

GSP 21

Sampling Procedures for Contractor Acceptance Testing of Hot Mix asphalt

A. General Description

This procedure governs the sampling procedures for contractor acceptance testing of hot mix asphaltic concrete. When sampling materials for the Georgia Department of Transportation, proper personal protection equipment (PPE), as required in each individual asphalt producers’ quality control plan, must be worn to prevent burns and/or other injuries. When handling hot or warm samples, an individual’s asphalt producer’s required PPE may include but is not limited to gloves, face and eye protection, long pants, long sleeved shirt or coat and boots. Individual asphalt producers are solely responsible for the proper use of PPE by their employees and the Department is not responsible for the enforcement of its use.

The sampling, testing, and inspection duties described herein are to be performed by a Georgia Department of Transportation Certified Contractor QCT. Failure of the QCT to adhere to these requirements may result in the implementation of a formal corrective action plan. Continued failure may result in suspension or revocation of the QCT Certification.

1. Notification

It is the responsibility of the asphaltic concrete mix producer, when they are also the contractor, to notify the Office of Materials and Testing their intent to produce mixture for the Georgia Department of Transportation. Quality Control Testing Technicians shall inform the District Testing Management Laboratory in which the material is being produced, by email, each day of GDOT funded production within 2 hours after shipping the first load of mix. Please include the Plant ID number, Project number, County and mix type(s). In the event the producer is not the contractor, the producer shall submit the Plant ID number, the mix type(s) and the Project number and County provided by the contractor within 2 hours after shipping the first load of mix. Emails for each District Testing Management Laboratory is as follows:

District Laboratory	Email Address
1	OMATD1Lab@dot.ga.gov
2	OMATD2Lab@dot.ga.gov
3	OMATD3Lab@dot.ga.gov
4	OMATD4Lab@dot.ga.gov
5	OMATD5Lab@dot.ga.gov
6	OMATD6Lab@dot.ga.gov
7	OMATFPLab@dot.ga.gov

In the rare event where internet connection is lost, the asphaltic concrete mix producer shall notify the District TMOS by telephone within the 2-hour deadline and follow up with the required email notification once an internet connection is reestablished. Telephone notification is not acceptable under any other circumstances.

2. Sampling

- a. Randomly select samples from within Sublots of 500 tons (or 500 Mg) per mix type. Use the same procedure in situations where more than one mix is produced, or mix is produced for different projects within the same working day.
- b. An Acceptance Lot consists of the amount of each type of asphaltic concrete mixture produced and placed in one construction day or at least 500 tons (or 500 Mg). If less than 500 tons (or 500 Mg) is produced per mixture type, it may be incorporated into the next day's production for Lot determination. In this case, use the same mix-sampling schedule as if the mix had been produced all in one operation.

For higher production projects with extended paving shifts, an asphalt Lot may be closed at 2,000 tons at the contractors' request. Prior to mix production, the Contractor may request to separate and maintain Lots of the same mix type when producing and placing mix in separate operations such as one Lot for mainline and another for shoulder mix under guardrail. Lots will not be separated after the production and placement of mix; this request must be submitted prior to mix production. The State Materials Engineer may waive this requirement under extenuating circumstances.

