

## Administration and Inspection Activities for Tack Coating and Joint Painting

(As Specified in OPSS 308 ~~and SSP 103S08~~)

### 308.01 SCOPE

This CAIS covers the construction administration and inspection requirements for tack coating and joint painting as specified in OPSS 308, [July 2023](#), ~~April 2012, and SSP 103S08, January 2020.~~

### 308.02 REFERENCES

This CAIS refers to the following standards, specifications, or publications:

#### Ontario Provincial Standard Specifications, Construction

OPSS 308 Tack Coating and Joint Painting

#### Construction Administration and Inspection Specifications (CAIS):

CAIS 1103 Emulsified Asphalt

#### ~~MTO Standard Special Provisions:~~

~~SSP 103S08 — Amendment to OPSS 308, April 2012 — Construction Requirements for Tack Coating and Joint Painting~~

#### MTO Forms:

[PH-CC-135 Determining the Payment Adjustment for Tack Coat](#)

[PH-CC-139 Bituminous Mix and Core Sample Identification](#)

~~[PH-CC-349 Bituminous Material Product Sample Form](#)~~

[PH-CC-325 Method B: Field Verification of Tack Coat Application Rate](#)

[PH-CC-326 Method C: Field Verification of Tack Coat Application Rate by Tack Coat Distributor's Display](#)

[PH-CC-349 Bituminous Material Product Sample Form](#)

#### MTO Guidelines:

[Field Guide for the Acceptance of Hot Mix Asphalt and Hot-applied Rubberized Asphalt Waterproofing](#), ~~[Bridge Deck Waterproofing](#)~~

#### ASTM International:

[ASTM D5/D5M Standard Test Method for Penetration of Bituminous Materials](#)

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ASTM D2995 Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors  
 ASTM D3665 Standard Practice for Random Sampling of Construction Materials  
[ASTM D6997 Standard Test Method for Distillation of Emulsified Asphalt](#)

**American Association of State Highway and Transportation Officials Standards:**

AASHTO R66 Standard Practice for Sampling Asphalt Materials  
[AASHTO TP114 Provisional Standard Method of Test for Determining the Interlayer Shear Strength \(ISS\) of Asphalt Pavement Layers](#)

**308.03 DEFINITIONS**

For the purpose of this CAIS, the definitions shall be as specified in [OPSS 308SSP-103S08](#).

**308.04 DESIGN AND SUBMISSION REQUIREMENTS**

**308.04.01 Submission Requirements**

Administrative Activities:

1	M	Receive and Review documentation identifying the proposed <a href="#">tack coat</a> supplier and applicator of the product, <a href="#">tack coat type</a> , <a href="#">typical test results</a> , <a href="#">minimum residue</a> , <a href="#">minimum application rate</a> , safety data sheets, and any other information for the safe handling and storage of the <a href="#">tack coat</a> product in the timeline specified.	-
2	-	Receive and Review the proposals for the use of any alternative tack coat and joint painting material (proposal) in the timelines specified.	-
3	-	Check that the proposal includes the components specified in <a href="#">OPSS 308SSP-103S08</a> .	
4	-	Discuss the proposal with the Regional Quality Assurance Section as outlined in the Field Guide for the Acceptance of Hot Mix Asphalt and Bridge Deck Waterproofing. Reply to the Contractor within 5 Business Days of receiving the request.	-
5	-	Notify the Contractor, within 5 Business Days of receiving the request, of the status of the review.	-

**308.05 MATERIALS**

Administrative Activities:

1	M-	Check that tack coat and joint painting material consists of SS-1 or SS-1H or SS-1HH emulsified asphalt diluted <a href="#">up to a maximum of 50% with water (maximum dilution 1:1) with an equal volume of water</a> . <a href="#">Diluted tack coat materials requirements shall be administered according to OPSS 308SSP-103S08-Table 1</a> .	-
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2	-	Undiluted material requirements shall be administered according to CAIS 1103.	-
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**308.06 EQUIPMENT**

**308.06.01 ~~Joint Painting Distributors~~**

Administrative Activities:

<u>1</u>	<u>M</u>	<u>Check that joint painting distributors are as specified in OPSS 308.</u>	<u>-</u>
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**308.06.024 ~~Tack Coat Distributors~~**

Inspection Activities:

1	<del>M</del>	Check that the tack coat distributors are as specified in <u>OPSS 308SSP 403S08</u> .	100%
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Administrative Activities:

