**Asphalt Technician Assessment & IA Split Sampling**

**HMA QC Laboratory - Summary Sheet**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| Technician Assessor Name: | Click or tap here to enter text. |  | Assessment Date: | Click or tap to enter a date. |
| IA Sampling Assessor Name: | Click or tap here to enter text. |  | IA Sampling Date: | Click or tap to enter a date. |
|  |  |  | HiCAMS #: | Click or tap here to enter text. |

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| **HMA QC Laboratory Technician Assessment Results** |
| **Test Procedure** | **Assessment Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Sampling & Quartering  | Choose an item. | Click or tap here to enter text. |
| Binder Content (T-308) | Choose an item. | Click or tap here to enter text. |
| Bulk Specific Gravity (T-312 and T-166/T-331) | Choose an item. | Click or tap here to enter text. |
| Theoretical Maximum Specific Gravity (T-209 or D-6857) | Choose an item. | Click or tap here to enter text. |
| Recovered Aggregate Gradation (T-30) | Choose an item. | Click or tap here to enter text. |

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| **HMA QC Laboratory IA Split Sampling Results** |
| **Test Procedure** | **Assessment Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Binder Content (T-308) | Choose an item. | Click or tap here to enter text. |
| Bulk Specific Gravity (T-312 and T-166/T-331) | Choose an item. | Click or tap here to enter text. |
| Theoretical Maximum Specific Gravity (T-209 orD-6857) | Choose an item. | Click or tap here to enter text. |
| Recovered Aggregate Gradation (T-30) | Choose an item. | Click or tap here to enter text. |

Notes:

Click or tap here to enter text.

**Sampling Mix From the Truck & Reduction of Samples to Test Size**

**NCDOT IA Assessment**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per Standard. | Choose an item. | Choose an item. |
| 2. | Initial point of sampling established at the high point of the cone near the middle of the truck box. | Choose an item. | Choose an item. |
| 3. | At least three incremental sampling points established and equally spaced around the load? | Choose an item. | Choose an item. |
| 4. | Mix temperature taken from truck as required by Section 7.5.5? | Choose an item. | Choose an item. |
| 5. | Upper 6 - 12 inches of mix removed before extracting mix samples? | Choose an item. | Choose an item. |
| 6. | Material from each sampling point placed into each bucket/cloth bag? | Choose an item. | Choose an item. |
| 7. | Each bucket/cloth bag contains a minimum of 50 pounds of mix? | Choose an item. | Choose an item. |
| 8. | Material to be retained carefully placed in cloth bags? **(QC only)** | Choose an item. | Choose an item. |
|  | *The following 3 items should be administered Orally to ensure technician is aware of requirements:* | Choose an item. | Choose an item. |
|  | *a. A WHITE sample card should be used to tag which bags? [QA Sample Bag]* | Choose an item. | Choose an item. |
|  | *b. An ORANGE sample card should be used to tag which bags? [Referee Bag]* | Choose an item. | Choose an item. |
|  | *c. All bags retained for 7 calendar days in a safe, dry place as required by the QMS Manual?*  | Choose an item. | Choose an item. |
| 9. | Mix to be tested should be emptied onto the splitting table and shaped into a conical pile? Carefully flatten the conical pile to a uniform thickness and diameter by pressing down the apex? | Choose an item. | Choose an item. |
| 10. | Mix quartered with quarters used to weigh up samples for Gyratory Specimens, Rice Gravity, Binder Content, and Gradation testing as required in Section 7.5? | Choose an item. | Choose an item. |
| 11. | Any remaining mix from each quarter discarded after weighing up samples? | Choose an item. | Choose an item. |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| **Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

Note: An IA-Split Sampling is not required for “Sampling and Quartering”.