- c. A Lot containing less than 500 tons may be closed when a pay reduction is imminent due to Quality Acceptance Sample test results when approved by the District Testing Management Operations Supervisor and the Area Bituminous Technical Services Specialist.
- d. Sample the mix from the truck or roadway and quarter it according to GSP 15. The appropriate sample size required is prescribed in GDT 83 or GDT 125. When roadway cores are to be obtained or required for mix acceptance samples, take these cores according to GDT 73. The coring operation will be supervised by a GDOT representative.
- e. If the size of both the opposite quarters obtained fails to meet specified size requirements, the next available truck should be sampled, with care taken, to obtain a sample that meets the minimum size required for both opposite quarters. It should be documented in the plant diary as to why the random load was not sampled. During the quartering process of Hot Mix samples, the opposite quarters from the acceptance test specimen shall be labeled by the QCT and retained in accordance with Section 400.3.06.A and this GSP. In addition, label the remaining material removed from the total sample and retain for possible Referee testing by the Department. All samples are to be made accessible any time the asphaltic concrete producer is producing material for the Department. In the event the asphaltic concrete producer is not producing material and the plant and laboratory facilities are closed, the Department may request and shall be provided access to these samples at a coordinated time within 48 hours. The samples shall be retained for an additional five (5) days upon request for access to the samples. A worksheet or paper with the AASHTOWARE sample number should be placed with the sample. If AASHTOWARE is not accessible at the time the sample(s) is taken, contact the District TMOS for guidance on how to proceed in documenting the required sample(s).

References: GSP 15 (Sampling Procedures for Asphalt Concrete Mixtures)

GDT 73 (Method of Random Selection And Acceptance Testing of Asphaltic Concrete).

DOT 163 (Asphaltic Concrete Plant Sampling Report).

Sampling Report and Random Number Selection Examples.

Subsection 400.3.06

Note 1: All asphaltic concrete hot mix samples obtained by QCT's for Comparison and Referee testing shall be placed in a hot melt box (hot or cooled), or samples may be placed in a cloth or plastic bag after material has cooled. These sampling methods will help to eliminate the loss of liquid Asphalt Cement. (Do not use metal cans or place hot material in cloth or plastic bags when sampling asphaltic concrete mixes.)

Note 2: OGFC, OGI, and PEM acceptance Samples are obtained using preheated scoops in accordance with GSP 15. An additional sample shall be obtained and retained as the Opposite Quarter. For PEM, OGFC and thin lift courses < 110 lbs/yd², the retained opposite quarter shall be used for reevaluation when a reevaluation is requested by the Contractor.

Note 3: It will be the responsibility of the QCT Manager or QCT Technician to inform the Testing Management Operations Supervisor and Technical Service Specialist 24 hours prior to starting production if plant operations have been discontinued for more than seven calendar days.

3. Mixture Temperature

- a. Take the mix temperature when extractions are obtained and at other times as necessary to maintain uniform and specification temperatures. If problems exist, take one per load until the problem has been corrected. Take the temperature on OGFC and PEM mixes at a frequency of at least one per hour.
- b. The QCT shall take the temperature of the mixture and record the results on the load ticket each time a sample is taken. The respective load tickets shall also be signed by the QCT for each load from which a sample or temperature check is taken. In the event this project was let using E-ticketing, these temperature documentations are to be made in the plant diary.
- c. Perform asphalt thermometer calibration at least once per week or at increased intervals as necessary to assure accuracy. Document calibrations in the plant diary.

Temperature Tolerance = ± 20 °F (± 11 °C) of the Job Mix Formula (JMF).

Reference: Subsection 400.2.01.A

4. Stripping Boil Tests

The contractor shall perform Boil Tests to evaluate stripping susceptibility on Open Graded Friction Course (OGFC), and Porous European Mix (PEM) for every sample obtained. The Boil Test is also required on mixtures produced using non-amine-based LASA products in lieu of GDT 139 "GDOT's test method to detect the presence of amine-based LASA in asphalt cement". The contractor will perform the Boil Test on all mixtures incorporating a non-amine-based LASA at a minimum frequency of 1 sample per week (7 calendar days). This sample shall be obtained on the same day that the weekly AC Quality Assurance sample is obtained. If any samples fail to meet Boil Test in accordance with GDT 56 or the Blue Test in accordance with GDT 139 requirements, obtain 20 ten-pound hot melt boxes of mixture for a complete field mix design verification from the next available load.

