MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

April 10, 2025

Members Present:	Mark Dunn	Contracts & Specifications Bureau
	Dillon Feldmann	Local Systems Bureau
	Daniel Harness	Design Bureau
	Eric Johnsen, Chair	Contracts & Specifications Bureau
	Wes Musgrove	Construction & Materials Bureau
	Shane Neuhaus	District 6 - Materials
	Mike Nop	Bridges & Structures Bureau
	Willy Sorenson	Traffic & Safety Bureau
	Christy Vanbuskirk	Fairfield RCE
Members Not Present:	Tony Gustafson	Chief Engineer
	Scott Nixon	District 1 – DCE
Advisory Members Present:	Micah Loesch	FHWA
	Andy Case	Dallas County
	Luke Bowdish	Fayette County
	Ben Hucker	Maintenance Bureau
	Dave Carney	SUDAS
	Jeff Brinkman	Contracts & Specifications Bureau
	Melissa Serio	Construction & Materials Bureau
	Elijah Gansen	Construction & Materials Bureau
	Scott Sommers	Construction & Materials Bureau
	Brian Johnson	Construction & Materials Bureau
	Brian Johnson	Construction & Materials Bureau
	Jeff Devries	Construction & Materials Bureau
	Nate Thede	Project Management

The Specification Committee met on Thursday, April 10, 2025, at 9:00 a.m. Eric Johnsen, Specifications Engineer, opened the meeting. The items were discussed in accordance with the agenda dated April 3, 2025.

1. Article 1107.06, B, Federal Requirement.

The Construction and Materials Bureau requested to update BABA requirements to reflect removal of manufactured products waiver.

2. Article 2102.05, A, 1, c, 2, Below grade excavation (Roadway and Borrow Excavation).

The Construction and Materials Bureau requested to provide clarification on which excavation bid items are referenced.

3. Article 2106.05, Basis of Payment (Settlement Plates).

The Construction and Materials Bureau requested to remove redundancy and provide clarification that all

settlement plate work is incidental to embankment or excavation work, except monitoring.

4. Section 2310, Portland Cement Concrete Overlay.

The Construction and Materials Bureau requested to add information to the specifications that had been included in the plans and move the bid item into the Standard Specifications.

5. Article 2527.02, D, 2, Pavement Marking Materials.

The Maintenance Bureau requested to add new line widths and Retroreflectivity requirements.

6. Article 2527.03, C, 6, Removal of Pavement Markings.

The Maintenance Bureau requested to specify water blasting for pavement marking removals.

7. Article 2527.03, G, Defective Pavement Markings.

The Maintenance Bureau requested to provide guidance on what constitutes defective pavement markings.

8. Article 2529.03, H, 2, Full Depth Finish Patches.

The Construction and Materials Bureau requested to add an alternate method of measuring smoothness on patches.

9. Article 4130.01, A, Revetment Stone, Erosion Stone, and Gabion Stone.

The Construction and Materials Bureau requested to clarify the intent of the specification.

10. Article 4183.03, B, 1, Fast Dry Waterborne Traffic Paints.

The Construction and Materials Bureau requested to clarify paint specifications.

11. DS-23038, High Performance Thin Lift Overlay.

The Construction and Materials Bureau requested approval of updates to the Developmental Specifications for High Performance Thin Lift Overlay.

12. DS-23063, Fiber Reinforcement for Structural Concrete.

The Construction and Materials Bureau requested approval of updates to the Developmental Specifications for Fiber Reinforcement for Structural Concrete.

13. SS-23005, Hot Mix Asphalt Interlayer.

The Construction and Materials Bureau requested approval of updates to the Supplemental Specifications for Hot Mix Asphalt Interlayer.

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Musgrove/De Vries	**Bureau/Office:** Construction & Materials	**Item 1**
Submittal Date: 3/24/25	**Proposed Effective Date:** October 2025	
Article No.: 1107.06, B **Title:** Federal Requirement.	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text:

1107.06, B, Build America, Buy America.

Replace the Article:

1. On Federal aid contracts ~~and~~ or on contracts where the Department is the Contracting Authority, all products of iron~~,~~ and steel, manufactured products, and construction materials, which are permanently incorporated into the work, shall comply with the Build America, Buy America Act (BABA) and ~~Materials I.M. 107~~ Buy America Act. ~~Construction materials for the purposes of BABA compliance are defined below.~~

~~1~~ **a.** All products of iron and steel shall be of domestic origin and shall be melted and manufactured in the United States. All coatings of iron and steel products shall be applied in the ~~United States~~ US. Minimal amounts of these materials from foreign sources may be allowed, provided the cost does not exceed 0.1% of the contract sum or $2,500, whichever is greater. This amount shall include transportation, assembly, and testing as delivered cost of foreign products to the project.

b. All manufactured products shall be produced, including final assembly, in the US. For projects let on or after October 1, 2026, the cost of the components of the manufactured product that are mined, produced, or manufactured in the US shall be greater than 55% of the total cost of all components of the manufactured product.

~~2~~ **c.** All construction materials shall be produced in the ~~United States~~ US. Construction materials are defined as an article, material, or supply that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- fiber-optic cable (including drop cable);
- optical fiber;
- lumber;
- engineered wood; or
- drywall.

2. See Materials I.M. 107 for directions on complying with BABA and Build America.

Comments: Construction and Materials Bureau clarified that Build America Act still applies to iron and steel, so that information was added.

Specification Section Recommended Text:

1107.06, B, Build America, Buy America.

Replace the Article:

On Federal aid contracts and also on contracts where the Department is the Contracting Authority, all products of iron~~,~~ and steel, manufactured products, and construction materials, which are permanently incorporated into the work, shall comply with the Build America, Buy America Act (BABA) and Materials I.M. 107.

1. All products of iron and steel shall be of domestic origin and shall be melted and manufactured in the United States. All coatings of iron and steel products shall be applied in the ~~United States~~ US. Minimal amounts of these materials from foreign sources may be allowed, provided the cost does not exceed 0.1% of the contract sum or $2,500, whichever is greater. This amount shall include transportation, assembly, and testing as delivered cost of foreign products to the project.

2. All manufactured products shall be produced, including final assembly, in the US. For projects let on or after October 1, 2026, the cost of the components of the manufactured product that are mined, produced, or manufactured in the US shall be greater than 55% of the total cost of all components of the manufactured product.

~~2~~ 3. All construction materials shall be produced in the ~~United States~~ US. Construction materials are defined as an article, material, or supply that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- fiber-optic cable (including drop cable);
- optical fiber;
- lumber;
- engineered wood; or
- drywall.

Comments:

Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)

1107.06 FEDERAL REQUIREMENT.

B. Build America, Buy America.

On Federal aid contracts, and contracts where the Department is the Contracting Authority, all products of iron, steel, manufactured products, and construction materials, which are permanently incorporated into the work, shall comply with the Build America, Buy America Act (BABA) and Materials I.M. 107. Construction materials for the purposes of BABA compliance are defined below.

1. All products of iron and steel shall be of domestic origin and shall be melted and manufactured in the United States. All coatings of iron and steel products shall be applied in the United States. Minimal amounts of these materials from foreign sources may be allowed, provided the cost does not exceed 0.1% of the contract sum or $2,500, whichever is greater. This amount shall include transportation, assembly, and testing as delivered cost of foreign products to the project.

2. All construction materials shall be produced in the United States. Construction materials are defined as an article, material, or supply that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- fiber-optic cable (including drop cable);
- optical fiber;

- lumber;
- engineered wood; or
- drywall.

3. All manufactured products shall be produced in the United States.
   a. For projects let on or after October 1, 2025, manufactured products shall be produced, including the final assembly, in the United States.
   b. For projects let on or after October 1, 2026, manufactured products shall be produced, including the final assembly, in the United States. The cost of the components of the manufactured product that are mined, produced, or manufactured in the United States shall be greater than 55 percent of the total cost of all components of the manufactured product.

Reason for Revision: The manufactured materials waiver has been struck down.