**Asphalt Binder Content of Hot-Mix-Asphalt by the Ignition Method**

**NCDOT T-308**

**NCDOT IA Assessment & Split Sampling**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per NCDOT T-308 Standard. | Choose an item. | Choose an item. |
| 2. | Minimum weight of sample based on the following: | Choose an item. | Choose an item. |
|  | Nominal Max Particle Size (mm) | Minimum Weight of Sample (grams) |  |  |
| 25.0 | 3000 |
| 19.0 | 2000 |
| 9.50, 4.75 | 1200 |
| 3. | Sample size not more than 500 grams greater than the minimum weight of sample? | Choose an item. | Choose an item. |
| 4. | Ignition Furnace preheated to 1000 oF (538 °C)? | Choose an item. | Choose an item. |
| 5. | Calibration Factor entered for the specific mix to be tested? | Choose an item. | Choose an item. |
| 6. | Weight of specimen basket assembly recorded (including catch pan, lids, and guards)? | Choose an item. | Choose an item. |
| 7. | Sample evenly distributed in baskets, material kept away from edges (not touching sides), and leveled? | Choose an item. | Choose an item. |
| 8. | Total weight of sample and specimen basket assembly recorded? | Choose an item. | Choose an item. |
| 9. | Initial weight of the sample calculated and recorded? | Choose an item. | Choose an item. |
| 10. | Initial weight of the sample input into the ignition furnace controller and then verified? | Choose an item. | Choose an item. |
| 11. | Sample and specimen basket assembly placed in the furnace and chamber door closed? | Choose an item. | Choose an item. |
| 12. | Internal balance reading and chamber temperature allowed to stabilize? | Choose an item. | Choose an item. |
| 13. | Internal balance reading agrees with total weight within ± 5 grams? Note: Record weight BEFORE pressing the Start button. | Choose an item. | Choose an item. |
| 14. | Pressing the start button locks the chamber door and starts the combustion blower? | Choose an item. | Choose an item. |
| 15. | Test continued until stable light and audible alarm indicate the test iscomplete? Note: Change in weight does not exceed 0.01% for three consecutive minutes | Choose an item. | Choose an item. |
| 16. | Pressing the Stop button unlocks the chamber door and prints the ticket? | Choose an item. | Choose an item. |
| 17. | Open the chamber door, remove the specimen basket assembly, and place it on a cooling plate or block, and allow it to cool (see T30 Item #1)? | Choose an item. | Choose an item. |
| 18. | Corrected asphalt content (%) from the ticket recorded? | Choose an item. | Choose an item. |
| 19. | Contents of sample basket assembly emptied into a pan without any loss of material before gradation analysis is performed? | Choose an item. | Choose an item. |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Asphalt Binder Content of Hot-Mix-Asphalt by the Ignition Method (Continued)**

**NCDOT T-308**

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| **Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

**IA Split Sampling Requirements**

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| --- | --- | --- | --- |
| **Correlation**  | **Acceptable****(<= 1.0%)** | **Un-Acceptable****(> 1.0%)** | **Investigation Notes****(greater than 1.0% difference)** |

**IA Split Sampling Results**

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| --- | --- | --- | --- |
|  | **Technician Results** | **IA Assessor Results** | **Correlation Results** |
| Trial 1 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Trial 2 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Bulk Specific Gravity (T-312 & T-166/T-331)**

