**Coarse Aggregate Technician Assessment & IA Split Sampling**

**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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| **Fine Aggregate Technician Assessment Results** | | |
| **Test Procedure** | **Assessment Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Stockpile Sampling | Choose an item. | Click or tap here to enter text. |
| Gradation & Fineness Modulus | Choose an item. | Click or tap here to enter text. |
| Loss By Washing | Choose an item. | Click or tap here to enter text. |

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| **Fine Aggregate IA Split Sampling Results** | | |
| **Test Procedure** | **Assessment Results** | **Investigation Notes (Required if Un-Acceptable)** |
| Gradation & Fineness Modulus | Choose an item. | Click or tap here to enter text. |
| Loss By Washing | Choose an item. | Click or tap here to enter text. |

Notes:

Click or tap here to enter text.

**Coarse Aggregate Stockpile Sampling**

**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. | | **Stockpile Sampling** | | | |  | |  |
|  | | 1. Obtain the sample from an area that represents material being shipped. | | | | Choose an item. | | Choose an item. |
|  | | 1. The sample shall be obtained from an aggregate that has been picked up by a loading unit from the existing stockpile. The material from which the samples are to be obtained should be approximately one full loader bucket. | | | | Choose an item. | | Choose an item. |
|  | | 1. The loading unit shall dump the material on the ground as if loading a truck. Care shall be taken not to drop material from an excessive height, which could cause material to segregate. Then, strike off and level to approximately half the original pile height. | | | | Choose an item. | | Choose an item. |
|  | | 1. The flat surface shall be divided into four sections. Identify sampling areas as A, B, C, D. | | | | Choose an item. | | Choose an item. |
|  | | 1. Opposite quadrants, such as A and D, or B and C shall be used to acquire the sample. | | | | Choose an item. | | Choose an item. |
|  | | 1. While obtaining material with the shovel, care shall be taken to prevent spillage of material while transferring material to the sample container. | | | | Choose an item. | | Choose an item. |
| 3. | | **Sample Splitter** | | | |  | |  |
|  | | 1. Splitter is resting level on a stable surface. | | | | Choose an item. | | Choose an item. |
|  | | 1. Finger gate settings open at least 11/2 times larger than the materials nominal size to be split. | | | | Choose an item. | | Choose an item. |
|  | | **Method A** | | | |  | |  |
|  | | 1. Place half of the material on the top of the splitter. | | | | Choose an item. | | Choose an item. |
|  | | 1. Open the splitter slowly, allowing the material to flow into the two catch pans. | | | | Choose an item. | | Choose an item. |
|  | | 1. Switch the pans from one side of the splitter to the other and place the remainder of the material on top of the splitter. | | | | Choose an item. | | Choose an item. |
|  | | 1. Open the splitter slowly, allowing the remainder of the material to flow into the two catch pans. | | | | Choose an item. | | Choose an item. |
|  | | **Method B** | | | |  | |  |
|  | | 1. Place all the material on the top of the splitter. | | | | Choose an item. | | Choose an item. |
|  | | 1. Open the splitter slowly, allowing the material to flow into the two catch pans. | | | | Choose an item. | | Choose an item. |
|  | | 1. Compare the weights of the two pans to see if they are within 3% of each other. | | | | Choose an item. | | Choose an item. |
|  | | 1. If they are not within this tolerance, place all the material back on top of the splitter and repeat the procedure. | | | | 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 this procedure.

**Coarse Aggregate Gradation and Finess Modulus Method**

**AASHTO T27**

**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 the AASHTO Standard. | | | | Choose an item. | | Choose an item. |
| 2. | | Once the sample is dried to a constant mass, it is allowed to cool to the touch prior to proceeding with any testing procedures. | | | | Choose an item. | | Choose an item. |
| 3. | | When testing material which 100% passes the ¾ sieve (such as #78, #14M, #9, etc), split the sample into a workable size of 10 to 15 pounds to avoid overloading sieves. Follow procedures for splitting a sample described in Exhibit D. | | | | Choose an item. | | Choose an item. |
| 4. | | Based on the Specifications for the material being tested, the proper sieves are selected. Additional sieve(s) may be added as needed to determine Fineness Modulus or to prevent sieve overloading. | | | | Choose an item. | | Choose an item. |
| 5. | | The sieves are placed into the mechanical vibrator with the smallest opening on bottom and largest opening on top. | | | | Choose an item. | | Choose an item. |
| 6. | | Weigh and record the weight of the sample. | | | | Choose an item. | | Choose an item. |
| 7. | | Place the sample in the mechanical shaker and agitate for 10 minutes. | | | | Choose an item. | | Choose an item. |
| 8. | | Carefully remove each sieve, weigh and record the retained material on each sieve (cumulatively) using the following steps: | | | |  | |  |
|  | | 1. Carefully remove the nest of sieves from the shaker. | | | | Choose an item. | | Choose an item. |
| 1. Remove the top sieve, weigh and record material retained. | | | | Choose an item. | | Choose an item. |
| 1. Remove the next sieve and add the retained material to the material from the first sieve. | | | | Choose an item. | | Choose an item. |
| 1. Record cumulative weight from both sieves. | | | | Choose an item. | | Choose an item. |
| 1. Remove the next sieve and add the retained material to the material from the two previous sieves. | | | | Choose an item. | | Choose an item. |
| 1. Record cumulative weight from all three sieves. | | | | Choose an item. | | Choose an item. |
| 1. Repeat this process for each of the remaining sieves to the catch pan. | | | | Choose an item. | | Choose an item. |
| 9. | | Calculate the cumulative percent retained for each sieve. | | | | Choose an item. | | Choose an item. |
| 10. | | Calculate the percent passing for each sieve. | | | | 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**  **(<= 10% per sieve)** | **Un-Acceptable**  **(> 10% per sieve)** | **Investigation Notes**  **(greater than 10% 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. |