New Bid Item Required (X one)	**Yes**	**No**
Bid Item Modification Required (X one)	**Yes**	**No**
Bid Item Obsoletion Required (X one)	**Yes**	**No**

Comments:

County or City Comments:

Industry Comments:

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Melissa Serio	**Office:** Construction & Materials	**Item 2**
Submittal Date: 3/24/25	**Proposed Effective Date:** October 2025 GS	
Article No.: 2102.05, A, 1, c, 2 **Title:** Below grade excavation (Basis of Payment – Roadway and Borrow Excavation)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2102.05, A, 1, c, 2.

Replace the Article:

When the contract does not contain a unit price for below grade excavation, the Engineer orders below grade excavation, and the contract documents do not indicate that below grade excavation will be required, it will be paid for based on the class of excavation involved:

- At double the contract unit price for Class 10 and Class 13 roadway and borrow excavation to a maximum depth of 3 feet.
- As extra work as provided in Article 1109.03, B, if the depth of Class 10 or Class 13 excavation exceeds 3 feet.
- At the contract unit price for Class 12 roadway and borrow excavation.

Comments:

Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)

2102.05, A, 1, c, 2)

Replace the Article:

2) When the contract does not contain a unit price for below grade excavation, the Engineer orders below grade excavation, and the contract documents do not indicate that below grade excavation will be required, it will be paid for based on the class of excavation involved:

- At double the contract unit price for Class 10 and Class 13 Roadway and Borrow ~~e~~Excavation to a maximum depth of 3 feet.
- As extra work as provided in Article 1109.03, B, if the depth of Class 10 or Class 13 excavation exceeds 3 feet.
- At the contract unit price for Class 12 Roadway and Borrow ~~e~~Excavation.

Reason for Revision: Provide clarification which Cl. 10/12/13 excavation contract/bid items are referenced.

New Bid Item Required (X one)	**Yes**	**No** x

Bid Item Modification Required (X one)	**Yes**	**No** x
Bid Item Obsoletion Required (X one)	**Yes**	**No** x
Comments: None		
County or City Comments:		
Industry Comments:		

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Melissa Serio	**Office:** Construction & Materials	**Item 3**
Submittal Date: 3/24/25	**Proposed Effective Date:** October 2025 GS	
Article No.: 2106.05 **Title:** Basis of Payment (Settlement Plates)	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments:

Specification Section Recommended Text:

2106.05.

Replace the Article:

~~Furnishing, installing, and extending~~ All work necessary to complete settlement plates in compliance with the contract documents is incidental to embankment or excavation. Monitoring of settlement plates by the Contractor is incidental to Construction Survey (when item is included with the Contract).

Comments: None.

Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)

2106.05.

Replace the Article:

2106.05 BASIS OF PAYMENT.

~~Furnishing, installing, and extending~~ All work necessary to complete settlement plates in compliance with contract documents is incidental to embankment or excavation. Monitoring of settlement plates by the Contractor is incidental to Construction Survey (when item is included with the Contract).

Reason for Revision: To remove redundancy and thus provide clarification that all settlement plate work is incidental to embankment or excavation work, except monitoring.

New Bid Item Required (X one)	**Yes**	**No** x
Bid Item Modification Required (X one)	**Yes**	**No** x
Bid Item Obsoletion Required (X one)	**Yes**	**No** x

Comments: None

County or City Comments:

Industry Comments:

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/Elijah Gansen	**Bureau/Office:** Construction & Materials	**Item 4**
Submittal Date: 3/19/2025	**Proposed Effective Date:** October 2025	
Section No.: 2310 **Title:** Portland Cement Concrete Overlay	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text:

2310.02, Materials.

Add the Article:

D. Fiber Reinforcement.

1. When fiber reinforcement is specified in the contract documents, use product approved in accordance with Materials I.M. 491.27, Appendix B.

2. Dose fiber reinforcement at the rate of 4 pounds per cubic yard of concrete unless stated otherwise in the contract documents.

2310.03, C, 1, General.

Add the Article:

e. Introduce fiber reinforcement into the mix in accordance with the fiber manufacturer's recommendations, unless otherwise approved by the Engineer. Ensure uniform distribution and random orientation of fibers throughout the concrete.

2310.04, Method of Measurement.

Add the Article:

G. Fiber Reinforcement.

Fiber reinforcement will be measured in pounds of fiber incorporated into the concrete mix.

2310.05, Basis of Payment.

Add the Article:

G. Fiber Reinforcement.

Per pound of fiber reinforcing. Payment shall be full compensation for supplying all materials, equipment, and labor for incorporating fiber reinforcement into the concrete mix.

Comments: The Construction and Materials Bureau wanted to clarify that fiber reinforcement is only required when specified in the contract documents. Inclusion of the bid item on the contract documents would be the way to require use of fibers.

Specification Section Recommended Text:

2310.02, Materials.

Add the Article:

D. Fiber Reinforcement.

1. Use product approved in accordance with Materials I.M. 491.27, Appendix B.

2. Fiber reinforcement shall be dosed at the rate stated in the contract documents. When the contract documents do not state a rate for fiber reinforcement a minimum rate of four pounds per cubic yard of concrete shall be used.

2310.03, C, 1, General.

Add the Article:

e. Introduce fiber reinforcement into the mix in accordance with the fiber manufacturer's recommendations, unless otherwise approved by the Engineer. Ensure uniform distribution and random orientation of fibers throughout the concrete.

2310.04, Method of Measurement.

Add the Article:

G. Fiber Reinforcement.
Fiber reinforcement will be measured in pounds of fiber incorporated into the concrete mix.

2310.05, Basis of Payment.

Add the Article:

G. Fiber Reinforcement.
Per pound of fiber reinforcing. Payment shall be full compensation for supplying all materials, equipment, and labor for incorporating fiber reinforcement into the concrete mix.

Comments:

Member's Requested Change: 23060.03, B, 1 **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

2310.02 MATERIALS.

D. Fiber Reinforcement.

1. Use product approved in accordance with Materials I.M. 491.27, Appendix B.

2. Fiber reinforcement shall be dosed at the rate stated in the contract documents. When the contract documents do not state a rate for fiber reinforcement a minimum rate of four pounds per cubic yard of concrete shall be used.

2310.03, C, 1, General.

e. Introduce fiber reinforcement into the mix in accordance with the fiber manufacturer's recommendations, unless otherwise approved by the Engineer. Ensure uniform distribution and random orientation of fibers throughout the concrete.

2310.04 METHOD OF MEASUREMENT

G. Fiber Reinforcement.

Fiber reinforcement will be measured in pounds of fiber incorporated into the concrete mix.

2310.05 BASIS OF PAYMENT

G. Fiber Reinforcement.

Per pound of fiber reinforcing. Payment shall be full compensation for supplying all materials, equipment, and labor for incorporating fiber reinforcement into the concrete mix.

Reason for Revision: Information in the revision is currently included in the plan sheets on every PCC overlay project. Placing the information in the specifications removes this need and ensures consistency across projects. Creating a new bid item removes the need to use a 2599 item on each project where fibers are included. The new bid item will also allow tracking of the cost of fibers.

New Bid Item Required (X one)	**Yes** X	**No**
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments: Consider adding a cap to the amount paid for any amount of fiber used above the bid quantity		
Industry Comments: None		

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Brian Worrel / Ben Hucker	**Bureau/Office:** Construction & Materials and Maintenance	**Item 5**
Submittal Date: 3/19/2025	**Proposed Effective Date:** 10/21/2025	
Article No.: 2527.02, D, 2 **Title:** Pavement Marking Materials	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text:

2527.02, D, 2, b, 2.

Replace Tables 2527.02-1 and 2527.02-2:

Table 2527.02-1: Waterborne Paint

Line Width	Wet-Film Thickness	Paint	Spheres
4"	14 mils	343.7 ft. of solid line per gallon of paint.	9.0 lb./gal.
6”	18 mils	178.2 ft. of solid line per gallon of paint.	11.0 lb./gal.
8”	18 mils	134 ft. of solid line per gallon of paint.	11.0 lb./gal.
10”	18 mils	107 ft. of solid line per gallon of paint.	11.0 lb./gal.

