

ALDOT-155
ASPHALT PLANT CHECK LIST

Scope: 1.1. To insure the asphalt plant is capable of producing a homogeneous mix of asphalt and aggregates that meet Alabama Department of Transportation specifications.

NOTE: This plant checklist and contractor's check (not more than 30 days old) is to be submitted to ALDOT's Central Laboratory for further processing and submittal to the Product Evaluation Board for approval and addition to the Material Sources, and Devices with Special Acceptance Requirements at least 4 weeks prior to expiration date of current approval.

Company: _____

Location: _____ Inspected By: _____ Date: _____

Type Plant and Manufacturer Name: _____

New: _____ Reapproval: _____ Relocated: _____

Physical Address: _____

Maximum Batch: _____ .lb (kg)

Rated English (Metric) Tons Per Hour: _____

Project No.: _____ County: _____

General Specification Section

Batch Plants: Sections I thru XX, XXIX.

Continuous Plants: Sections I thru XI, XXI thru XXV, XXIX.

Dryer Drum Plants: Sections I thru XI, XXVI thru XXIX.

I Stockpiles

- 1 Properly Separated?
Yes ___ No ___
- 2 Material Segregated?
Yes ___ No ___
- 3 Material contaminated?
Yes ___ No ___
- 4 Has Contractor submitted and received approval of his intended Materials Sources and his Job Mix Formula?
Yes ___ No ___
- 5 Is area clean and properly kept?
Yes ___ No ___

II General Requirements for all Plants

- 1 Are the tanks for the storage of asphalt material equipped for heating the material under effective and positive control at all times?
Yes ___ No ___
- 2 Are the tanks for storage of asphalt material properly heated by means of steam coils, oil coils, electricity, or other means such that no flame contacts the tank or tank appurtenances?
Yes ___ No ___
By what means? _____
- 3 Is a circulating system for the asphalt material of adequate capacity to provide proper and continuous circulation between storage tank and proportioning units during the entire operating period?
Yes ___ No ___
- 4 Is the discharge end of the asphalt material circulating pipe kept below the surface of the asphalt material in the storage tank?
Yes ___ No ___

- 5 Are all pipe links and fittings steam jacketed, oil jacketed or otherwise properly insulated to prevent heat loss?
Yes ___ No ___
- 6 Is storage tank capacity such as to ensure continuous operation of the plant and uniform temperature of the asphalt material when it is mixed with the aggregate?
Yes ___ No ___
- 7 Is the asphalt storage tank temperature maintained less than 350 degrees Fahrenheit?
Yes ___ No ___
- 8 Are tanks accurately calibrated to 100 gallons (400 Liters) and accessible for measuring the volume of the asphalt material?
Yes ___ No ___
- 9 Is a sampling tap and valve provided in the asphalt storage tank or in the feed line between the pump and the return line discharge?
Yes ___ No ___
- 10 Is a drainage receptacle provided for flushing the outlet prior to sampling?
Yes ___ No ___

III Cold Feed System and Mineral Filler Feed System

- 1 Number of Cold bins.

- 2 Does the plant have mechanical means for uniformly feeding the aggregates into the dryer?
Yes ___ No ___
- 3 Does the cold feed have a synchronized proportioning method when blending aggregates from two or more bins?
Yes ___ No ___
- 4 If mineral filler is required, is a separate bin provided?
Yes ___ No ___
- 5 Is the feeder for mineral filler furnished with the feeder drive positively interlocked and synchronized with the aggregate feeds?
Yes ___ No ___

IV Dryer

- 1 Number of dryers.

- 2 Is a dryer of satisfactory design provided?
Yes ___ No ___

V Environmental Protection

- 1 What type dust collector is provided?

- 2 Can the material collected in the dust collector be wasted or any part or all of the material be returned to the aggregate mixture?
Yes ___ No ___
- 3 If baghouse fines are recirculated into the mix, are they handled in accordance with AASHTO M-156?
Yes ___ No ___
- 4 Does the plant meet the environmental protection requirements of Article 107?
Yes ___ No ___
- 5 Has company received Permit to Operate from Alabama Department of Environmental Management?
Yes ___ No ___ (Attach copy to plant check list)

VI Thermometric Equipment

- 1 Is an armored recording thermometer located in the asphalt material feed line near the discharge end at the mixer unit?
Yes ___ No ___
- 2 Is the plant equipped with approved continuous recording thermometers, pyrometers, or other recording thermometric instruments at the discharge end of the dryer?
Yes ___ No ___
- 3 Has the accuracy of the thermometric equipment been checked or calibrated according to the recommendations of the respective manufacturer for each component? How often are they checked?
By whom?
Yes ___ No ___

How often? _____ By whom? _____

VII Surge Bins and Storage Bins (Silos)