Reference: GDT 56 (Test Method for Heat Stable Anti-Strip Additive)

GDT 139 (Test Method of Detecting Amine-based Anti-stripping Additive in Asphalt Cement)

5. Extractions

- a. Determine the liquid asphalt content either by the extraction or ignition method. Sieve the remaining aggregate to determine gradation.
- b. Properly label the extracted aggregate, ensure that it is stored in an approved container and secured in a protected and enclosed environment and retained in accordance with Section 400.3.06.A and this GSP. All samples are to be made accessible any time the asphaltic concrete producer is producing material for the Department. In the event the asphaltic concrete producer is not producing material and the plant and laboratory facilities are closed, the Department may request and shall be provided access to these samples at a coordinated time within 48 hours. The samples shall be retained for an additional five (5) days upon request for access to the samples. If samples meet a 1.00 pay factor and are not procured by the Department within three state funded production days, they may be discarded. If there is less than a 1.00 pay factor, the sample must be saved for seven state funded production days before being discarded.
- c. Perform these procedures at the prescribed frequency in accordance with GDT 83 or GDT 125, GDT 38 and Subsection 400.3.06 of the Contract. Complete acceptance test results on the same day samples are obtained and entered into AASHTOWARE. In the event the DOT data collection system is unavailable, or error messages are given, email a printout of the results to the appropriate District Mailbox given in Section 1 within one working day. If AASHTOWARE is not accessible at the time the sample(s) is taken, contact the District TMOS for guidance on how to proceed in documenting the required sample(s).

Note 4: Any test out of Section 828 must be reported to TMOS and Bituminous TSS immediately and properly documented.

Note 5: When determining the AC content by ignition (GDT 125) the long burn ticket must be saved in the asphalt plant's filing system by project basis.

Note 6: Perform Lift Test in accordance with Ignition Oven's Manufacturer's recommendations or at a minimum frequency of once a month (30 days) and maintain test results for a minimum of 12 months.

References: GDT 38 (Method of Test for Mechanical Analysis of Extracted Aggregate)
GDT 83 (Method of Test for Extraction of Bitumen from Paving Mixtures using the Vacuum Extractor)
GDT 125 (Method of Test for Determining AC Content by Ignition)
Subsection 400.3.06.A.3.b.3
OMR-TM-140 (Extraction Analysis Worksheet)
DOT 159-5 (Asphaltic Concrete Lot Report)
Extraction Worksheet Example
Extraction Analysis Sieve Sizes for Each Mix
Asphalt Extraction Handout

6. Lot Tonnage

Enter all information requested on the Daily Production Status Sheet on a daily basis. Give the completed sheet to the TMOS no later than two working days after the end of the respective month.

Reference: Daily Production Status Sheet.

7. Haul Vehicle Inspection

Inspect haul vehicles prior to loading for proper tarps, strapping, insulation, and holes for taking temperature. Inspect vehicle beds for evidence of diesel fuel, or un-approved releasing agent, loose, foreign material and asphalt build-up. When any of these items are found to be in noncompliance with the specifications, make corrections before haul vehicle is allowed to transport material.

References: Subsection 400.2.01.A.

8. Lime Checks

a. Make lime checks daily, during mixture production regardless of tonnage, according to lime check procedures posted at each plant for type of system. Record the calculations and test results of these in the Plant Diary. Place the percent lime on DOT 159-5.

Tolerance: Daily plus or minus 10% of JMF requirement.

Semi-weekly (Volumetric System)- plus or minus 10% of weighed volume of lime compared to target weight of lime.

Semi-weekly (Weigh Pod System)- plus or minus 2% of weights.

b. Check weight systems by utilizing test weights at least twice per week (7 calendar days) or at increased intervals as needed to maintain accurate calibration. Record the results of these checks and the calculations in the plant diary.

c. Check volumetric systems by weight and record in diary at least twice per week.