**Preparing Asphalt Specimens by means of the Superpave Gyratory Compactor**

**NCDOT T-312**

**NCDOT IA Assessment & Split Sampling**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per NCDOT T-312 Standard. | Choose an item. | Choose an item. |
| 2. | Main power of gyratory compactor switched on for manufacturer’s recommended warm-up period? | Choose an item. | Choose an item. |
| 3. | Daily Height Verification run, Required Angle, Pressure, and Number of Gyrations set? | Choose an item. | Choose an item. |
| 4. | Three gyratory mold assemblies placed in an oven set at *300 ± 25 °F (149 ± 14 ° C)* for a minimum of 30 minutes prior to estimated beginning of compaction?  | Choose an item. | Choose an item. |
| 5. | Appropriate amount of mix weighed out to produce a compacted specimen height of 115 ± 5 mm? | Choose an item. | Choose an item. |
| 6. | Mix Sample Compaction Temperature (ALL Binder Grades) 10 °F lower than the Mixing temperature shown on the JMF, and then apply a range of ± 5 °F. | Choose an item. | Choose an item. |
|  | ***Mixes Using Binder Grade*** | ***Compaction Temperature*** | ***RAP/RAS*** *- temperature based on* *Original binder grade for mix type?*  |
| *PG 58-28 & PG 64-22 (290°F)* | *280 ± 5 °F (137 ± 3 ° C)* |
| *PG 70-22 (305°F)* | *295 ± 5 °F (146 ± 3 ° C)* | ***WMA*** *– required compaction temperature is 10 °F lower than mixing temperature (range = ±5 °F)?*  |
| *PG 76-22 (325°F)* | *315 ± 5 °F (157 ± 3 ° C)* |
| 7. | Mold assembly removed from oven and paper disc placed in bottom of mold? | Choose an item. | Choose an item. |
| 8. | Mix sample introduced into mold in one lift and leveled? | Choose an item. | Choose an item. |
| 9. | Mix temperature checked by placing a thermometer in the center of the specimen? | Choose an item. | Choose an item. |
| 10. | Once compaction temperature is reached, paper disc placed on top of material and mold assembly loaded into compactor? | Choose an item. | Choose an item. |
| 11. | Are the procedures in #6 - #9 above done as quickly as possible to prevent mix from cooling below the required compaction temperature? | Choose an item. | Choose an item. |
| 12. | Were the correct gyrations used for the mix type being gyrated? Make sure to look at the JMF # to see if it is the New 2018 Specs or a 2017 or older JMF. | Choose an item. | Choose an item. |
| 13. | Once compaction is complete, mold assembly is removed and specimen carefully extruded?Note: Some mix types may require a cooling period of 5 - 10 mins. before complete extrusion.  | Choose an item. | Choose an item. |
| 14. | All paper protection discs are removed from specimens as soon as possible? | Choose an item. | Choose an item. |
| 15. | Before reusing mold, mold placed back into an oven set at compactiontemperature for a minimum of 5 minutes? | Choose an item. | Choose an item. |
| 16. | All 3 specimens are placed in front of cooling fan until they cool to a temperature of 77 ± 9 ºF? | Choose an item. | Choose an item. |
| 17. | Specimens are properly identified with appropriate sample numbers? | Choose an item. | Choose an item. |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| --- | --- | --- |
| ­**Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

**IA Split Sampling Requirements**

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| --- | --- | --- | --- |
| **Correlation**  | **Acceptable****(<= 0.060)** | **Un-Acceptable****(> 0.060)** | **Investigation Notes****(greater than 0.060 difference)** |

**IA Split Sampling Results**

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| --- | --- | --- | --- |
|  | **Technician Results** | **IA Assessor Results** | **Correlation Results** |
| Trial 1 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Trial 2 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Bulk Specific Gravity (T-312 & T-166/T-331)**

**Bulk Specific Gravity of Compacted Asphalt Mixtures**

**NCDOT T-166**

**NCDOT IA Assessment & Split Sampling**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per NCDOT T-166 Standard. | Choose an item. | Choose an item. |
| 2. | Laboratory – molded specimens? |
|  | Cooled to temperature of 77 ± 9 °F (25 ± 5 °C)? | Choose an item. | Choose an item. |
| 3. | Cored or cut samples? |
|  | a. Sample dried to constant weight at a temperature of 125 ± 5 °F (52 ± 3 °C) until further drying does not alter the weight by more than 0.05% when weighed at 2-hour intervals?  | Choose an item. | Choose an item. |
|  | b. Samples saturated with water initially dried overnight in oven at a temperature of 125 ± 5 °F (52 ± 3 °C) and then weighed at 2-hour intervals? | Choose an item. | Choose an item. |
|  | c. Core-Drying Apparatus: Sample weighed, run one complete cycle, reweighed, and drying continued until further drying does not alter the weight by more than 0.05%. (At least 2 cycles.) | Choose an item. | Choose an item. |
| 4. | Core-Drying Apparatus  |
|  | a. Specimen placed inside vacuum chamber and lid(s) placed on chamber and moisture trap (if necessary)? | Choose an item. | Choose an item. |
|  | b. Start button pressed to begin the drying process? | Choose an item. | Choose an item. |
|  | c. Machine automatically stops when it senses the “dry specimen condition”? (At least 2 cycles.) | Choose an item. | Choose an item. |
| 5. | Dry Weight determined to nearest 0.1 gram?  | Choose an item. | Choose an item. |
| 6. | Wet Weight determined to nearest 0.1 gram? | Choose an item. | Choose an item. |
|  | a. The water tank Circulation Pump Shall NOT be in use while recording sample weights? | Choose an item. | Choose an item. |
|  | b. Immersed for 4 ± 1 minute?  | Choose an item. | Choose an item. |
|  | c. Water Bath temperature at 77 ± 2 °F (25 ± 1 °C)? | Choose an item. | Choose an item. |
| 7. | Saturated Surface-Dry Weight determined to nearest 0.1 gram? | Choose an item. | Choose an item. |
|  | a. Quickly blotted with damp towel? Note: Entire towel is saturated and water is wrung out until no more water can be wrung from the towel?  | Choose an item. | Choose an item. |
|  | b. The entire operation did not exceed 25 seconds?(Note: timing begins once the specimen breaks the surface of the water and ends once the blotted specimen is placed on the top of the balance.) | Choose an item. | Choose an item. |
| 8. | Bulk Specific Gravity (Gmb) calculated to the nearest 0.001 as follows: | Choose an item. | Choose an item. |
|  |  Gmb = A . (B-C) | Where | A = Weight of dry specimen in air (grams) |
|  | B = Weight of saturated surface dry specimen in air (grams) |
|  | C = Weight of specimen in water (grams) |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| **Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