- 1 Is plant equipped with surge bins or storage bins (silos)?
Yes ___ No ___
- 2 What type bin?
Surge ___ or Storage ___
- 3 Is each bin enclosed, insulated, weather proof?
Yes ___ No ___
- 4 Is each bin equipped with material level indicator?
Yes ___ No ___
- 5 Is each material level indicator visible from plant operator or weighmaster's station?
Yes ___ No ___
- 6 Is the conveyer system covered and insulated so as to prevent excessive loss of heat during transfer of material from mixing plant to storage bin? If not, explain.
Yes ___ No ___
- 7 Does each storage bin have a heating system? How is each heated?
Yes ___ No ___
- 8 Is each storage or surge bin equipped with load cells to determine the net amount of mix delivered from the bin?
Yes ___ No ___

VIII Safety and Inspection Provisions

- 1 Are gears, pulleys, chains, sprockets and other dangerous moving parts thoroughly protected?
Yes ___ No ___
- 2 Is an unobstructed and adequately guarded passage provided and maintained in and around the truck loading space for visual inspection purposes?
Yes ___ No ___
- 3 Does the plant have adequate and safe stairways or guarded ladders to plant units such as mixer platforms, control platforms, hot storage bins, and asphalt storage tanks where inspections are required?
Yes ___ No ___
- 4 Is an inspection platform provided with a safe stairway for sampling the asphalt mixture from loaded trucks
Yes ___ No ___

IX Truck Scales/Load Cell Scales

- 1 Are the truck scales capable of weighing the entire vehicle at one time?
Yes ___ No ___
- 2 Do the scales have a digital printing recorder or automatic weight printer?
Yes ___ No ___
- 3 Have the scales been checked and certified by a reputable scales company in the presence of an authorized representative of the Department?
Yes ___ No ___
- 4 Date checked. _____ Agency Name _____
- 5 Is copy of Certification available?
Yes ___ No ___
- 6 Remarks: _____

X Transportation Equipment

- 1 Are all truck beds clean, tight and in good condition?
Yes ___ No ___
- 2 Do the trucks have covers to protect loaded material (from unfavorable weather conditions, to retain heat, or both)?
Yes ___ No ___
- 3 Is soapy water or other approved products as per approved products list II-6 of ALDOT's "Materials, Sources, and Devices with Special Acceptance Requirements Manual" available for coating truck bed surfaces to prevent material from sticking?
Yes ___ No ___
- 4 Type of material used. _____

XI Provisions for Testing

- 1 Does the size and location of laboratory comply with ALDOT Standard Specifications Sub Article 106.03(a) and Sub Article 106.03(d)?
Yes ___ No ___
- 2 Is the laboratory properly equipped with calibrated equipment (as per ALDOT 349)?
Yes ___ No ___
- 3 Is the lab equipped with sufficient air conditioning and heating?
Yes ___ No ___
- 4 Are exhaust fans or exhaust hoods available, and are they in working condition?
Yes ___ No ___
- 5 Are the ovens ventilated to the out-of-doors?
Yes ___ No ___
6. As a minimum, does the lab provide a unisex toilet restroom facility?
Yes ___ No ___

Note: Existing plants that have passed inspection before do not have to meet this requirement. All new or relocated plants must meet this provision.

7. Is the laboratory/plant facility equipped with internet access?
Yes ___ No ___

(As of September 2008, internet access is NOT required. Internet will be required for Site Manager Access at later date)

Special Requirements for Batch Plants

XII Weigh Box or Hopper

- 1 Is the weigh box large enough to hold a full batch without running over or hand raking?
Yes ___ No ___
- 2 Does the gate close tightly so that material cannot leak into the mixer while a batch is being weighed?
Yes ___ No ___

XIII Aggregate Scales

- 1 Are the scales equipped with adjustable pointers or markers for marking the weight of each material to be weighed into the batch?
Yes ___ No ___
- 2 Are ten 50 lb (25 kg) weights available for checking scales?
Yes ___ No ___
- 3 Has the accuracy of weights been checked?
Yes ___ No ___
- 4 Scale check (Aggregate Scale)

Date checked. _____ Capacity _____

Make _____ Serial # _____

5 Springless Dial _____ or Multiple Beam _____
 Load Cells _____ or Other _____

Applied Load lbs. (kg)	Dial Reading	Difference	% Error	Lb. (kg.) Error plus/minus
500 (227)			.5	0.5 lb (1.25 kg.)
1000 (454)			.5	1.0 lb (2.27)
1500 (680)			.5	8.0 lb (3.75)
2000 (907)			.5	10 lb (4.54)
2500 (1134)			.5	13.0 lb (6.25)
3000 (1361)			.5	16 lb (7.50)
3500 (1588)			.5	20.0 lb (8.75)
4000 (1814)			.5	22 lb (10.0)
4500 (2041)			.5	25.0 lb (11.25)
5000 (2268)			.5	28 lb (12.50)
5500 (2495)			.5	30 lb (13.75)
6000 (2722)			.5	33 lb (15.0)
6500 (2948)			.5	35 lb ((16.25)
7000 (3175)			.5	38.0 lb (17.5)
7500 (3402)			.5	41.0 lb (18.75)
8000 (3629)			.5	44.0 lb (20.0)