- d. Check lime interlock systems according to the posted procedure or once per month to ensure plant operations will interrupt mixture production if hydrated lime introduction fails. Record the actual time it takes for systems to interrupt mixture production in the plant diary.
- e. The Department will verify the presence of hydrated lime in the mixture in accordance with GDT 140.

References: Subsection 400.3.02.6.c

GDT 140

9. Rap Requirements

- a. Prior to mixture production for each lot of asphaltic concrete mixture, the QCT shall verify the maximum % RAP approved for the Job Mix Formula and RAP stockpile. During mixture production, the QCT shall verify that the asphaltic concrete mixture being produced complies with the approved Job Mix Formula requirements. RAP verification readings, obtained from the material feed data on the asphalt plant's computer are to be documented in the asphalt plant diary and recorded in the remarks section of AASHTOWare Project & Construction Materials online software for each lot produced.
- b. For asphaltic concrete mix designs incorporating $\leq 35\%$ RAP, which were approved with the Hamburg Wheel Tracking Device (HWD) testing, Abson Recovery testing is not required. For asphaltic concrete mix designs not approved with HWD testing, Abson Recovery testing is required for all asphaltic concrete mixtures that contain $\geq 20\%$ RAP. For asphaltic concrete mixtures incorporating any percentage of Recycled Asphalt Shingles (RAS), Abson Recovery testing is required. Take an Abson Recovery sample at the beginning of construction for each affected mix type. Thereafter, use a sampling frequency of one sample per seven (7) lots for verification testing by DSR for viscosity of recovered AC.
- c. When incorporating GTR to obtain a PG76-22 Asphalt Rubber Binder (ARB), a minimum sample frequency is one per week or seven (7) lots. The Department may take Abson Recovery Samples on asphaltic concrete mixtures for quality assurance purposes. Samples may be taken at the same time extraction samples are taken from trucks. Take samples with a clean scoop, trowel, or spoon and deposit into a minimum of 5 pound/ maximum 10 pound (minimum 2.3 kg/maximum 4.6 kg) hot melt box. Properly close the box. Enter the sample in AASHTOWARE and properly identify the samples and submit them along with the accompanying completed report to the appropriate DOT Lab. If AASHTOWARE is not accessible at the time the sample(s) is taken, contact the District TMOS for guidance on how to proceed in documenting the required sample(s).

References: Section 402

10. Asphalt Cement (AC) Samples, Testing Requirements and Documentation

- a. Take liquid AC samples and submit them to the Central or Branch Lab for testing.
- b. Obtain samples from the AC storage tank sample valve after allowing approximately two (2) quarts to run off. Obtain samples in two (2) 1-pint (.5 liter) tin cans. If liquid AC overruns sample can, discard and obtain another sample.
- c. Frequency
 - **Start-up Samples:** When plant has been down for more than seven (7) calendar days, obtain results prior to plant operation beginning.
 - **Quality Assurance AC Samples Interstate projects for Evaluating Compliance with Section 820:** Two (2) per week (seven calendar days)
 - **Quality Assurance AC Samples Non-Interstate projects for Evaluating Compliance with Section 820:** One (1) per week (seven calendar days).
 - **Heat Stable Liquid Anti-Stripping Additive (LASA) Verification Testing:** When an asphalt plant is using LASA in lieu of Hydrated Lime as the anti-stripping additive, obtain one (1) full quart or (2) full pints (1.0 liter) of the LASA modified AC weekly (seven calendar days) for submission to the Central or Branch Labs for evaluating compliance with Section 820. Amine based LASA modified AC will also be tested in accordance with GDT 139.

Samples are to be obtained from the AC tank at the plant when using terminal blended LASA modified binder. When using in-line blending at an asphalt plant approved on QPL 45 for this process, LASA modified AC is to be sampled from a sampling valve that is located after the LASA has been thoroughly blended with the asphalt cement.