**IA Split Sampling Requirements**

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| --- | --- | --- | --- |
| **Correlation**  | **Acceptable****(<= 0.060)** | **Un-Acceptable****(> 0.060)** | **Investigation Notes****(greater than 0.060 difference)** |

**IA Split Sampling Results**

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| --- | --- | --- | --- |
|  | **Technician Results** | **IA Assessor Results** | **Correlation Results** |
| Trial 1 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Trial 2 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Bulk Specific Gravity (T-312 & T-166/T-331)**

**Bulk Specific Gravity (Gmb) of Asphalt Paving Mixtures by Vacuum Sealing Method**

**NCDOT T-331**

**NCDOT IA Assessment & Split Sampling**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per NCDOT T-331 Standard. | Choose an item. | Choose an item. |
| 2. | Specimens laboratory molded – allowed to cool to temperature 77 + 90 F (25 + 50 C) | Choose an item. | Choose an item. |
| 3. | Cored or cut samples? |
|  | a. Sample dried to constant weight at a temperature of 125 ± 5°F (52 ± 3°C) until further drying does not alter the weight by more than 0.05% when weighed at 2-hour intervals?  | Choose an item. | Choose an item. |
|  | b. Samples saturated with water initially dried overnight in oven at a temperature of 125 ± 5°F (52 ± 3°C) and then weighed at 2-hour intervals? | Choose an item. | Choose an item. |
|  | c. Automatic Drying Apparatus: Sample weighed, run one complete cycle, reweighed, and drying continued until further drying does not alter the weight by more than 0.05%. (At least 2 cycles.) | Choose an item. | Choose an item. |
| 4. | Appropriate size plastic bag chosen for the specimen size being tested and weight determined?  | Choose an item. | Choose an item. |
| 5. | Weight of empty bag determined?  | Choose an item. | Choose an item. |
| 6. | Dry Weight of specimen determined to nearest 0.1 gram?  | Choose an item. | Choose an item. |
| 7. | Bag placed on top of Specimen Sliding Plate inside the vacuum chamber? | Choose an item. | Choose an item. |
| 8. | Specimen placed in bag carefully to avoid puncturing, dropping, or impacting the bag? | Choose an item. | Choose an item. |
| 9. | Vacuum chamber set to proper Manufacturer’s Program (Program # 1)? | Choose an item. | Choose an item. |
| 10. | Bag automatically sealed by the Vacuum Chamber once air is removed? | Choose an item. | Choose an item. |
| 11. | Air exhausted into the chamber until chamber door opens indicating atmospheric pressure within the chamber? | Choose an item. | Choose an item. |
| 12. | Bag inspected for loose areas, to insure a proper seal? If loose areas found, was sealing restarted? | Choose an item. | Choose an item. |
| 13. | Was the sample immediately transferred to water bath (with scale) at 77 ± 2°F (25 ± 1°C)? The time between the lid opening after sealing and inspection of the bag and placement of the specimen into the water tank should not exceed one (1) minute? | Choose an item. | Choose an item. |
| 14. | Weight of the sealed sample in water determined at 77° ± 2°F (25° ± 1°C) to the nearest 0.1 gram?  | Choose an item. | Choose an item. |
| 15. | The water tank Circulation Pump Shall NOT be in use while recording sample weights? | Choose an item. | Choose an item. |
| 16. | Specimen removed from bag and its weight determined to the nearest 0.1 gram? | Choose an item. | Choose an item. |
|  | a. Was weight verified to be within ±5 grams of weight? | Choose an item. | Choose an item. |
|  | b. If not, was the specimen dried & retested with a new bag? | Choose an item. | Choose an item. |
| 17. | Bulk Specific Gravity (Gmb) calculated to the nearest 0.001 as follows:  | Choose an item. | Choose an item. |
|  | $$$$ |  |  |
|  | Where | A = Weight of dry specimen in air (grams) |
| B = Weight of sealed specimen in air (grams) |
| C = Weight of dry specimen in air - reweighed (grams) |
| E = Weight of sealed specimen under water - reweighed (grams) |
| F = Bag correction factor |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| **Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