6 If the plant is equipped with beam type scales, are the scales equipped with a device to indicate at least the last 200 lb (100 kg) of the required load?
 Yes ___ No ___

XIV Asphalt Bucket

- 1 Is the bucket large enough to handle a batch in a single weighing so that the asphalt material will not overflow, splash or spill?
 Yes ___ No ___
- 2 Is the bucket steam-jacketed, oil-jacketed, or equipped with properly insulated electric heating units?
 Yes ___ No ___
- 3 Is the bucket equipped to deliver the asphalt material over the full length of the mixer?
 Yes ___ No ___

XV Asphalt Scales

1 Scale Check (Asphalt Scales)

Date checked. _____ Capacity _____
 Make: _____ Serial # _____

Applied Mass in lb	Applied Load in kg	Dial Reading	Difference	%Error	Lb Error +/-	Kg Error +/-
100	50			.5	0.5	0.25
200	100			.5	1.0	0.5
300	150			.5	1.5	0.75
400	200			.5	2.0	1.00
500	250			.5	2.5	1.25

- 2 Are scales equipped with a device to indicate at least the last 10 pounds or 10 kilograms of the approaching total load?
 Yes ___ No ___

XVI Screens

- 1 Condition of the Screens:
 Satisfactory _____ Unsatisfactory _____
- 2 Do the plant screens have adequate capacity and size range to properly separate all the aggregate into sizes required for proportioning so that they may be recombined consistently?
 Yes ___ No ___

XVII Hot Bins

- 1 Number of bins.

- 2 Are the bins properly partitioned?
 Yes ___ No ___
- 3 Are the bins equipped with overflow pipes?
 Yes ___ No ___
- 4 Will the gates cut off quickly and completely?
 Yes ___ No ___

- 5 Can samples be obtained from the bins?
Yes ___ No ___
- 6 Are the bins equipped with device to indicate the position of aggregate at the lower quarter point?
Yes ___ No ___

XVIII Asphalt Control

- 1 Are means provided for checking the quantity or rate of flow of the asphalt material?
Yes ___ No ___
- 2 What is the time required to add asphalt material into pugmill?

XIX Mixer Unit for the Batch Method

- 1 Is the plant equipped with an approved twin pugmill batch mixer that will produce a uniform mixture?
Yes ___ No ___
- 2 Can the mixer blades be adjusted to insure proper and efficient mixing?
Yes ___ No ___
- 3 Are the mixer blades in satisfactory condition?
Yes ___ No ___
- 4 What is the clearance of the mixer blades?
_____ in
- 5 Does the mixer gate close tight enough to prevent leakage?
Yes ___ No ___
- 6 Does the mixer discharge the mixture with appreciable segregation?
Yes ___ No ___
- 7 Is the mixer equipped with time lock?
Yes ___ No ___

- 8 Does the timer lock the weigh box gate until the mixing cycle is completed?
Yes ___ No ___
- 9 Will the timer control dry and wet mixing time?
Yes ___ No ___
- 10 Can the timer be set in five second intervals throughout the designated mixing cycles?
Yes ___ No ___
- 11 Can the timer be locked to prevent tampering?
Yes ___ No ___
- 12 Is a mechanical batch counter installed as part of the timing device?
Yes ___ No ___
___ ___

XXAutomation of Batching

- 1 If the plant is fully automated, is an automatic weighing, cycling and monitoring system installed as part of the batching equipment?
Yes ___ No ___
- 2 Is the automatic proportioning system capable of weighing the materials within the specified tolerances?
Yes ___ No ___

Special Requirements for Continuous Mixing Plants

XXI Gradation Control Unit

- 1 Does the plant have means of accurately checking the proportioning of each bin size of aggregate by weight?
Yes ___ No ___
- 2 Are the aggregate feeders interlocked and equipped with a dust-proof revolution counter graduated to one tenth of a revolution?
Yes ___ No ___
- 3 Are the mix proportions set up on the basis of pounds (kilograms) of each aggregate bin size per revolution?
Yes ___ No ___
- 4 Does the gradation control unit have interlocked feeders mounted under the bin compartments?
Yes ___ No ___

- 5 Does each bin have a feeder mechanism that is controlled by positive means to control the rate of flow of aggregate drawn from each respective bin compartment?
Yes ___ No ___
- 6 Are the gates adjustable and provided with locks?
Yes ___ No ___
- 7 Are means provided to establish flow rate in pounds (kilograms) per revolution by scale weight?
Yes ___ No ___