- d. When using terminal blended LASA modified AC, maintain all bill of ladings (BOL) documenting the inclusion of the LASA and quantities of materials. For asphalt plants that use in-line blending for LASA modified asphalt cement, all invoices for LASA quantities shall be maintained. Additionally, tonnage of asphaltic concrete produced using LASA must be verifiable and readily available upon request.
- e. Absorb Recovery Samples for GTR modified mixtures:
In accordance with Section 820.2.01.A.2.d, PG 64-22 or PG 67-22 modified to meet PG 76-22 ARB using GTR, via the dry method, will be evaluated using complete analysis for compliance with PG 76-22 ARB requirements prior to mixture production using laboratory blended materials. PG 64-22 or PG 67-22 modified to meet PG 76-22 ARB using GTR, via the dry method, will be evaluated for compliance with original DSR testing requirements for PG 76-22 ARB during mixture production using absorb recovery testing accordance with GDT 119 in compliance with AC sampling frequencies established in GSP 21 sub-section A.9.a.

References: GSP 10 (Sampling Procedure for Bituminous Material)
GDT 119
GDT 139

Note 7: Obtain Quality Assurance AC samples with a GDOT Representative present. All samples shall be entered into AASHTOWARE before being dropped off at the Central or Branch labs and must be accompanied by the AASTOWARE sample ID number. If AASHTOWARE is not available at the time the sample(s) is taken, contact the District TMOS for guidance on how to proceed in documenting the required sample(s).

Notes 8: All contractors will be required to submit start-up samples to the Central or Branch Labs 24 hours prior to starting production. When production is scheduled to begin on a weekend, state Holiday or the day after a state holiday, submit samples 3 to 4 days prior to start of production. Producers will not be allowed to start until test results are complete and meet the specified requirements for asphalt cement.

The start-up requirement can be waived by the State Bituminous Construction Engineer in extenuating circumstances on all grades of asphalt cement except PG 76-22, if asphaltic concrete mix has been produced for private work during this time and can be verified with asphalt cement bill of ladings (3 minimum) that the asphalt cement has been replenished with fresh material meeting the Performance Grade requirements for a state project.

If any failing asphalt cement sample is obtained, ensure that a representative of the Department is present when the follow-up sample is obtained.

11. Other Sampling Requirements

- a. Provide all sample containers, extractants, forms, diaries, and other supplies. These items are subject to the approval of the Engineer.
- b. The following are materials that the Contractor's QCT will be required to sample and submit to the appropriate DOT laboratory, as directed. Samples should be submitted no later than seven (7) days from sample date should Department Technicians not assist with delivery:
 - 1. Sampling mix for HWTB testing.

2. Sampling mix for field verification of mix design.
3. Sampling of miscellaneous materials used in the mix.

12. Asphaltic Concrete Mixtures Using Heat Stable Liquid Anti-Stripping Additives (LASA)

- a. In addition to all standard sampling, testing and inspection requirements established in Section 400, Section 402, Section 828, and other sections within this document for field mix design verification, the additional following requirements are established for asphaltic concrete mixtures produced using LASA:
 - 1) A Field Mix Design Verification is required for the following (For field mix design verifications, ensure that the mixture is within tolerances established in Section 828 before submitting samples):
 - During production of the first lot of mix of an updated or new original approved mix design incorporating LASA.
 - Anytime a source of an amine-based LASA and/or asphalt cement is used that differs from what was used during the initial design approval and has not already been previously sampled.
 - When further assessment of moisture susceptibility of mix is deemed necessary by the Office of Materials and Testing.