1	M	<del>Receive Request</del> and Review the calibration documentation for the tack coat distribution system from the Contractor.	-
2	M	Check that the <del>tack coat distribution system equipment</del> was calibrated in the last 12 months <u>by the manufacturer, or its authorized representative</u> .	-

**308.06.02 ~~Joint Painting Distributors~~**

Administrative Activities:

<u>4</u>	<u>-</u>	<u>Check that joint painting distributors are as specified.</u>	<u>100%</u>
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**308.07 CONSTRUCTION**

**308.07.01 ~~Tack Coating~~**

**308.07.01.04 ~~Operational Constraints~~**

Inspection Activities:

1	M	Check that surfaces to be tack coated <u>and joint painted</u> are free of <u>all</u> water and contamination, such as dirt, mud, loose aggregate, or debris.	100%
2	-	Check that tack coat is placed sufficiently ahead of the paving operation to allow for curing as specified in <u>OPSS 308SSP 403S08</u> .	<u>100</u> <del>50</del> %

3	-	Check that paving and construction equipment are not permitted on the tack coat until the tack coat has broken and set. Check that there is no bare material due to tracking by construction equipment or vehicles.	<del>100%</del> 100%
4	M-	Check that protection board is dry and clean when tack coat is applied.	<del>100%</del> 100%
5	M-	Check that hot mix asphalt (HMA) is not placed on the tack-coated areas until the tack coat has properly set.	100%
6	-	Check that traffic is prevented from travelling upon the tack coated areas.	<del>100%</del> 100%

**308.07.04-02**      **Tack Coat Application**

Inspection Activities:

1	-M	Check that tack coat is applied to the surfaces specified in <u>OPSS 308SSP 103S08</u> .	100%
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**308.07.04-03**      **Tack Coat Application Rates**

Inspection Activities:

1	M	<del>Verify</del> Check that tack coat is applied to the surfaces at the <u>application rates as specified in Table 2 of OPSS 308SSP 103S08</u> or an approved proposal submitted by the Contractor. Tack coat application rate <del>shall can</del> be verified <u>either using LS-325 testing method by the Contract Administrator, the tack coat distributor's onboard computer system or the method detailed in the Field Guide for Acceptance of the Hot Mix Asphalt and Bridge Deck Waterproofing according to ASTM D2995.</u>	100%
2	-	Check that the tack coat application is visually uniform.	100%

**308.07.042-04**      **Joint Painting**

Inspection Activities:

1	-	Check that joint faces are painted with a thin, uniform, and continuous coating of joint painting material as specified in <u>OPSS 308SSP 103S08</u> .	100%
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**308.07.05023**      **Material Sampling and Testing**

**308.07.05.02**      **Tack Coat**

Inspection Activities:

1	M	<u>Witness the tack coat samples being taken at the paving site as specified and in accordance with AASHTO R66.</u>	<u>100%</u>
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2	M	<u>Check that sampling frequency, quantity, and labelling is as specified in OPSS 308 and the Contract Documents.</u>	<u>100%</u>
3	M	<u>Complete PH-CC-349 and include it in the sample bag with the corresponding tack coat sample.</u>	<u>100%</u>
4	M	<u>Maintain continuous possession of the samples until they are sealed and arrange for the delivery of samples to the Owner's designated laboratory.</u>	<u>100%</u>

**308.07.023.01 — Lot and Sublot Sizes**

Administrative Activities:

1	M	<u>Prior to HMA placement and after discussion with the Contractor, Determine the size and location of tack coat lots and sublots, as specified in SSSP 103S08. Verify that there is a separate lot for each specified tack coat application rate used on the Contract.</u>	-
2	-	<u>Terminate sublots when the placement of HMA ceases for a period of 20 Business Days or more.</u>	-
3	M	<u>Arrange for the delivery of samples to the Owner's designated laboratory.</u>	-

**308.07.023.02 — Samples for Material Tack Coat Testing**

Inspection Activities:

1	M	<u>Witness the tack coat samples being taken as specified and in accordance with AASHTO R66 and ASTM D 3665.</u>	100%
2	M	<u>Check that sampling frequency, quantity, and labelling is as specified in SSP 103S08 and the Contract Documents.</u>	100%
3	-	<u>Complete PH-CC-349 and include it in the sample bag with the corresponding tack coat sample.</u>	100%
4	M	<u>Maintain continuous possession of the samples until they are sealed and arrange for the delivery of samples delivered to the Owner's designated laboratory.</u>	100%

**308.07.05.03023.03 Pavement Core Samples for Interlayer Shear Strength Testing**

Administrative Activities:

1	M	<u>Upon the completion of each lot, Notify the Contractor of each random core sample location. Core shall be obtained no later than the next Business Day after completion of paving as specified in OPSS 308.</u>	-
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Inspection Activities:

1	M	Witness core samples for <del>possible bond</del> <u>Interlayer Shear S</u> strength testing being taken. Check that core samples are taken as specified <u>in OPSS 308</u> . Check that the core is 150 mm in diameter <u>(145 to 150 mm diameter)</u> .	100%
2	M	Check that sampling frequency, quantity, and labelling is as specified in <u>OPSS 308</u> <del>SSP-103S08</del> and the Contract Documents. <u>Check that core samples are marked with traffic direction, lot/sublot number and label includes design lift thickness.</u>	100%
<del>3</del>	<del>M</del>	<u>Complete PH-CC-139 form and include in the sample bag with the corresponding core sample. Also, include PH-CC-325 or PH-CC-326 (verification of field application rate) to the core sample.</u>	<u>100%</u>
<del>34</del>	M	Maintain continuous possession of the samples until they are sealed and delivered to the Owner's designated laboratory.	100%

~~Administrative Activities:~~

<del>4</del>	<del>M</del>	<u>Upon the completion of each lot/sublot, Notify the Contractor of each random core sample location. Core shall be obtained no later than the next Business Day after completion of paving.</u>	-
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**308.07.06034 Management of Excess Material**

Administrative Activities:

1	-	Check that management of excess material is as specified in the Contract Documents.	-
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**308.08 QUALITY ASSURANCE**

**308.08.02 Acceptance of Tack Coat Material Testing**  
**308.08.02.01 General**

Administrative Activities:

1	<del>M</del>	Receive and Review laboratory <u>and field</u> test results.	-
2	<del>M</del>	Provide test results <u>of each subplot</u> to the Contractor as they become available.	-

**308.08.02.02 Lot and Sublot Sizes**

Administrative Activities:

1	M	<u>Prior to HMA placement and after discussion with the Contractor, Determine the size and location of tack coat lots and sublots, as specified in OPSS 308. Verify that there is a separate lot for each specified tack coat application rate used on the Contract.</u>	-
2	-	<u>Terminate sublots when the placement of HMA ceases for a period of 20 Business Days or more.</u>	-
3	M	<u>Arrange for the delivery of samples to the Owner's designated laboratory.</u>	-

**308.08.02.03 Basis of Acceptance**

**308.08.02.03.01 General**

Administrative Activities:

1	M	<u>Check that the percent residue of the diluted tack material meets the Table 1 requirements of OPSS 308.</u>	-
2	M	<u>The percent Oil portion of distillate and penetration shall be reported for each sublot for information purposes.</u>	-

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**308.08.02.03.02 Weighted Lot Mean for the Percent Residue**

Administrative Activities:

1	M	<u>Notify the Contractor of rejected sublots and whether the sublot is subject to repair or pay adjustment.</u>	-
2	M	<u>Complete PH-CC-135 form for determining the payment adjustment for each tack coat lot using weighted lot mean for percent residue as specified in OPSS 308. Notify the Contractor of lot payment factor.</u>	-

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**308.08.02.03.04 Referee Testing**

Administrative Activities:

1	M	<u>If referee testing for a sublot is invoked by the Contractor, check that the request is within the timeline specified in OPSS 308. Coordinate the referee testing according to the Field Guide for Acceptance of Hot Mix Asphalt and Bridge Deck Waterproofing.</u>	-
2	M	<u>Receive and Review all referee laboratory test results. Provide copies of the test results to the Contractor.</u>	-

3	M	If a referee percent residue subplot test result is less than 27.5%, then the Contractor shall be charged for the cost of the referee testing of that subplot at the rates specified in the Contract Documents.	-
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Administrative Activities:

1	M	Check visually that the tack coat coverage is visually uniform and not defective.	-
2	M	Reject any work that is visually defective and non-uniform. Notify the Contractor of rejected work and require that the area is resprayed prior to paving.	-

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**308.08.03.02 — Tack Coat Material Acceptance**

**308.08.03.02.01 — Percent Residue and Oil Portion of Distillate**

Administrative Activities:

1	M	Notify the Contractor of rejected sublots and whether the subplot is subject to repair or pay adjustment. Provide the Contractor with payment adjustment that is accepted by the Owner.	-
2	M	Complete PH-CC-135 form for determining the payment adjustment for each tack coat lot using weighted lot mean for percent residue. Notify the Contractor of sublots subject to lot payment factor payment adjustment. Provide the Contractor with Payment Factors as they become available.	-
3	M	Determine the disposition of sublots as specified in SSP 103S08	-

**308.08.03.04.03 — Referee Testing**

Administrative Activities:

1	M	If referee testing for a subplot is invoked by the Contractor, check that the request is within the timeline specified in SSP 103S08. Coordinate the referee testing according to the Field Guide for Acceptance of Hot Mix Asphalt and Bridge Deck Waterproofing.	-
2	M	Receive and Review all referee laboratory test results. Provide copies of the test results to the Contractor.	-
3	M	If a referee percent residue subplot test result is less than 27.5% is not accepted at full payment based on the referee test results, then the Contractor shall be charged for the cost of the referee testing of that subplot at the rates specified in the Contract Documents.	-



**308.08.03.053**      Acceptance of Tack Coat Field Application

**308.08.03.01**      General

Inspection Activities:

<u>1</u>	<u>M</u>	<u>Check visually that the tack coat coverage is uniform and not defective.</u>	<u>100%</u>
<u>2</u>	<u>M</u>	<u>Visually defective material and non-uniform coverage shall be rejected or repaired as specified in OPSS 308. Notify the Contractor of rejected work and require that the non-uniform coverage area is resprayed prior to paving.</u>	<u>100%</u>

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**308.08.03.02053-04**    Verification of Field Tack Coat Application Rate

Inspection Activities:

<u>1</u>	<u>M</u>	<u>Verify <del>Check</del> the tack coat field application rate. <del>Tack coat application rate according to</del> <u>rate according to LS-325 at the start of application of tack coating the first subplot and then every subplot as specified in OPSS 308, can be verified either using the tack coat distributor's onboard computer system or the method detailed in the Field Guide for Acceptance of the Hot Mix Asphalt and Bridge Deck Waterproofing according to ASTM D2995 (Option A).</u></u>	<u>100%</u>
<u>2</u>	<u>M</u>	<u>Fill in on site PH-CC-325 or PH-CC-326 or any other reporting form as applicable for verification of the tack coat field application rate as applicable and include to ISS core sample and also submit to CMS System.</u>	<u>100%</u>

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Administrative Activities:

<u>1</u>	<u>M</u>	<u>If <u>tack coat</u> field application rate <u>for a subplot</u> does not meet the contract requirements according to <u>OPSS 308SSP 103S08</u>, <u>then that subplot is rejectable</u>. <u>Discuss</u> payment adjustment with the MTO Regional Quality Assurance Section.</u>	<u>-</u>
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**308.08.03.03**      Joint Painting Application Rate Acceptance

Inspection Activities:

<u>1</u>	<u>M</u>	<u>Verify that the joint paint application provides a thin, uniform and continuous coating to all joint faces.</u>	<u>100%</u>
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**308.08.03.04053.02 Assessment of Tack Coat Appearance Acceptance/Coverage**

Inspection Activities:

1	M	Check that the tack coat <u>and joint paint</u> application is visually uniform <u>and fully covering the areas specified in the Contract Documents</u> . Areas of insufficient or non-uniform tack coat coverage shall be re-sprayed prior to paving.	100%
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**308.08.04 Disposition of HMA Produced with Rejectable Tack Coat**

Administrative Activities:

1	M	Determine the dispositions of sublots as specified in OPSS 308.	-
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**308.08.03.03.04 Equipment Settings**

Inspection Activities:

4	-	<del>Check and Record the equipment settings to evaluate tack coat application rates.</del>	<del>100%</del>
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**308.09 MEASUREMENT FOR PAYMENT**

Administrative Activities:

1	-M	Measurement for payment shall be as specified <u>in OPSS 308</u> .	-
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**308.10 BASIS OF PAYMENT**

**308.10.01 Tack Coat - Item**

Administrative Activities:

1	-M	Basis of payment shall be as specified <u>in OPSS 308</u> .	-
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**308.10.01.02 Payment Adjustment for Tack Coat**

Administrative Activities:

1	M	Determine payment adjustment as specified in OPSS 308.	-
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WARRANT: Always with OPSS 31398, Construction Specification for [Tack Coating and Joint Painting](#). ~~Hot Mix Asphalt — End Result Tack Coating and Joint Painting.~~

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