**IA Split Sampling Requirements**

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| --- | --- | --- | --- |
| **Correlation**  | **Acceptable****(<= 0.060)** | **Un-Acceptable****(> 0.060)** | **Investigation Notes****(greater than 0.060 difference)** |

**IA Split Sampling Results**

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| --- | --- | --- | --- |
|  | **Technician Results** | **IA Assessor Results** | **Correlation Results** |
| Trial 1 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Trial 2 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Theoretical Maximum Specific Gravity (T-209 or D-6857)**

**Maximum Specific Gravity (Gmm) of Asphalt Mixtures**

**NCDOT T-209**

**NCDOT IA Assessment & Split Sampling**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per NCDOT T-209 Standard. | Choose an item. | Choose an item. |
| 2. | Sample of 1500g (9.5, 4.75) OR 2000g (25.0, 19.0) weighed into appropriately sized container? Sample size not more than 200 grams greater than the minimum sample weight? | Choose an item. | Choose an item. |
| 3. | Mix spread uniformly in large flat pan and broken up so that no particles of fine aggregate portion larger than 1/4 inch?  | Choose an item. | Choose an item. |
| 4. | Sample cooled to temperature of 77 ± 9 °F (25 ± 5 °C) and then the entire amount placed in the bowl or pot and weighed?  | Choose an item. | Choose an item. |
| 5. | Water at 77 ± 2 oF (25 ± 1 °C) added until sample is covered completely? | Choose an item. | Choose an item. |
| 6. | Entrapped air removed using partial vacuum of 27.5 ± 2.5 mm Hg for 15 ± 2 minutes? Container and contents agitated continuously by mechanical device?  | Choose an item. | Choose an item. |
| 7. | At the end of the vacuum period, was the vacuum released by increasing the pressure at a rate not to exceed 60 mm Hg (8 kPa) per second? | Choose an item. | Choose an item. |
| 8. | Bowl/Pot Determination: |
|  | a. Bowl and sample suspended in water maintained at 77 ± 2 oF (25 ± 1 °C) for 10 ± 1 minutes?  | Choose an item. | Choose an item. |
|  | b. Net weight of sample in water determined?  | Choose an item. | Choose an item. |
|  | c. The water tank Circulation Pump Shall NOT be in use while recording sample weights? | Choose an item. | Choose an item. |
| 9. | Maximum Specific Gravity (Gmm) calculated to the nearest 0.001 as follows: | Choose an item. | Choose an item. |
|  | $$G\_{mb} = \frac{A}{\left(A-C\right)}$$ | Where | A = Weight of sample in air before vacuum (grams) |
| C = Weight of sample in water after vacuum (grams) |
|  | Dryback Procedure |
| 10. | Water drained from sample and decanted through a towel or No. 200 sieve to prevent loss of fine particles? | Choose an item. | Choose an item. |
| 11. | Large conglomerations of mix broken up by hand? | Choose an item. | Choose an item. |
| 12. | Sample spread in a tared pan and placed in front of an electric fan to remove surface moisture? | Choose an item. | Choose an item. |
| 13. | Sample stirred periodically? | Choose an item. | Choose an item. |
| 14. | Sample weighed at 15-minute intervals until constant weight is reached? | Choose an item. | Choose an item. |
|  | (Note: Constant weight is reached once loss is less than 0.05% for the 15-minute interval.) |
| 15. | Maximum Specific Gravity (Gmm) calculated to the nearest 0.001 as follows: | Choose an item. | Choose an item. |
|  | $$G\_{mb} = \frac{A}{\left(B-C\right)}$$ | Where | A = Weight of sample in air before vacuum (grams); |
| B = Weight of surface dry sample in air after vacuum or after Dryback (grams); |
| C = Weight of sample in water after vacuum (grams) |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| **Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