Obtain 20 ten-pound hot melt boxes of mix for AASHTO T209, AC Calibration Factor verification testing, and for fabrication of specimens for testing in accordance with AASHTO T283 and AASHTO T324. This mixture is to be sampled from the same load as the Acceptance Sample obtained for AC content and Gradation. Other than the initial field mix design verification, mix design volumetrics are not required for non-interstate projects unless specifically requested by the Office of Materials and Testing. These sampled boxes shall be obtained during mixture production at the asphalt plant and submitted to the Central or appropriate District laboratory for testing.
 - b. When LASA is being introduced to the asphalt cement via in line blending, make LASA checks daily during mixture production, regardless of tonnage, according to LASA check procedures posted at each plant for specific type of totalizer flow meter system. Record the calculations and test results of these in the Plant Diary. Tolerance: Daily plus or minus 10% of Mix Design requirement. Check LASA interlock systems according to the posted procedure at a minimum frequency of once per month to ensure plant operations will interrupt mixture production if LASA introduction fails for > 60 seconds. Record the actual time it takes for systems to interrupt mixture production in the plant diary.
 - c. When asphaltic concrete is produced using non-amine-based LASA, obtain a minimum 1000-gram sample of plant produced mix in conjunction with the weekly (7 calendar days) Quality Assurance AC sample as required in sub-section 10.3. This sample is to be used for the Boil Test as detailed in sub-section 4. Document results in the plant diary.

13. Warm Mix Asphaltic Concrete (WMA) Projects Only

- a. Sampling and fabrication requirements for WMA for field verification of mix designs:

In addition to all standard sampling, testing and inspection requirements established in Section 410, Section 400, Section 402, Section 828 and other sections within this document, the additional following requirements are established:

 - 1) Fabricate samples for testing in accordance with AASHTO T283, during the first day of WMA production and then once every 5 days or 5 Lots thereafter unless otherwise instructed by the Office of Materials and Testing as required in accordance with Section 828 guidelines when stripping is visually indicated. These samples are to be fabricated during mixture production and not from reheated material. The fabricated samples are to be submitted to the District laboratory for testing along with completed sample cards.
 - 2) Within the first three (3) lots of production, submit Fifteen (15) filled ten pound (4.6 kg), minimum, hot melt boxes of mix (*with each box having at a minimum, the mix ID and sample number of the test recorded with a marker on the box*) to the Branch Laboratory for HWD, T-209 and when required, AASHTO T283 Testing from the same portion of mix as taken for asphalt cement content and gradation accompanied with the AASHTOWARE sample id for this sample.

- 3) Obtain aggregate stockpile samples for all aggregate types used in the production of the WMAC and determine moisture content.
 - 4) The Department may obtain cores samples on warm asphaltic concrete mixtures from the roadway for quality assurance purposes.
- b. Documentation Requirements for WMAC Projects
- 1) Record aggregate moisture contents obtained for all sampled aggregate stockpiles in the plant diary.
 - 2) Record, under Remarks on the 159-5, that WMAC is being produced.

14. Interstate Projects Only

- a. Sampling and fabrication of HMA specimens for field verification of mix designs for mixtures placed on interstates mainlines including leveling and patching meeting the specified lot frequency: Field verification of new mix designs will be required on interstate projects regardless of area of placement. The contractor will be required to fabricate and submit one set (two specimens) of mix design volumetric pills for mainline placement only.
- 1) Submit Fifteen (15) filled ten pound (4.6 kg), minimum, hot melt boxes of mix (*with each box having at a minimum, the mix ID and sample number of the test recorded with a marker on the box*) to the Branch Laboratory for HWD, AASHTO T-209, Abrasion Loss (AASHTO T 401) for required mix types and when required, AASHTO T283 Testing from the same portion of mix as taken for asphalt cement content and gradation accompanied with the AASHTOWARE sample id for this sample. Provide one set of samples for each mix type per Lot within the first two lots of production and one set per seven (7) lots, thereafter. The Office of Materials and Testing may reduce the field verification frequency, at the discretion of the State Bituminous Construction Engineer, based on prior field verification results.
 - 2) Fabricate and submit one set (two specimens) of mix design volumetric pills for Gap-graded and Dense-graded mixtures with each field mix design verification. Prepare the specimens using the gyratory compactor at the N Design Level Specified for the mixtures. Compact the mixtures at the Job Mix Formula temperature.
 - 3) Conduct testing for AASHTO T-209 to determine the maximum specific gravity of the mixture by testing one sample for each specimen taken for gyratory compactor described above. Determine the mix density and percent air voids of each gyratory compactor specimen described above by using the average result of the two AASHTO T-209 samples as the theoretical maximum specific gravity.
 - 4) Submit the opposite quarter of the acceptance sample used for asphalt cement content and gradation for Ignition Oven Calibration verification.
- b. When mix problems constitute a Job Mix Formula adjustment, obtain approval for the changes from the Technical Services Specialist. Upon approval, fabricate one set (two specimens) for gyration at N design and two samples of mix for AASSHTO T-209, and submit an additional Fifteen (15) filled ten pound (4.6 kg) minimum hot melt boxes (or other approved container) of mix to the Branch Laboratory for other required testing with the set of gyrated samples.