Table 2527.02-2: Solvent-based Paint

Line Width	Wet-Film Thickness	Paint	Spheres
4"	16 mils	300.8 ft. of solid line per gallon of paint.	9.0 lb./gal.
6”	18 mils	178.2 ft. of solid line per gallon of paint.	11.0 lb./gal.
8”	18 mils	134 ft. of solid line per gallon of paint.	11.0 lb./gal.
10”	18 mils	107 ft. of solid line per gallon of paint.	11.0 lb./gal.

2527.02, D, 2, b, Waterborne or Solvent-based Paint.

Add the Article:

3) For all waterborne paint markings applied to Interstates and Primary Highways, on contracts where the Department is the Contracting Authority, or other contracts when specified in the contract documents; ensure the application of paint and glass beads will allow for at least 80% of the beads to achieve at least 50% to 60% embedment in the dry paint and meet the following minimum retroreflectivity requirements:

Table 2527.02-3: Retroreflectivity of Waterborne Paint Markings

	Minimum Coefficient of Retroreflected Luminance ($mcd/m^2/lx$)
White line, symbols, and legends	300
Yellow line	200

The Contractor is responsible for placement of a quality product that meets or exceeds these specifications. Prior to commencing work, demonstrate to the Engineer that the equipment and methods to be used on the project will achieve or exceed these

requirements. When retroreflectivity readings are performed, use the procedure in Materials I.M. 386. Solvent-based paints will be exempt from reflectivity and embedment requirements when applied as allowed in Table 2527.03-1.

2527.02, D, 2, c, 4.

Replace the unnumbered table:

Table 2527.02-4: Retroreflectivity of Durable Paint Markings

	Minimum Coefficient of Retroreflected Luminance ~~mcd/sq.ft./ft.-cdl.~~ (mcd/m²/lx)
White line, symbols, and legends	300
Yellow line	200

2527.02, D, 2, d, 4.

Add as the third sentence:

Use the procedure in Materials I.M. 386 to determine retroreflectivity.

Replace the unnumbered table:

Table 2527.02-5: Retroreflectivity of High-Build Waterborne Paint Markings

	Minimum Coefficient of Retroreflected Luminance ~~mcd/sq.ft./ft.-cdl.~~ (mcd/m²/lx)
White longitudinal lines	300
Yellow longitudinal lines	225

Comments: Some of the revisions were inadvertently left off of the Specification Section Recommended Text.

Specification Section Recommended Text:

2527.02, D, 2, b, 2.

Replace Tables 2527.02-1 and 2527.02-2:

Table 2527.02-1: Waterborne Paint

Line Width	Wet-Film Thickness	Paint	Spheres
4"	14 mils	343.7 ft. of solid line per gallon of paint.	9.0 lb./gal.
6”	18 mils	178.2 ft. of solid line per gallon of paint.	11.0 lb./gal.
8”	18 mils	134 ft. of solid line per gallon of paint.	11.0 lb./gal.
10”	18 mils	107 ft. of solid line per gallon of paint.	11.0 lb./gal.

Table 2527.02-2: Solvent-based Paint

Line Width	Wet-Film Thickness	Paint	Spheres
4"	16 mils	300.8 ft. of solid line per gallon of paint.	9.0 lb./gal.
6”	18 mils	178.2 ft. of solid line per gallon of paint.	11.0 lb./gal.
8”	18 mils	134 ft. of solid line per gallon of paint.	11.0 lb./gal.
10”	18 mils	107 ft. of solid line per gallon of paint.	11.0 lb./gal.

2527.02, D, 2, b, Waterborne or Solvent-based Paint.

Add the Article:

3) For all waterborne paint markings: applied to Interstates and Primary Highways, on contracts where the Department is the Contracting Authority, and other contracts when specified in the contract documents; ensure the application of paint and glass beads will allow for at least 80% of the beads to achieve at least 50% to 60% embedment in the dry paint and meet the following minimum retroreflectivity requirements:

Table 2527.02-3: Retroreflectivity of Waterborne Paint Markings

	Minimum Coefficient of Retroreflected Luminance ($mcd/m^2/lx$)
White line, symbols, and legends	300
Yellow line	200

The Contractor is responsible for placement of a quality product that meets or exceeds these specifications. Prior to commencing work, demonstrate to the Engineer that the equipment and methods to be used on the project will achieve or exceed these requirements. When retroreflectivity readings are performed, use the procedure in Materials I.M. 386. Solvent-based paints will be exempt from reflectivity and embedment requirements when applied as allowed in Table 2527.03-1.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

Revise Tables 2527.02-1 and 2527.02-2 and add subsection 3) to 2527.02.D.2.b. as shown below:

Table 2527.02-1: Waterborne Paint

Line Width	Wet-Film Thickness	Paint	Spheres
4"	14 mils	343.7 ft. of solid line per gallon of paint.	9.0 lb./gal.
6"	18 mils	178.2 ft. of solid line per gallon of paint.	11.0 lb./gal.
8"	18 mils	134 ft. of solid line per gallon of paint.	11.0 lb./gal.
10"	18 mils	107 ft. of solid line per gallon of paint.	11.0 lb./gal.

Table 2527.02-2: Solvent-based Paint

Line Width	Wet-Film Thickness	Paint	Spheres
4"	16 mils	300.8 ft. of solid line per gallon of paint.	9.0 lb./gal.
6"	18 mils	178.2 ft. of solid line per gallon of paint.	11.0 lb./gal.
8"	18 mils	134 ft. of solid line per gallon of paint.	11.0 lb./gal.
10"	18 mils	107 ft. of solid line per gallon of paint.	11.0 lb./gal.

3) For all waterborne paint markings applied to Interstates and Primary Highways, all waterborne paint markings applied on Department-administered projects, and for all other waterborne paint markings when specified in the contract documents, ensure the application of paint and glass beads will allow for at least 80% of the beads to achieve at least 50% to 60% embedment in the dry paint and meet the following minimum retroreflectivity requirements:

	Minimum Coefficient of Retroreflected Luminance $mcd/m^2/lx$
White line, symbols, and legends	300
Yellow line	200

The contractor is responsible for placement of a quality product that meets or exceeds these specifications. Prior to commencing work, demonstrate to the Engineer that the equipment and methods to be used on the project will achieve or exceed these requirements. When retroreflectivity

readings are performed, use the procedure in Materials I.M. 386. Solvent-based paints will be exempt from reflectivity and embedment requirements when applied as allowed in Table 2527.03-1.

Revise reflectivity unit of measure in 2527.02.D.2.c. and 2527.02.D.2.d. as shown below:

Minimum Coefficient of Retroreflected Luminance ~~mcd / sq. ft. / ft.-cdl.~~ **mcd/m²/lx**	
White line, symbols, and legends	300
Yellow line	200

Add in reference to Materials I.M 386 to 2527.02.D.2.d.4) as shown below:

Final acceptance will be based on compliance with these specifications. Ensure markings meet the following retroreflectivity requirements. Use the procedure in Materials I.M. 386 to determine retroreflectivity. Provide average retroreflective values per mile to the Engineer. The Engineer may help define locations for measurement of retroreflectivity. In no case should there be less than five retroreflectivity checks per mile. Number of checks will be averaged against values obtained to determine compliance to minimum retroreflectivity values.

Reason for Revision: Tables 2527.002-1 and 2527.02-2 are being revised to add additional line widths which are now common with the wider longitudinal lines being placed.

Subsection 3) to 2527.02.D.2.b. is being added as a means of ensuring the quality of our waterborne and solvent-based pavement markings. Current experience shows that many of our new lines painted do not properly retain the beads and thus lose reflectivity prematurely, which is a safety issue for the traveling public. By adding embedment requirements for glass beads and minimum retroreflectivity requirements, our inspectors will have a quantitative way to measure the quality of the pavement markings fairly and accurately.

The units of reflectivity in the sections 2527.02.D.2.c. and 2527.02.D.2.d. are being revised to align with current industry practice and the units of measure available on modern retroreflectometers.