**Coarse Aggregate Loss By Washing**

**AASHTO T11**

**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 and AASHTO Standard. | | | | Choose an item. | | Choose an item. |
|  | | **Rapid Drying** | | | |  | |  |
| 2. | | Use metal frame (angle iron) to support standard drying pans a minimum of 4" above gas burner units. Pans may be placed directly on electric heating elements. | | | | Choose an item. | | Choose an item. |
| 3. | | Uniformly spread sample in pan. | | | | Choose an item. | | Choose an item. |
| 4. | | For gas drying, adjust flame from burner units to avoid excessive heat directly to bottom of pan. | | | | Choose an item. | | Choose an item. |
| 5. | | During the drying of the sample, the assessor and Technician shall be present at all times to conduct the following: | | | |  | |  |
|  | | 1. Monitor and adjust the heat, when necessary. | | | | Choose an item. | | Choose an item. |
| 1. Mix, stir, and turn the aggregate over in the pan to prevent scorching of the sample. | | | | Choose an item. | | Choose an item. |
| 6. | | Dry the sample until no moisture is present. Allow the sample to cool, stirring the sample occasionally to assist in uniform cooling. | | | | Choose an item. | | Choose an item. |
| 7. | | Process the sample promptly after it is cool to avoid the absorption of additional moisture from the air. | | | | Choose an item. | | Choose an item. |
|  | | **Oven or Air Drying** | | | |  | |  |
| 8. | | The washed aggregate shall be dried to a constant mass at a temperature of 1100 C (+/- 50) or 2300 F (+/- 90). | | | | Choose an item. | | Choose an item. |
|  | | **Clean Coarse Aggregate Wash Test Procedure** | | | |  | |  |
| 9. | | Once the sample is dried to a constant mass it is allowed to cool to the touch prior to proceeding with any testing procedures. | | | | Choose an item. | | Choose an item. |
| 10. | | Split sample until a workable size of 1,000 to 2,000 grams is obtained (Note: this sample size deviates from standard AASHTO procedures). | | | | Choose an item. | | Choose an item. |
| 11. | | Weigh and record weight of sample (Total dry Wt.). | | | | Choose an item. | | Choose an item. |
| 12. | | Place sample in a container and cover with water to assure a thorough separation of material finer than the No. 200 sieve from the coarser particles. | | | | Choose an item. | | Choose an item. |
| 13. | | Using a large spoon vigorously agitate contents within the container. | | | | Choose an item. | | Choose an item. |
| 14. | | Immediately pour the wash water over a nest of sieves that are arranged with the coarser sieve on top. | | | | Choose an item. | | Choose an item. |
| 15. | | Care should be used to avoid pouring the coarse particles out of the container. | | | | Choose an item. | | Choose an item. |
| 16. | | Add water as previously described and repeat the procedures. | | | | Choose an item. | | Choose an item. |
| 17. | | Repeat this process until the wash water is clear. | | | | Choose an item. | | Choose an item. |
| 18. | | All material retained on the nested sieves shall be returned to the washed sample. | | | | Choose an item. | | Choose an item. |
| 19. | | The washed aggregate shall be dried to a constant mass at a temperature of 110° C (+/- 5° C [230° F (+/- 9° F)]. If using the Rapid Dry method follow the procedures in Exhibit E. | | | | Choose an item. | | Choose an item. |
| 20. | | Weigh and record weight of the sample (Wt. after washing). | | | | Choose an item. | | Choose an item. |
| 21. | | Calculate the percent passing the No. 200 sieve. | | | | 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**

|  |  |  |
| --- | --- | --- |
| ­**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**

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlation** | **Acceptable**  **(<= 10%)** | **Un-Acceptable**  **(> 10%)** | **Investigation Notes**  **(greater than 10% difference)** |

**IA Split Sampling Results**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **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. |

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