Note 9: Supply a gyratory compactor, including a calibration kit, electronic balance with a weighing capacity of 12,000 grams, asphalt ignition oven and all T-209 test equipment in the field laboratory as specified in Section 152 of the contract on all Interstate projects mainline paving only.

15. Non-Interstate Projects Only (No Gyratory Compactor Required)

- a. Sampling and fabrication of HMA specimens for field verification of mix designs:
- 1) Sampling and fabrication of HMA specimens for field verification will only be required when a new Mix design is submitted, or a Job Mix Formula change is requested.
 - 2) Within the first three (3) days of production or after a JMF change, submit material to the lab for verification of the mix design.

- 3) Submit Fifteen (15) filled ten pound (4.6 kg), minimum, hot melt boxes of mix (*with each box having at a minimum, the mix ID and sample number of the test recorded with a marker on the box*) to the Branch Laboratory for fabrication of one set (two specimens) for gyrator at N design, six specimens for HWD, one complete set of pills (six specimens) for AASHTO T-283, as required in accordance with Section 828 guidelines when stripping is visually indicated and two samples for AASHTO T-209.
- 4) Submit the opposite quarter of the acceptance sample used for asphalt cement content and gradation accompanied with the AASHTOWARE ID for this sample for Ignition Oven Calibration verification.

References: AASHTO T 30
AASHTO T 166
AASHTO T 209
AASHTO T 283
AASHTO T 312
AASHTO T 324
AASHTO T 401
GDT 38 (Method of Test for Mechanical Analysis of Extracted Aggregate)
GDT 83 (Method of Test for Extraction of Bitumen from Paving Mixtures
using the Vacuum Extractor)
GDT 125 (Method of Test for Determining AC Content by Ignition)
GDT 139
GDT 140
Subsection 400.3.06.A.3.b.3

Note 10:

Field Mix Design Verifications and new JMF are required in the following circumstances:

- As detailed in sub-sections 4, 12, 13, 14 and 15
- Any time a new approved mix design is produced.
- Any change in PG binder grade from PG 64-22 to PG 67-22 or vice versa
- Any change in amine-based LASA product
- Any change in mineral fiber or cellulose source using the same fiber type.
- Any change in AC source other than what the original LASA approved mix design used.
- Any change from original JMF

Note 11:

For all plant produced mix design verifications obtain the mix from the same load as the acceptance sample. All samples shall be entered into AASHTOWARE before dropping off at the Central or Branch labs and must be accompanied by the AASHTOWARE sample ID number along with sample tests results, mix ID number and JMF requirements. Samples must be within tolerances established in Section 828.

16. Plant Inspection Duties

Perform the inspection duties listed below at the designated frequency, document on the OMR-TM-143 form, and submit to the respective TMOS.

1. Visually observe cold feed bins and mechanical condition of each.
2. Visually inspect stockpiles for proper construction, segregation, and contamination.
3. Visually observe dryer, dust collection system, and bag house.
4. Visually observe asphalt storage system (unloading of tanker).
5. Visually inspect mixer on batch type plants and discharge gate on all type plants.
6. Visually inspect mix for segregation.
7. Visually inspect haul vehicles for proper covers, beds, and approved releasing agents.
8. Visually inspect lime systems.
9. Visually inspect LASA system including totalizing flow meter, calibration meter, and ensure proper additive delivery to the AC supply line.
10. Check A.C. and aggregate scales for accuracy and enter results in plant diary.

Reference: OMR-TM-143 (Asphalt Plant Check List)

17. Plant Diary

- a. The plant diary is a legal document. Ensure that it remains at each plant and is properly filled out, daily. All entries are to be neat and legible.
- b. Use preprinted Plant Diaries and include, as a minimum, the following information, to be entered on a daily basis.
Entries shall include, but are not limited to:
 1. Project number or numbers
 2. Date and weather conditions
 3. Contractor's Representative (specify Q.C.)
 4. Type of mix
 5. Tons
 6. Lot number
 7. Mix I.D. number (from JMF)
 8. CPW checks (Furnished by DOT personnel)
 9. AC sample, Releasing Agent, Lime or LASA samples including any samples taken for Lab testing
 10. Thermometer calibration
 11. Daily, bi-weekly lime check calculations and Lime interlock checks
 12. Daily LASA totalizing flow meter calculations and monthly LASA interlock checks.
 13. Moisture content of aggregate stockpiles (when producing WMAC)
 14. Any instructions given or received.
 15. Any DOT visitors
 16. Any activities pertaining to State work.
 17. Signature and title
- c. For any lot of asphaltic concrete, the Asphaltic Concrete Producer shall thoroughly document any occurrence where greater than two loads of asphaltic concrete mixture are returned to the asphalt plant for any reason related to quality, either by direction of the Department or the contractor, and immediately notify the Technical Services Specialist. The Asphaltic Concrete Producer shall include date, project number, lot, mix type, load numbers and reason for the returned mixture. Also, to be detailed in the diary are the measures taken at the asphalt plant in response to the returned mixture.

18. Computer

Note 12: In the event the Contractor's computer system is inoperable, operations may be allowed to continue for a maximum of three working days by providing handwritten test reports to the TMOS on a daily basis.

- a. Enter all test data into AASHTOWARE daily with the AASHTOWARE sample id for all samples placed in the plant diary and made accessible to GDOT representatives. At each plant provide an internet service provider connection and an e-mail address for exchanging electronic correspondence with GDOT.
- b. In accordance with SOP 27, provide an individual PC or laptop computer at each plant. Ensure that this computer always remains at the asphalt plant.
- c. Ensure that each plant has a computer and accessories meeting the following requirements and as specified in Section 152 of the contract.

Minimum Requirements:

- At a minimum, each plant shall have hardware, software, and network connection that allows for installation and operation of AASHTOWARE Project using Citrix Receiver and email capabilities.
- Printer: Windows-compatible laser or ink jet printer

19. Control of Asphaltic Concrete Mixtures

- a. Designate a Level II, QCT Manager to be responsible for the daily quality control operations within his/her organization and held accountable for the action of all assigned QCTs as specified in contract. The Quality Control Manager will be responsible for ensuring that Quality Control Technicians do not simultaneously perform QCT and Plant Operator Duties.
- b. The designated Level II, QCT manager will be responsible to control the Asphaltic Concrete mixtures produced for GDOT Projects. The mixture control tolerances from an approved Job Mix Formula are written in Section 828 and mixture acceptance tolerances are as written in Section 400, Section 410, and Section 415 of the governing GDOT Specifications for the respective Project.

References: GSP 21 (Sampling Procedures for Contractors)
GDTs (Sampling and Testing Manual or Study Guide)
Section 828 (Hot Mix Asphaltic Concrete Mixtures)
Section 400 (Hot Mix Asphaltic Concrete Construction)