XXII Weight Calibration of Asphalt & Aggregate Feeds

- 1 Is the plant equipped with means of calibrating gate openings and asphalt material flow by means of weight test samples in pounds (kilograms) per revolution?
Yes ___ No ___
- 2 Can each bin be fed into suitable test boxes and bin material confined in individual test receptacles?
Yes ___ No ___
- 3 Is equipment supplied so that aggregate in each compartment can be weighed separately?
Yes ___ No ___
- 4 Are the test containers of convenient size to obtain a composite weight of at least 600 pounds (272 kilograms)?
Yes ___ No ___

XXIII Synchronization of Aggregate and Asphalt Material Feed

- 1 Are there satisfactory means for coordinating aggregate flow and asphalt material flow?
Yes ___ No ___
- 2 Are means provided to check the flow rate of asphalt material by scale weight per revolution?
Yes ___ No ___

XXIV Mixer Unit for Continuous Method

- 1 Does the plant have an approved twin pugmill capable of producing a uniform and acceptable mixture?
Yes ___ No ___
- 2 Are the paddles adjustable for angular position on the shafts and reversible to retard the flow of the mix?
Yes ___ No ___
- 3 Are the mixers equipped with discharge hoppers or other facilities to prevent segregation during discharge?
Yes ___ No ___

- 4 Does the mixer carry a manufacturer's plate giving the volumetric contents of the mixer at several heights, inscribed on a permanent gauge?
Yes ___ No ___
- 5 Has the pugmill capacity, at operating height, been determined by means of a volume gauge on the side of the mixer?
Yes ___ No ___
- 6 Has a weight per unit volume relationship of the coated loose mix been determined?
Yes ___ No ___
- 7 Has the mixing time been determined?
Yes ___ No ___

XXV Automation of Continuous Mixing Plants

- 1 Does plant have devices of automatically sampling and weighing the quantity of each hot bin aggregate size during either a number of revolutions of the plant or a known interval of time?
Yes ___ No ___
- 2 Is the plant capable of proportioning the asphalt material according to the Job Mix Formula within the tolerances of the specifications?
Yes ___ No ___

Special Requirements for Dryer-Drum Mixers

XXVI Aggregate Delivery System

- 1 Are the cold feed bins equipped with devices to indicate when the level of the aggregate in each bin is below the quarter point?
Yes ___ No ___
- 2 Does the cold feed have an automatic shut off system that activates when an individual feeder is interrupted?
Yes ___ No ___
- 3 Are provisions available for conveniently sampling the full flow of the material from each cold feed and the total cold feed?
Yes ___ No ___
- 4 Is the total feed weighed continuously?
Yes ___ No ___
- 5 Are provisions provided for automatically correcting the wet aggregate weight to dry aggregate weight?
Yes ___ No ___

- 6 Is the flow of aggregate dry weight displayed digitally in appropriate units of weight and time, recorded, and totaled?
Yes ___ No ___
- 7 Are means provided for diverting aggregate delivery into trucks, front-end loaders, or other containers for checking accuracy of aggregate delivery system?
Yes ___ No ___
- 8 Is the plant equipped with a screen for scalping the aggregate prior to the aggregate entering on the conveyor weigh belt?
Yes ___ No ___
- 9 During aggregate belt calibrations, were there two consecutive tests within 1% of the actual weight being measured when that weight was determined using another measuring device and were they within 0.5% when that weight was determined using test weights as per section 10 of AASHTO M 156?
Yes ___ No ___

XXVII Asphalt Delivery System

- 1 Are satisfactory means provided to introduce the proper amount of asphalt material into the mix?
Yes ___ No ___
- 2 During calibrations, were there two consecutive tests within 1% of the actual weight being measured when that weight was determined using another measuring device and was it within 0.5% when that weight has been determined using test weights per section 4 of AASHTO M 156?
Yes ___ No ___
- 3 Does the asphalt material delivery interlock with aggregate weight control?
Yes ___ No ___
- 4 Is the asphalt material flow displayed in appropriate units of volume or weight and time, recorded, and totaled?
Yes ___ No ___
- 5 Can the asphalt material be diverted into distributor trucks or other containers for checking accuracy of delivery systems?
Yes ___ No ___

XXVIII Drum Mixer

- 1 Is the drum mixer capable of drying and heating the aggregate to the moisture and temperature requirements for the production rate?
Yes ___ No ___
- 2 Does plant have provisions for diverting mixes at start-up and shutdowns or where mixing is not complete or uniform?
Yes ___ No ___

XXIX Is plant checked and approved for use?

Yes ___ No ___

If not, explain what needs to be corrected. (Show Item Number)

Signed: _____
Inspector

Approved: _____
Materials Engineer