

METHOD OF TEST FOR FIELD VERIFICATION OF TACK COAT APPLICATION RATE

1. SCOPE

1.1 This method covers the procedure for verifying the field application rate of tack coat by using various methods.

2. RELEVANT DOCUMENTS

2.1 ASTM Standards

D2995-14 Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors

3. EQUIPMENT

3.1 The tack coat distributor shall be equipped with an accurate volume metering system to measure the quantity of tack coat dispensed. The metering system shall be accompanied by documentation confirming that it was calibrated within the past 12 months by the manufacturer or an authorized representative.

4. APPARATUS

4.1 BALANCE: electronic scales, capable of weighing 5 kg within 0.1 g, lightweight, portable, battery operated, or connected to a power generator or adaptor.

4.2 Weighing Box or Balance Shield, needed at project site, to protect balance from wind when the balance is in use.

4.3 Non-woven geotextile pads, or other durable absorbent pads or metal plate with confined edges and measuring minimum 300 mm by 300 mm.

5. PROCEDURE

5.1 Method A: Using ASTM D2995

5.1.1 Procedure of ASTM D2995 for transverse application rate Option 'A' shall be followed for field verification of tack coat application rate.

5.2 Method B: Using Simplified Procedure

5.2.1 Select an appropriate pad/plate to be sprayed with tack coat and record the pad/plate's area in the PH-CC-325 reporting form.

5.2.2 Obtain the weight of pad/plate to the nearest 0.1 g and record this in the PH-CC-325 reporting form.

5.2.3 Place the pad/plate at a randomly selected location in a lane at least 50 m distance ahead of tack coat distributor (avoiding distributor's tires not to pass over the pad/plate).

5.2.4 Have distributor spray the area and have distributor continue normal spraying pattern over the pad/plate.

5.2.5 After distributor has passed over the pad/plate and tack coat is applied to the pad/plate, remove the pad/plate from the pavement surface carefully and weigh immediately prior to tack coat breaking. Do not allow tack coat material to fall off from the pad/plate. Record the weight of tack coated pad/plate to the nearest 0.1 g and record this in the PH-CC-325 reporting form.

5.2.6 The surface after removal of the pad/plate shall be reapplied with tack coat.

5.2.7 Determine the tack coat field application rate using the PH-CC-325 reporting form (Figure 1). The PH-CC-325 reporting form uses the following formula for calculation of tack coat application rate:

$$\text{Sprayed Tack Coat Application Rate, kg/m}^2 = (B-A)/(Cx1000)$$

where:

A = weight of the pad/plate, g

B = weight of the sprayed tack coated pad/plate, g

C = area of the pad/plate, m²

5.2.8 If the determined tack coat field application rate is less than the minimum specified application rate, then the contractor shall make necessary adjustments accordingly to meet the minimum tack coat application rate requirement.

5.2.9 Complete and submit the PH-CC-325 reporting form.

5.3 Method C: Using Tack Coat Distributor's Display

5.3.1 The information captured from the tack coat distributor's computer display includes but is not limited to:

- Application rate, tack coated surface area, tack coated quantities, distance travelled, spray bar length, temperature etc.

5.3.2 The following means are acceptable to capture the information from the tack coat distributor's display:

- Photographs of the electronic display records taken by the Owner's representative
- Printouts or downloads provided to the Owner's representative

5.3.3 Completely fill in all the information and attach the photographs taken of the distributor's computer display screen or printouts/downloads to the PH-CC-326 reporting form (Figure 2) and submit to report the tack coat field application rate.

7. REPORT

7.1 Report the sprayed tack coat field application rate to the nearest 0.01 kg/m² using appropriate PH-CC reporting forms.

7.2 Report the top and bottom mix types with lift thicknesses, tack coat type, specified minimum tack coat application rate, and surface type (milled or smooth) on which tack coat was applied.

7.3 Complete and submit Forms PH-CC-325 and PH-CC-326, as applicable along with all supporting documents.

8. SAFETY

8.1 The standard may involve hazardous materials, operation, and equipment. Personal protective equipment and engineering controls are included but are not limited to: rubber gloves, long sleeves, and safety goggles. Follow the local, provincial, and federal safety regulations.

Figure 1 (PH-CC-325)

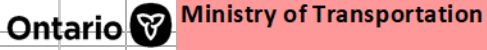

 Method B: Field Verification of Tack Coat Application Rate (LS 325)																			
Contract No.						Date Reported													
Weigh Bill No.						Mix Type of Top Lift													
Contractor						Mix Type of Bottom Lift													
Tack Coat Supplier																			
Grade (Choose from pull-down list)			Select																
Test No.	Lot No.	Sublot No.	Test Date	Highway No.	Lane	Direction	Surface Type on which Tack Coat Applied	Tack Coat Uniformly Sprayed (Yes/No)	Minimum Target Tack Coat Application Rate (Kg/m ²)	Temp. of Tack in Truck (°C)	Air Temp. (°C)	Surface Temp. (°C)	Pad/Plate Area (m ²)	Wt. of Pad/Plate (g)	Wt. of Pad/Plate + Tack Coat (g)	Wt. of Tack Coat (g)	Tack Coat Application Rate (Kg/m ²)	Met Minimum Target Tack Coat Application	Truck Number/ Comments
							Select Surface	Select										Select	
							Select Surface	Select										Select	
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COMPILED BY						APPROVED BY						DATE							
DISTRIBUTION: 1. Regional Quality Assurance 2. Contractor/Supplier 3. Contract Administrator																			
PH-CC-325																			
10-May-22																			

Figure 2 (PH-CC-326)

Ontario  Ministry of Transportation																						
Method C: Field Verification of Tack Coat Application Rate by Tack Coat Distributor's Display (LS 325)																						
Contract No.										Date Reported												
Weigh Bill No.										Mix Type of Top Lift												
Contractor										Mix Type of Bottom Lift												
Tack Coat Supplier																						
Grade (Choose from pull-down list)					Select																	
													Information Recorded from Tack Coat Distributor's Computer Display									
Test No.	Lot No.	Sublot No.	Test Date	Highway No.	Lane	Direction	Surface Type on which Tack Coat Applied	Tack Coat Uniformly Sprayed (Yes/No)	Minimum Target Tack Coat Application Rate (Kg/m ²)	Temp. of Tack in Truck (°C)	Air Temp. (°C)	Surface Temp. (°C)	Application Rate (kg/m ²)	Tack Coated Surface Area (m ²)	Spray Bar Length (m)	Distance Sprayed (m)	Tack Coat Volume (L)	Tack Coat Mass (kg)	Tack Coat Application Rate (kg/m ²)	Met Minimum Target Tack Coat Application Rate? (Yes/No)	Truck Number/ Comments*	
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Note: *Attach Photo, Printout, Downloads to this form																						
COMPILED BY										APPROVED BY												
DATE																						
DISTRIBUTION: 1. Regional Quality Assurance 2. Contractor/Supplier 3. Contract Administrator																						
PH-CC-326																						
10-May-22																						