**IA Split Sampling Requirements**

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| **Correlation**  | **Acceptable****(<= 0.040)** | **Un-Acceptable****(> 0.040)** | **Investigation Notes****(greater than 0.040 difference)** |

**IA Split Sampling Results**

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|  | **Technician Results** | **IA Assessor Results** | **Correlation Results** |
| Trial 1 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Trial 2 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Theoretical Maximum Specific Gravity (T-209 or D-6857)**

**Maximum Specific Gravity (Gmm) of Asphalt Mixtures by Vacuum Sealing**

**NCDOT D-6857**

**NCDOT IA Assessment & Split Sampling**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per NCDOT D-6857 Standard. | Choose an item. | Choose an item. |
| 2. | Sample of 1500g (9.5, 4.75) OR 2000g (25.0, 19.0) weighed into appropriately sized container? Sample size not more than 200 grams greater than the minimum sample weight? | Choose an item. | Choose an item. |
| 3. | Mix spread uniformly in large flat pan and broken up so that no particles of fine aggregate portion larger than 1/4 inch?  | Choose an item. | Choose an item. |
| 4. | Sample cooled to temperature of 77 ± 9 °F (25 ± 5 °C)?  | Choose an item. | Choose an item. |
| 5. | Dry Weight of specimen determined?  | Choose an item. | Choose an item. |
| 6. | Vacuum chamber set to proper Manufacturer’s Program (Program # 2)? | Choose an item. | Choose an item. |
| 7. | An appropriate internal and external bag chosen and the Combined Weight determined?  | Choose an item. | Choose an item. |
| 8. | The entire sample placed in the internal bag, with care taken to ensure that none of the sample is lost during the transfer? | Choose an item. | Choose an item. |
| 9. | The empty external bag placed inside the vacuum chamber? | Choose an item. | Choose an item. |
| 10. | The internal bag containing the sample placed with the channel side down into the external bag? | Choose an item. | Choose an item. |
| 11. | The sample spread so that it is evenly distributed within the internal bag? | Choose an item. | Choose an item. |
| 12. | The opening of the internal bag is pushed away from the opening of the external bag to prevent the opening of the internal bag from being sealed? | Choose an item. | Choose an item. |
| 13. | The opening of the external bag is placed over the seal bar, ensuring that the internal bag is not over the seal bar? | Choose an item. | Choose an item. |
| 14. | The Vacuum Chamber closed and allowed to remove air from chamber and bag? | Choose an item. | Choose an item. |
| 15. | The external bag automatically sealed by the Vacuum Chamber once air is removed? | Choose an item. | Choose an item. |
| 16. | Air exhausted into the chamber until chamber door opens indicating atmospheric pressure within the chamber? | Choose an item. | Choose an item. |
| 17. | Sealed sample removed from the vacuum chamber and bag inspected for loose areas, to insure a proper seal? If loose areas found, was sealing restarted? | Choose an item. | Choose an item. |
| 18. | Was the sample immediately transferred to water tank (with scale) at 77 ± 2°F (25 ± 1°C)?Note: The time between the lid opening after sealing and inspection of the bag and placement of the specimen into the water tank should not exceed one (1) minute. | Choose an item. | Choose an item. |
| 19. | The water tank Circulation Pump Shall NOT be in use while recording sample weights? | Choose an item. | Choose an item. |
| 20. | Was the sealed bag containing the sample submerged completely under water and the external bag cut open all the way across the top, leaving approximately 1 inch intact? | Choose an item. | Choose an item. |
| 21. | When cutting the bag open, was ALL of the bag kept completely underwater throughout the entire process?  | Choose an item. | Choose an item. |
| 22. | Were both bags opened and held open for 10 - 15 seconds to allow water to flow into the bags? | Choose an item. | Choose an item. |
| 23. | Was the sample secured over the suspended holder and care taken to ensure the bags nor the suspension equipment are contacting the sides or bottom of the water tank?  | Choose an item. | Choose an item. |
| 24. | Was water level returned to constant water level? | Choose an item. | Choose an item. |
| 25. | Was the weight allowed to stabilize, and the weight of the mix and bags underwater recorded to the nearest 0.1 gram?  | Choose an item. | Choose an item. |
| 26. | Maximum Specific Gravity (Gmm) calculated to the nearest 0.001 per the manufacturer-provided software or data collection table? | Choose an item. | Choose an item. |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| **Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