The reference to Materials I.M 386 is being added to section 2527.02.D.2.d.4) to provide a reference to the proper retroreflectometer test method as stated in adjacent subsections. When reviewing the specification for the other associated revisions, it was noted this reference was omitted when this section was originally added.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments: These changes bring our specification into greater alignment with the pavement markings industry as well as new MUTCD requirements which mandate minimum retroreflectivity levels for longitudinal pavement markings.

Regarding the new subsection 3) to 2527.02.D.2.b., if the paint and beads are applied at the rates shown in Tables 2527.002-1 and 2527.02-2, the bead embedment requirements should be met based on the following calculations:

*Wet Film Thickness (**18 mils**) x total solids of the paint (**0.76** per Sec. 4183.03.B.1.a.) = Dry Film Thickness (**13.68 mils**)*

Table 4184.02-1: Gradation Requirements

(Standard Blend Glass Spheres/Beads)

Sieve Size	Amout Retained	Bead Size	55% of Bead Size
	%	*mils*	*mils*
16	0		
20	8-15	33.5	18.43
30	25-35	23.6	12.98
40	30-50	16.7	9.19
50	15-35	11.8	6.49
80	0-10		
pan	0-2		

County or City Comments: This specification revision was sent to the Local Systems Bureau on February 3, 2025. They were asked to forward to all interested parties and comments were invited to be sent in through February 28, 2025. One comment was received regarding applicability of reflectivity requirements to LPA projects. Wording was changed to only include Department projects unless otherwise specified in the contract documents.

Industry Comments: This specification revision was presented to the Iowa ATSSA Chapter at their meeting on February 4, 2025. Comments were invited to be sent in through February 28, 2025. Several verbal comments were received at the meeting and were addressed within the language of this proposal. No comments were received via email after the meeting.

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Brian Worrel / Ben Hucker	**Bureau/Office:** Construction & Materials and Maintenance	**Item 6**
Submittal Date: 03/19/2025	**Proposed Effective Date:** 4/15/2025	
Article No.: 2527.03, C, 6 **Title:** Removal of Pavement Markings	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2527.03, C, 6

Replace the Article:

Removal will not be required prior to being covered by a construction process unless specified in the contract documents. Utilize high pressure water blasting for ~~R~~removal of pavement markings ~~may be by vacuum blasting, vacuum dry grinding, wet grinding, shot blasting, or high pressure water blasting~~. Engineer approval is required for alternate pavement marking removal processes. Containment is required if ~~O~~open abrasive blasting or dry grinding ~~without containment will not be~~ is allowed by the Engineer. No additional compensation will be allowed for contractor requested and Engineer approved alternate pavement marking removal processes.

Comments:

Member's Requested Change: (Do not use '**Track Changes**', or '**Mark-Up**'. Use ~~**Strikeout**~~ and **Highlight**.)

Removal will not be required prior to being covered by a construction process unless specified in the contract documents. Utilize high pressure water blasting for removal of pavement markings ~~may be by vacuum blasting, vacuum dry grinding, wet grinding, shot blasting, or high pressure water blasting~~. **E**ngineer approval is required for alternate pavement marking removal processes other than water blasting. Containment is required if open abrasive blasting or dry grinding ~~without containment will not be~~ is allowed by the engineer. No additional compensation will be allowed for contractor requested and engineer approved alternate pavement marking removal processes.

Reason for Revision: Pavement marking removal methods other than high-pressure water blasting often create permanent, noticeable scars on the pavement which can be distracting and misleading to drivers, especially in low sun angle times of day. This can cause confusion as to where drivers should be and has been a contributing factor in past work zone crashes.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments: Allowances for other methods were included to allow exceptions for irregular occurrences such as below-freezing temperatures or other applications where water blasting cannot be accomplished or should not be used.

County or City Comments: This specification revision was sent to the Local Systems Bureau on October 15, 2024. Per Dillon Feldmann, he forwarded it to "an array of agencies and received very little feedback. It appeared everyone agreed with the change to the pavement removal specification."

Industry Comments: Based on industry feedback, many DOT and local agency projects already specify this in plan sets that are issued, so this change will update our specification with current engineering and industry practice.

This specification revision was presented to the Iowa ATSSA Chapter at their virtual meeting on October 24, 2024. This item generated discussion and some contractors expressed general concerns as this will represent a change to their typical operations, but no suggestions were offered as to what could ease their concerns. An offer was extended to submit comments or suggested language changes by November 30, 2024, and none were received.

This specification revision was again presented to the Iowa ATSSA Chapter at their in-person meeting on February 4, 2025. Comments were invited to be sent in through February 28, 2025. No comments were received.

Form 510130 (08-24)

IOWA | DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Brian Worrel / Ben Hucker	**Bureau/Office:** Construction & Materials and Maintenance	**Item 7**
Submittal Date: 3/19/2025	**Proposed Effective Date:** 10/21/2025	
Article No.: 2527.03, G. **Title:** Defective Pavement Markings	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:
2527.03, G, Defective Pavement Markings.

Replace the Article:

~~**1.** Markings that are low on initial retroreflectivity up to 20% may, at the discretion of the Engineer, be accepted with a price adjustment.~~

2. Pavement markings will be evaluated by the Engineer for acceptance following installation. The Engineer will notify the Contractor of any pavement markings that fail to meet acceptance. Reasons for failure could include, but are not limited to, failed retroreflectivity readings, incorrect color, incorrect location, poor alignment, poor adherence to the pavement surface, insufficient thickness, width or length and insufficient bead embedment. ~~Repair~~ Replace, at no additional cost to the Contracting Authority, all pavement markings which~~, after application and curing,~~ the Engineer determines to be defective and not in conformance with ~~these~~ this specification~~s~~. Remove the defective markings completely and clean to the underlying pavement surface according to the requirements of Article 2527.03, C. Remove the defective area plus all adjacent marking material extending 1 foot in any direction. After surface preparation work is complete, finish the repair by reapplying new marking material over the cleaned pavement surface according to the requirements of ~~these~~ this specification~~s~~.

Comments:

Member's Requested Change: (Do not use '**Track Changes**', or '**Mark-Up**'. Use ~~**Strikeout**~~ and **Highlight**.)

Remove subsections 2527.03, G.1. and 2527.03, G.2. Replace with new subsection 2527.03, G. language as shown below:

Pavement marking will be evaluated by the engineer for acceptance following installation. The engineer will notify the contractor of any pavement markings that fail to meet acceptance. Reasons for failure could include, but are not limited to, failed retroreflectivity readings, incorrect color, incorrect location, poor alignment, poor adherence to the pavement surface, insufficient thickness, width or length and insufficient bead embedment. Replace ~~Repair~~, at no additional cost to the Contracting Authority, all pavement markings which~~, after application and curing,~~ the Engineer determines to be defective and

not in conformance with ~~these~~ this specification~~s~~. Remove the defective markings completely and clean to the underlying pavement surface according to the requirements of Article 2527.03, C. Remove the defective area plus all adjacent marking material extending 1 foot in any direction. After surface preparation work is complete, finish the repair by reapplying new marking material over the cleaned pavement surface according to the requirements of ~~these~~ this specification~~s~~.		
Reason for Revision: This revision streamlines the content in Subsection G) and provides better guidance regarding what constitutes a "defective" pavement marking.		
New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments: This specification revision was sent to the Local Systems Bureau on February 3, 2025. They were asked to forward to all interested parties and comments were invited to be sent in through February 28, 2025. No comments were received.		
Industry Comments: This specification revision was presented to the Iowa ATSSA Chapter at their meeting on February 4, 2025. Comments were invited to be sent in through February 28, 2025. No comments were received.		

Form 510130 (07-24)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Musgrove/De Vries	**Bureau/Office:** CMB	**Item 8**
Submittal Date: 3/5/2025	**Proposed Effective Date:** October 2025	
Article No.: 2529.03, H, 2 **Title:** Full Depth Finish Patches	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: Alternate method is the old method before MRI was introduced.

Specification Section Recommended Text:

2529.03, H, 2, Patches 50 feet to 100 feet in length.

Replace the Article:

a. General.
Test the patch length, and the existing pavement in that lane, for a distance of three times the patch length on both ends of the patch. If a patch occurs near a bridge, an intersection, and so forth, where the proper distance cannot be tested, make up the required total on the other end of the patch. If interference occurs on both ends, test only to the points of interference.

b. Standard Method.

~~**b.**~~ **1)** Establish a Mean Roughness Index for the patch, MRI_{patch}.

~~**c.**~~ **2)** Establish a Mean Roughness Index for the existing pavement on both ends of the patch, $MRI_{preexisting\ pavement}$.

~~**d.**~~ **3)** Compare the MRI_{patch} to $MRI_{preexisting\ pavement}$. Perform surface correction according to Article 2317.04 so that the MRI is less than the $MRI_{preexisting\ pavement}$ when either of the below listed conditions exists:

~~**1**~~ **a)** MRI_{patch} exceeds 75.0 inches per mile and exceeds $MRI_{preexisting\ pavement}$ by more than 7.5 inches per mile.

~~**2**~~ **b)** MRI_{patch} exceeds 90.0 inches per mile and exceeds $MRI_{preexisting\ pavement}$.

c. Alternate Method.

1) General.

a) Utilize a Profile Index.

b) Utilize zero blanking band.

2) Establish one Average Base Index (ABI) of the pavement for both ends of patch.

3) Calculate a new index for the entire length of the patch.

4) Calculate a profile index for the entire length. Perform surface correction according to Article 2317.04 to a profile index less than the ABI when either of the below listed conditions exists:

a) New profile index exceeds 12.0 inches per mile and exceeds ABI by more than 2.0 inches per mile.

b) New profile index exceeds 30.0 inches per mile and exceeds ABI

~~**e**~~ **d.** Corrective action involves correction of areas of localized roughness, if identified from the trace, plus appropriate surface correction within the patch and existing pavement, or both, on either end of the patch within the limits tested.

Comments:

Member's Requested Change: (Do not use **'Track Changes'**, or **'Mark-Up'**. Use ~~**Strikeout**~~ and **Highlight**.)
Section 2529.03.H

H. Smoothness. Apply Section 2317 to smoothness of full depth finish patches (except when the contract includes an overlay or pavement surface repair by diamond grinding or milling within the patch area) with the following modifications for Full Depth Finish Patches (50 feet or greater in length):

1. Smoothness testing and evaluation is required for each patch with a length of 50 feet or more. For full lane width patches, perform the testing near the center of the traffic lane after the patch is placed. For partial lane width patches, perform testing in the patched wheel path.
2. Patches 50 feet to 100 feet in length:
    a. Test the patch length, and the existing pavement in that lane, for a distance of three times the patch length on both ends of the patch. If a patch occurs near a bridge, an intersection, and so forth, where the proper distance cannot be tested, make up the required total on the other end of the patch. If interference occurs on both ends, test only to the points of interference.
    b. Establish a Mean Roughness Index for the patch, MRIpatch.
        1. Approved alternate- Establish one Average Base Index (ABI) of the pavement for both ends of patch. Utilize a Profile Index. Utilize zero blanking band.
    c. Establish a Mean Roughness Index for the existing pavement on both ends of the patch, MRIpreexisting pavement.
        1. Approved alternate- Calculate a new index for the entire length of the patch. Utilize a Profile Index. Utilize zero blanking band.
    d. Compare the smoothness of the patch to the smoothness of the preexisting pavement.
        1. Compare the MRIpatch to MRIpreexisting pavement. Perform surface correction according to Article 2317.04 so that the MRI is less than the MRIpreexisting pavement when either of the below listed conditions exists:
            a. MRIpatch exceeds 75.0 inches per mile and exceeds MRIpreexisting pavement by more than 7.5 inches per mile.
            b. MRIpatch exceeds 90.0 inches per mile and exceeds MRIpreexisting pavement.
        2. Approved alternate- Calculate a profile index for the entire length.
            a. Perform surface correction according to Article 2317.04 to a profile index less than the ABI when either of the below listed conditions exists:
                1. New profile index exceeds 12.0 inches per mile and exceeds ABI by more than 2.0 inches per mile.
                2. New profile index exceeds 30.0 inches per mile and exceeds ABI
            b) Utilize a Profile Index
            c. Utilize zero blanking band.
    e. Corrective action involves correction of areas of localized roughness, if identified from the trace, plus appropriate surface correction within the patch and existing pavement, or both, on either end of the patch within the limits tested.

3. Patches 100 feet to 250 feet in length: Article 2529.03, H, 2, applies, except the length tested is the patch length, and the existing pavement in that lane for a distance of 300 feet on both ends of the patch.

Reason for Revision: This change is submitted to eliminate confusion over rounding issues on specification limits.		
New Bid Item Required (X one)	**Yes**	**No**
Bid Item Modification Required (X one)	**Yes**	**No**
Bid Item Obsoletion Required (X one)	**Yes**	**No**
Comments:		
County or City Comments:		
Industry Comments:		

Form 510130 (07-24)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Geology Section	**Bureau:** Construction & Materials	**Item 9**
Submittal Date: 3/10/2025	**Proposed Effective Date:** October 2025	
Article No.: 4130.01, A **Title:** Revetment Stone, Erosion Stone, and Gabion Stone		

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 10/21/2025

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

4130.01, A.

Replace the second bullet:

~~A minimum of 10% of the beds or slabs are to be thick enough to produce the required weight of either the stone or concrete. with the greatest dimension not more than two times the smallest dimension.~~ At least 90% of the revetment shall be produced so that the smallest dimension of the stone is at least 1/2 of the largest dimension for each revetment stone. Production ledges shall not contain excessive shale, chert, clay, or beds containing breccia. Secondary bedding planes may be cause for rejection.

Comments:

Section 4130. Revetment Stone, Erosion Stone, and Gabion Stone

4130.01 REVETMENT DESCRIPTION.

A. Broken limestone, dolomite, quartzite, or granite from an approved source as described in Materials I.M. 409 and meeting the following requirements.

A minimum of 50% of the stone is to be composed of beds or slabs more than 5 inches thick.

~~A minimum of 10% of the beds or slabs are to be thick enough to produce the required weight of either the stone or concrete. with the greatest dimension not more than two times the smallest dimension.~~

At least 90% of the revetment shall be produced so that the smallest dimension of the stone is at least ½ of the largest dimension for each revetment stone. Production ledges shall not contain excessive shale, chert, clay, or beds containing breccia. Secondary bedding planes may be cause for rejection.

Reason for Revision: Revision of the language to better express the intent of the specification.		
New Bid Item Required (X one)	**Yes**	**No** x
Bid Item Modification Required (X one)	**Yes**	**No** x
Bid Item Obsoletion Required (X one)	**Yes**	**No** x
Comments: No change in the specification. Clarification of the language.		
County or City Comments:		
Industry Comments: Sent to the ILPA.		

Form 510130 (07-24)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Ben Hucker	**Bureau/Office:** Construction / Maintenance	**Item 10**
Submittal Date: 3/19/2025	**Proposed Effective Date:** October 2025	
Article No.: 4183.03, B, 1 **Title:** Fast Dry Waterborne Traffic Paints	**Other:**	

Specification Committee Action: Deferred to the May meeting to clarify the target pigment value and allowable range. The Maintenance Bureau will investigate and consult with Construction and Materials and bring the item back.

Deferred: X	**Not Approved:**	**Approved Date:**	**Effective Date:**

Specification Committee Approved Text:

Comments:

Specification Section Recommended Text:

4183.03, B, 1, a, Pigment Content.

Replace the Article:

Pursuant to AASHTO M 348 the percent pigment must remain within ±5% of the target pigment value. Percent pigment by weight of the finished product to be from ~~58.0~~ 55.0% to ~~63.0~~ 65.0% as tested by ASTM D 3723. The white paint must contain a minimum of 1 pound per gallon of TiO2 ASTM D 476 Type II Rutile 92% minimum TiO2 tested in accordance with ASTM D 1394 or ASTM D 4764. The total solids of high build paint when tested in accordance with ASTM D 2369 must be a minimum of 76% by weight.

4183.03, B, 1, c, 1.

Add to the end of the Article:

Pursuant to AASHTO M 348 the Nonvolatile content, % must remain within 5%+/- of the target value for nonvolatile content, %.

Comments: How does the "±5% of the target pigment value" pertain to the next sentence that the percent pigment by weight to be from 55% to 65%? Can the percent pigment be from 50% to 70% then? Can we just give the actual range and not complicate things? Or is the target 60% and the range is ±5% from that? We don't define a target value.

How does the "±5% of the target value for nonvolatile content" apply to a minimum value? There is no target value, just a minimum.

Member's Requested Change: (Do not use **'Track Changes'**, or **'Mark-Up'**. Use ~~**Strikeout**~~ and **Highlight**.)

4183.03 FAST DRY WATERBORNE TRAFFIC PAINTS.

A. General Requirements.

1. Use paint that:

a. Is capable of being heated and spray applied up to a temperature of 120F without damaging the formulation or serviceability of the product and the traffic striping equipment.
b. Is not damaged or deteriorates when reheated or if held under heated conditions for 6 hours.
c. Provides proper anchorage and refraction for glass beads when the beads are applied at the rate of 6 pounds per gallon.
d. Is free of heavy metals as defined by the US EPA.
e. Free of skins, pigment agglomerates, and foreign matter.
f. Shows no evidence of excessive settling, gelling, skinning, spoilage, or livering upon storage in sealed containers under normal above freezing temperatures within a 12 month period in the sealed delivery container.

2. When the air temperature is below the freezing point (32F (0C)), ship or store the paint in an insulated vehicle or storage building with heating capability to ensure the inside temperature is held above freezing.

B. Specific Requirements.

1. Composition.
The composition of the paint is left to the discretion of the manufacturer as long as the finished product meets the following requirements and applicable Federal, State, or local regulations for products of this type.

a. Pigment Content.
Pursuant to AASHTO M 348 the percent pigment must remain within 5%+/- of the target pigment value. Percent pigment by weight of the finished product to be from 558.0% to 653.0% as tested by ASTM D 3723. The white paint must contain a minimum of 1 pound per gallon of TiO2 ASTM D 476 Type II Rutile 92% minimum TiO2 tested in accordance with ASTM D 1394 or ASTM D 4764. The total solids of high build paint when tested in accordance with ASTM D 2369 must be a minimum of 76% by weight.

b. Resin Solids.
Composed of 100% acrylic emulsion polymer (per Materials I.M. 483.03) or approved equal that allow finished paint products to meet all other areas of the specifications.

c. Nonvolatile Vehicle.
Pursuant to AASHTO M 348 the Nonvolatile content, % must remain within 5%+/- of the target value for nonvolatile content, %.

1) No less than 42.0% by weight for white paint and no less than 44.0% by weight for yellow paint.

2) Use the the following formula for calculating nonvolatile vehicle (NVV):

NVV= (N-P)/(100-P)

Where:
N = the percent by weight of non-volatiles as determined by ASTM D 2369
P = the percent weight of pigment as determined by ASTM D 3723

Reason for Revision: In extended discussions with industry and moving to be in line with AASHTO M 348, the lower percent pigments for paints tend to perform better in the long run. Due to this it is decided to lower the bottom threshold for percent pigment from 58% down to 55%, upper from 63% to 65%. Very small change for manufacturers and will allow a greater product range for approval. Also placing a range on the percent pigment & Nonvolatile content % from target value pursuant to AASHTO M 348.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		

County or City Comments: This specification revision was sent to the Local Systems Bureau on February 3, 2025. They were asked to forward to all interested parties and comments were invited to

be sent in through February 28, 2025. No comments were received.
Industry Comments: This specification revision was presented to the Iowa ATSSA Chapter at their meeting on February 4, 2025. Comments were invited to be sent in through February 28, 2025. No comments were received.

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/ Brian Johnson	**Office:** CMB	**Item 11**
Submittal Date: 3-20-2025	**Proposed Effective Date:** 6/17/2025	
Article No.: **Title:**	**Other:** DS-23038, High Performance Thin Lift Overlay	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 6/17/2025

Specification Committee Approved Text: See attached Developmental Specifications for High Performance Thin Lift Overlay

Comments: Contracts and Specifications Bureau asked if it was clear what gauge readings were required if requested. The Construction and Materials Bureau suggested adding “density” to be clear. Nuclear or non-nuclear density gauges would be acceptable.

Specification Section Recommended Text: See attached Draft Developmental Specifications for High Performance Thin Lift Overlay

Comments:

Member’s Requested Change: (Do not use ‘Track Changes’, or ‘Mark-Up’. Use ~~Strikeout~~ and Highlight.)
See Attachment

Reason for Revision: Acceptance for field voids will now be visual for Hi-Pro. Further Testing can be done if a visual discrepancy is observed.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments:

DS-23075
(Replace DS-23038)

DEVELOPMENTAL SPECIFICATIONS
FOR
HIGH PERFORMANCE THIN LIFT OVERLAY

Effective Date
June 17, 2025

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

23075.03 DESCRIPTION.
These specifications describe requirements for a highly polymer modified asphalt thin lift surface course. Apply Section 2303 of the Standard Specifications unless otherwise directed in these specifications.

23075.03 MATERIALS.

A. Asphalt Binder.
Use PG 64-34E+ with a minimum percent recovery of 90% when tested at 64°C per AASHTO T 350 at 3.2 kPa.

B. Mix Design.

1.

Design Gyrations	50
Design Voids Target (Based on %Gmm)	≤ 2.0
Film Thickness	8.0 – 15.0
Aggregate Quality	A
Crushed Content (minimum)	50%
FAA (minimum)	40
Sand Equivalency (minimum)	50

2. Friction Aggregate.
- Interstates: minimum 30% of Total Aggregate shall be Type 2 or better
- Non-Interstates: minimum 50% of Total Aggregate shall be Type 4 or better

3. Hamburg Testing (AASHTO T324).
Required only for Interstate paving mixes. Compact to 3.5% air voids. No more than 4 mm rutting in the first 8000 passes.

4. Do not use more than 15.0% binder replacement. Do not use RAS.

5. Gradation.

Table DS-23075: Thin Lift Overlay Gradation

Sieve Size	Min % Passing	Max % Passing
1½ inch		
1 inch		
3/8 inch	91	100
#4		90
#8	27	63
#16		
#30		
#50		
#100		
#200	2	10

23075.03 CONSTRUCTION.

A. Apply tack coat prior to placement of thin lift overlay according to Section 2303 of the Standard Specifications.

B. Keep the production temperature of HMA mixtures between 225ºF and 335ºF until placed on the grade.

C. Compact with static steel wheeled roller.

D. Do not open to traffic until the entire mat has cooled below 150°F.

E. Quality Assurance/Quality Control.

1. **Field Voids Acceptance.**
   Acceptance for field voids shall be ~~Class II compaction defined in Section 2303 of the Standard Specifications~~ based on visual field observations. Should problems be observed, the Engineer may require density gauge readings to verify field voids are less than or equal to 2%.

2. **Lab Voids Acceptance.**
   Sample from windrow or hopper. Apply Article 2303.05, A, 3, a, 2, of the Standard Specifications for AAD acceptance. Air void target is based on approved JMF.

3. Take at least one cold feed for gradation control each day of production.

23075.04 METHOD OF MEASUREMENT.
Hot Mix Asphalt Thin Lift Overlay will be measured according to Article 2303.04 of the Standard Specifications.

23075.05 BASIS OF PAYMENT.
Hot Mix Asphalt Thin Lift Overlay will be paid for according to Article 2303.05 of the Standard Specifications.

510130 (07-24)

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Curtis Carter / Todd Hanson	**Bureau/Office:** Construction & Materials	**Item 12**
Submittal Date: Apr, 2025	**Proposed Effective Date:** Oct, 2025	
Article No.: **Title:**	**Other:** DS-23063, Fiber Reinforcement for Structural Concrete	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 6/17/2025

Specification Committee Approved Text: See attached Developmental Specifications for Fiber Reinforcement for Structural Concrete.

Comments: The Construction and Materials Bureau explained that the micro fibers were not cost effective as they are intended to reduce plastic shrinkage cracking and that is not a major issue with concrete in the State of Iowa. Micro fibers also brought workability issues.

The Construction and Materials Bureau indicated there is no reason not to implement these revisions as soon as possible, so the effective date was changed to June 17, 2025.

Specification Section Recommended Text: See attached draft Developmental Specifications for Fiber Reinforcement for Structural Concrete.

Comments:

Member's Requested Change: (Do not use **'Track Changes'**, or **'Mark-Up'**. Use ~~**Strikeout**~~ and **Highlight**.)

See proposed edits to attached DS-23063.

Reason for Revision: The current version of DS-23063 requires inclusion of micro fiber and macro fiber into fiber reinforced concrete. After evaluation of multiple trial batches and production placements, Construction & Materials Bureau has determined the benefits of the micro fiber (reduced plastic shrinkage potential) do not outweigh the cost (reduced mix workability). Fiber reinforced mixes are capable of meeting performance expectations with macro fiber alone, without need for micro fiber. This proposed revision deletes the requirement for micro fiber.

This proposed revision also updates the basis of payment for Trial Batch and Test Placement, from "each" to "lump sum", to match the payment type for bid item 2403-1000010.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments:

DS- 23076
(Replaces DS-23063)

DEVELOPMENTAL SPECIFICATIONS
FOR
FIBER REINFORCEMENT FOR STRUCTURAL CONCRETE

Effective Date
June 17, 2025

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

23076.01 DESCRIPTION.

A. Fiber reinforcement shall be incorporated in the locations and quantities of concrete designated in the contract documents. Work types for structures which may be designated for incorporation of fiber reinforcement could include bridge substructures, bridge decks, bridge deck overlays, structural repairs, or other applications.

B. Use approved products and proportions of synthetic ~~micro and~~ macro fiber and incorporate into the concrete mix in accordance with these developmental specifications. The purpose of the fiber reinforcement is to mitigate risk and effects of cracking and improve the durability of the concrete.

C. Apply Section 2403 of the Standard Specifications, subject to the modifications herein. When relevant to the work type, also apply Sections 2412 or 2413 of the Standard Specifications, subject to the modifications herein.

D. The contract documents may designate incorporation of fiber reinforcement into concrete mixes governed under other developmental specifications. Examples could include High Performance Concrete for Structures, or Structural Concrete (4500 psi or Greater). Meet the provisions of applied developmental specifications concurrently. The provisions for concrete slump specified in DS-23076.02, A, 3, shall prevail over provisions for concrete slump specified in other applied developmental specifications.

23076.02 MATERIALS.

A. General.

1. Fibers shall be incorporated as an admixture to the concrete mix. Adjustments to the base volumetric proportions of mix constituents are not required to compensate for the volumetric proportion of fiber admixture.

2. Select a concrete mix which satisfies all applicable requirements and achieves appropriate workability upon incorporation of fibers at the required dosage rate.

3. Material properties of the fiber reinforced concrete (FRC) shall comply with the material properties for concrete specified elsewhere in the contract documents, except the following relaxations are permissible for FRC slump:
   a. **Bridge Decks.**
      When mid-range water reducer is used with Class C or Class HPC-D mix, target slump may be increased to 5 inches, allowing a maximum of 6 inches as a tolerance.
      Commence testing for slump within 0 to 4 minutes after the FRC is discharged.
   b. **Bridge Deck Overlays.**
      When mid-range water reducer is used with Class HPC-O mix, target slump may be increased to 5 inches, allowing a maximum of 6 inches as a tolerance. Commence testing for slump within 0 to 4 minutes after the FRC is discharged.

B. Fiber.

1. **General.**
   Fiber reinforcement shall consist of ~~micro and~~ macro fibers. ~~Micro and macro fibers may be supplied as separate products to be proportioned and blended with the mix at the time of concrete production, or may be supplied as a pre-combined, pre-packaged blended fiber product.~~

~~**2. Micro Fiber.**~~
~~For micro fiber supplied as a separate product:~~
~~**a.** Use product approved in accordance with Materials I.M. 491.27 Appendix A.~~
~~**b.** Dose micro fiber at a minimum rate of 1 pound per cubic yard of concrete.~~

~~**3**~~ **2. Macro Fiber.**
~~For macro fiber supplied as a separate product:~~
   a. Use product approved in accordance with Materials I.M. 491.27 Appendix B.
   b. Dose macro fiber at a minimum rate of 4 pounds per cubic yard of concrete.

~~**3. Pre-Combined Micro / Macro Fiber Blend.**~~
~~For micro fiber and macro fiber supplied as a pre-combined, pre-packaged product:~~
~~**a.** Use product approved in accordance with Materials I.M. 491.27 Appendix C.~~
~~**b.** When pre-combined micro / macro fiber blends are used, the entire dosage of fiber shall be made using a single blended product. Do not mix blended fiber products with other blended or non-blended fiber products.~~
~~**c.** Dose pre-combined micro / macro fiber blend at a minimum rate of 5.4 pounds per cubic yard of concrete.~~

C. Documentation and Acceptance of Fiber Reinforced Concrete.

1. FRC shall comply with ASTM C1116, Type III. Furnish documentary evidence by the fiber manufacturer demonstrating satisfactory performance history and compliance with ASTM C1116, Type III for fiber product(s) used.

~~**2.** When separately packaged micro and macro fiber products are used, furnish a statement by the fiber manufacturer verifying product compatibility and fitness for intended purpose at the specified dosage rates.~~

~~**3**~~ **2.** A trial batch and test placement will be required in accordance with DS-23076.03, A. Acceptance of the FRC mix shall be contingent on successful completion of the trial batch and test placement. At a minimum, the trial batch and test placement must demonstrate all the following:
   - Compliance with the contract documents and specified material properties.
   - Acceptable workability.
   - Batching and finishing processes representative of the proposed means and methods of

construction for production work.
- No detrimental effects associated with mix inconsistency, mix segregation, bleeding, or balling of fibers.

23076.03 CONSTRUCTION.

A. Trial Batch and Test Placement.

1. General.
- **a.** Provide the Engineer notice, mix proportions, and scheduled date at least 7 calendar days prior to trial batch and test placement. Do not proceed with trial batch and test placement without authorization of the Engineer.
- **b.** Conduct trial batch and test placement at least 7 calendar days prior to planned placement of production FRC.
- **c.** Do not place production FRC until the trial batch and test placement have been accepted by the Engineer. Trial batches or test placements which fail to meet acceptance criteria must be repeated at no additional cost to the Contracting Authority, following appropriate material and/or procedure modifications by the Contractor.
- **d.** After acceptance of the trial batch and test placement, any contractor-initiated changes to the mix design, fiber product or dosage, mix batching process, and/or methods of installation shall constitute basis for requiring a new trial batch and test placement at no additional cost to the Contracting Authority.
- **e.** The Engineer may waive the trial batch and test placement on the basis of past successful placement of the same combination of mix design, fiber product and dosage, mix batching process (including key personnel), and installation process (including key personnel).

2. Trial Batch.
- **a.** Identify dedicated batching personnel for FRC.
- **b.** Establish and demonstrate the sequence of constituent material introduction during the trial batch. Ensure the fiber manufacturer's technical representative is available for advice and guidance regarding fiber inclusion into the mix, as needed.
- **c.** Batch the trial batch concrete for slump within 1 inch of the maximum slump permitted, air content of 6% +/- 1%, and w/c ratio typical of the production FRC to be placed. Include any other admixtures proposed for use in the production FRC, including but not limited to water reducers, viscosity modifiers and set retarders as applicable, at their respective intended production dosage rates.
- **d.** Sample and test the trial batch placement for the following:
  - Materials I.M. 340 – Unit Weight of Plastic Concrete.
  - Materials I.M. 318 – Air Content of Plastic Concrete.
  - Materials I.M. 317 – Slump of Plastic Concrete
  - Visual Stability of Plastic Concrete – Following slump test performed in accordance with Materials I.M. 317, leave slumped concrete undisturbed on the test board for 3 minutes and observe for mortar ring or bleed water at the base of the concrete. Report presence, description, and size of any mortar ring and/or bleed water halo.
- **e.** Trial batch volume shall be in accordance with the following:
  - **Bridge Decks and Deck Overlays:** 6 cubic yards, minimum.
  - **Non-Deck Applications;** 3 cubic yards, minimum.

3. Test Placement.
- **a. General.**
  - **1)** Utilize the trial batch concrete to conduct a test placement. Subject to the requirements herein, the test placement may not require use of the full volume of trial batch concrete.
  - **2)** Test placement shall be made within side/edge forms, on sufficiently rigid subbase, to

allow representative demonstration of the placement and finishing methods proposed for production work. Use a durable, impermeable separation barrier between the subbase and test placement.

3) Place, consolidate and finish the concrete within the test placement using methods that are representative of the methods to be used with the production concrete. For production methods deemed impractical to duplicate during the test pour (e.g. pump placement, self-propelled machine finishing), substitute methods may be used subject to the Engineer's approval, provided the substitute methods allow full evaluation of any/all mix properties that may affect the actual production methods. Evaluate workability, finishability, and general suitability of the mix for production use.

4) Following completion of the test placement, deposit any remaining trial batch concrete to an open container or other accessible location to allow further inspection for potential mix inconsistency, mix segregation, bleeding, balling of fibers, or other detrimental properties. Do not obscure or dispose of the trial batch or test placement concrete until a minimum time of 2 hours has elapsed after completion of the test placement, or until authorized by the Engineer, whichever comes first.

b. Test Placement for Bridge Decks and Deck Overlays.

1) Simulate the general placement conditions for production concrete. Conduct the test placement in open air, during weather generally consistent with the anticipated conditions during production placement.

2) Following trial batching, suspend the test placement for a period of time approximately equal to the anticipated delivery time for production concrete. During this suspension, maintain the concrete in a state of agitation generally representative of the anticipated delivery conditions for production concrete.

3) The area of the test placement shall be a minimum of 200 square feet. The least horizontal dimension of the test placement shall be a minimum of 12 feet. Nominal thickness of the test placement shall match as close as practical the nominal thickness of the production concrete, except nominal thickness of the test placement need not exceed 9 inches.

4) Test placements for bridge decks shall include reinforcing steel, oriented in two mats of two layers each (longitudinal and transverse). Reinforcing steel shall have similar size, spacing, top clearance to top mat and bottom clearance to bottom mat, as shown in the contract documents for the production work. No reinforcing steel is required for test placements for bridge deck overlays.

c. Test Placement for Non-Deck Applications.

Deposit the trial batch concrete into formwork with minimum dimensions of at least 3 feet length by 3 feet width by 3 feet depth. Alternate formwork dimensions may be permitted, subject to approval by the Engineer.

B. Production FRC.

1. Batching.

a. Production batching methods, equipment, sequence and personnel shall match those used for the approved trial batch.

b. Introduce fibers into the mix in accordance with the fiber manufacturer's recommendations, unless otherwise approved by the Engineer.

c. Mix FRC in accordance with the Standard Specifications applicable for concrete, unless otherwise approved by the Engineer.

d. Ensure uniform distribution and random orientation of fibers throughout the concrete.

2. Placing, Consolidating, Finishing and Curing.

Comply with provisions for concrete specified in Sections 2403, 2412, and 2413 of the Standard Specifications, as well as other applied developmental specifications, as applicable to the contract and the work type.

23076.04 METHOD OF MEASUREMENT.

A. Fiber Reinforcement for Structural Concrete.

1. Fiber reinforcement for structural concrete shall be measured and paid separate from the concrete the fiber reinforcement is incorporated in. Measurement and payment for the concrete shall be as specified elsewhere in the contract documents.

2. The unit of measurement for Fiber Reinforcement for Structural Concrete shall match the unit of measurement applicable to the concrete the fiber reinforcement is incorporated in (ex. per square yard or per cubic yard).

3. The quantity of Fiber Reinforcement for Structural Concrete will be the quantity shown in the contract documents. The quantity of Fiber Reinforcement for Structural Concrete shall match the quantity of the concrete the fiber reinforcement is incorporated in.

B. Trial Batch and Test Placement.
Trial Batch and Test Placement is a combined lump sum item. ~~The measured quantity of Trial Batch and Test Placement includes the combination of one trial batch and one test placement. Measurement will not be made for trial batch without a test placement.~~

23076.05 BASIS OF PAYMENT.

A. Fiber Reinforcement for Structural Concrete.
Payment with be at the contract unit price for Fiber Reinforcement for Structural Concrete. Payment includes all cost of furnishing and incorporating fiber reinforcement, at the specified dosage rate, per applicable unit of concrete.

B. Trial Batch and Test Placement.
Payment will be at the lump sum contract unit price ~~each~~ for the combined bid item Trial Batch and Test Placement. Payment includes full compensation for Trial Batch and Test Placement, inclusive of all materials and labor for furnishing, forming, placing, finishing, and evaluating. ~~The paid quantity of Trial Batch and Test Placement shall be limited to one successful trial batch and test placement. Unsuccessful and/or unrepresentative trial batch(es) and test placement(s) will not be paid.~~

Form 510130 (08-15)

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove/ Brian Johnson	**Office:** CMB	**Item 13**
Submittal Date: 3-20-2025	**Proposed Effective Date:** 6/17/2025	
Article No.: **Title:**	**Other:** SS-23005, Hot Mix Asphalt Interlayer	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 4/10/2025	**Effective Date:** 6/17/2025

Specification Committee Approved Text: See attached Supplemental Specifications for Hot Mix Asphalt Interlayer.

Comments: Contracts and Specifications Bureau asked if it was clear what gauge readings were required if requested. The Construction and Materials Bureau suggested adding “density” to be clear. Nuclear or non-nuclear density gauges would be acceptable.

Specification Section Recommended Text: See attached draft Supplemental Specifications for Hot Mix Asphalt Interlayer.

Comments:

Member’s Requested Change: **(Do not use ‘Track Changes’, or ‘Mark-Up’. Use ~~Strikeout~~ and Highlight.)**
See Attachment

Reason for Revision: Acceptance for field voids will now be visual for Interlayer. Further Testing can be done if a visual discrepancy is observed

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments:

SS-23008
(Replaces SS-23005)

SUPPLEMENTAL SPECIFICATIONS
FOR
HOT MIX ASPHALT INTERLAYER

Effective Date
June 17, 2025

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SUPPLEMENTAL SPECIFICATIONS AND THEY PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

23008.01 DESCRIPTION.
These specifications describe requirements for a highly polymer modified asphalt interlayer. Apply Section 2303 of the Standard Specifications unless otherwise directed in these specifications.

23008.02 MATERIALS.

A. Asphalt Binder.
Use a PG 58-34E.

B. Mix Design.

1. See Materials I.M. 510 Appendix A.

2. Mix approval is based on Performance Testing Requirements per Materials I.M. 510 Appendix A.

3. Do not use RAP.

23008.03 CONSTRUCTION.

A. Apply tack coat prior to placement of HMA interlayer according to Section 2303 of the Standard Specifications.

B. Compact with static steel wheeled roller.

C. Do not open to traffic until the entire mat has cooled below 150°F.

D. Quality Assurance/Quality Control.

1. Field Voids Acceptance.
Acceptance for field voids shall be ~~Class II compaction defined in Section 2303 of the Standard Specifications~~ based on visual field observations. Should problems be observed, the Engineer may require density gauge readings to verify field voids are

less than or equal to 2%.

2. **Lab Voids Acceptance.**
   Sample from windrow or hopper. Apply Article 2303.05, A, 3, a, 2, of the Standard Specifications for AAD acceptance. Air void target is based on approved JMF.

3. Take at least one cold feed for gradation control each day of production.

23008.04 METHOD OF MEASUREMENT.
Hot Mix Asphalt Interlayer, of the size specified, will be measured according to Article 2303.04 of the Standard Specifications.

23008.05 BASIS OF PAYMENT.
Hot Mix Asphalt Interlayer, of the size specified, will be paid for according to Article 2303.05 of the Standard Specifications.