduced by 50%. The notice must be from the certified binder supplier to OMM and must be before ODOT discovers any issues. The nature of the failure, extent of the issue (number of liquid tons and production dates) and contractors and/or projects affected must be provided by the binder supplier.

If a check sample of PG binder from a hot mix facility fails to meet the grade requirements the following Deduction values will be used:

$$\text{Price Adjustment deduction} = \text{PD}/100 \times \text{Cu} \times \text{Q}$$

Where:

Q = quantity of non specification gradation asphalt concrete materials with the non specification PG binder

Cu = Cost per construction item unit = the actual unit cost of the bid item the material was provided in

PD = total of all applicable adjustment factors from below

m-value failure

0.290 - 0.299 PD = 5 %

0.280 - 0.289 PD = 10 %

0.270 - 0.279 PD = 20 %

0.269 or less PD = 30 %

Original DSR ( G\*/sin delta) less than 1.00kPa

0.95 – 0.99 PD = 10 %

0.90 – 0.94 PD = 20 %

< 0.90 PD = 30 %

Any other PG properties, PD = 5 %

**Note: Deductions for items VI, A thru H can be cumulative [e26] for a non specification material.**



**Appendix D**

**FHWA MATERIALS COMPLIANCE LETTER**



**OHIO DEPARTMENT OF TRANSPORTATION**  
**CERTIFICATION OF MATERIALS**

Date

Re: Project No:  
County:  
Route No:  
Section No:  
PID No:  
Federal Aid Project  
Contractor

Dear Sir:

This is to certify that either the results of the tests on acceptance samples or the acceptance guidelines of Departmental Policy No. 515-0001, indicate that the materials incorporated into the construction work and the construction operations controlled by either sampling and testing or 515-0001, were in conformity with the approved plans and specifications. All independent assurance samples and tests are within tolerance limits or have been resolved.

Exceptions to the plans and specifications, if applicable, are explained in the attached document (TE206)

\_\_\_\_\_  
Project Engineer/Supervisor Date

\_\_\_\_\_  
District Engineer of Tests Date

\_\_\_\_\_  
District Construction Administrator Date

Attachment: TE206 (disposition of materials)  
cc: Administrator, Office of Materials Management  
Project file