**IA Split Sampling Requirements**

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| --- | --- | --- | --- |
| **Correlation**  | **Acceptable****(<= 0.040)** | **Un-Acceptable****(> 0.040)** | **Investigation Notes****(greater than 0.040 difference)** |

**IA Split Sampling Results**

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| --- | --- | --- | --- |
|  | **Technician Results** | **IA Assessor Results** | **Correlation Results** |
| Trial 1 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Trial 2 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |

**Sieve Analysis of Recovered Aggregate Gradation**

**NCDOT T-30**

**NCDOT IA Assessment & Split Sampling**

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| Technician Name: | Click or tap here to enter text. |  | Technician ID#: | Click or tap here to enter text. |
| **Procedure** | **1st Trial** | **2nd Trial** |
| 1. | Verify all equipment and tools meet all requirements per NCDOT T-30 Standard. | Choose an item. | Choose an item. |
| 2. | Sample consists of all aggregate from ignition oven burn and has been cooled to 120 °F (49 °C) or less prior to washing? | Choose an item. | Choose an item. |
| 3. | Material weighed to nearest 0.1 gram? | Choose an item. | Choose an item. |
| 4. | Sample placed in container and covered with water? | Choose an item. | Choose an item. |
| 5. | Wetting Agent added? | Choose an item. | Choose an item. |
| 6. | Contents of container agitated vigorously? OR If automatic aggregate washer used, was agitation limited to a maximum of 10 minutes? | Choose an item. | Choose an item. |
| 7. | Wash water poured over nest of TWO sieves (No. 16 over a No. 200 sieve)?  | Choose an item. | Choose an item. |
| 8. | Care taken to avoid decantation of coarser particles? No. 200 sieve not overflowed or overloaded? | Choose an item. | Choose an item. |
| 9. | Washing continued until wash water is clear? | Choose an item. | Choose an item. |
| 10. | All material retained on nested sieves flushed back into container (NOT onto the No. 200 sieve)? | Choose an item. | Choose an item. |
| 11. | Washed aggregate dried to constant weight in an oven (or a hot plate) set at a temperature between 220 – 325°F (105 – 163°C)? | Choose an item. | Choose an item. |
| 12. | Material cooled to 120 °F (49 °C) or less after drying? | Choose an item. | Choose an item. |
| 13. | Material weighed to nearest 0.1 gram? | Choose an item. | Choose an item. |
| 14. | Material shaken on specified sieves for 10 minutes (including No. 200)? | Choose an item. | Choose an item. |
| 15. | Each fraction of aggregate weighed cumulatively, including minus No. 200? | Choose an item. | Choose an item. |
| 16. | Does final total weight after sieving check within 0.2% of total weight after washing? | Choose an item. | Choose an item. |
| 17. | Sizes larger than No. 200 reported to nearest whole percent (1.0)? | Choose an item. | Choose an item. |
| 18. | Minus No. 200 reported to nearest 0.1 percent? | Choose an item. | Choose an item. |

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| **Technician Assessor Name:** | Click or tap here to enter text. |  | **Assessment Date:** | Click or tap to enter a date. |
| **IA Sampling Assessor Name:** | Click or tap here to enter text. |  | **IA Sampling Date:** | Click or tap to enter a date. |

**Technician Assessment Requirements**

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| **To successfully complete each step in the above procedure within two trials.** |

**Technician Assessment Results**

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| **Technician Assessment** | **Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Trial 1 | Choose an item. | Click or tap here to enter text. |
| Trial 2 | Choose an item. | Click or tap here to enter text. |

**IA Split Sampling Requirements**

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| --- | --- | --- | --- |
| **Correlation**  | **Acceptable****(<= 3.0%)** | **Un-Acceptable****(> 3.0%)** | **Investigation Notes****(greater than 3.0% difference)** |

**IA Split Sampling Results**

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| --- | --- | --- | --- |
|  | **Technician Results** | **IA Assessor Results** | **Correlation Results** |
| Trial 1 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Trial 2 | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |