

Asphalt Technology Division and Material Clearance

2023 Asphalt Technology Division – Chandra Akisetty, Division Chief

Mix Assistant Division Chief
Zhaoxing “George” Xie

Asphalt Mix Team Leader
Rob Ingle

Asphalt Binder Team Leader
Don Provine

Group Leads
Patti Appel
Shanieka Clark
Vinod Vadakoot
Ron Shirk

Lab Engineer
Mohamed Tarawallie

Senior Lab Technician
Kevin Thompson

Lab Technicians
Anthony Albert
Dang Bui

Lab Technician
Patrick Maurer

2023 Asphalt Technology Division – Chandra Akisetty, Division Chief

Field Assistant Division Chief
Rebecca Smith

Paving QA Team Leader
Bonnie Johnson

Plant QA Team Leader
Edward McCarty

Field Engineer
Larry Riggleman

Senior Paving QA Technician
Daniel Green

Senior Field QA Technicians
Brian Clark
Josh McCusker
Ralph Taylor
Thomas "TK" Kasulke
Tom Rousan

Consultant Ride Technician
Jill Workman

Consultant Plant Technicians
TBD

Source Approval Process

- Receive Task Notification from ??? Material Engineer
 - Includes Contract #
 - Item #
 - Mix #
- Check for Mix Design approval
- Check to assure the mix meets the requirements in the Special Provisions
 - ESAL level
 - Mix Type
 - Band (mix size)
 - Binder Type

Source Approval Process

- If all conditions meet:
 - Source is approved.
 - Message is sent back to the Material Engineer.
 - Project Engineer can see that it has been approved on MMS. (such an improvement over the old system)
- If all conditions are NOT met, the mix is not sourced and returned to the Material Engineer.
- ATD can attempt to contact the asphalt mix producer to let them know that something needs to be corrected and resubmitted by the prime.

Material Clearance

You Can Help Us Help You

Communication

You Can Help Us Help You

Pre-Pave Meeting

Before One Drop of Asphalt is Ever Delivered to
the Job Site

Why is this so Important?

Testing Required for “Paving”

- 10 Random Cores
- 2 Random Box Samples

If all you do is overlay or just shave and pave, that will be all you need to know

But most projects have more than just “Shave & Pave”

Testing/Documentation is Required for “Everything Else”

- Patching
- Wedge and Level
- Low Tonnage
- Non-continuous paving
 - Thin Lift

Sampling & Testing / Documentation Required for Everything Else...

504.03.13 Thin Lifts and Wedge/Level Courses. If an asphalt course is determined to be a thin lift in accordance with the "Thin Lift Mix Design Identification Table" in 904.04.03, construct a 400 to 500 ft control strip on the first day of paving to determine optimum pavement density.

(a) Use a thin-lift nuclear or non-nuclear asphalt density gauge in accordance with the manufacturer's recommendations to take readings from the control strip in five random locations to determine roller patterns and the number of passes needed to obtain optimum density. Optimum density is defined as when the average density does not change by more than 1.0 percent between successive roller passes and the percent density is between 90.0 and 97.0.

(b) Core the five random gauge reading locations to verify the gauge calibration and to determine the percent pavement density. The cores will be tested by the contractor's QC laboratory and results will be verified by the Office of Materials Technology. The QC/QA cores will be saved by the contractor and made available to the Administration for retesting ten days past after the paving date or as directed.

(c) On the first day of paving, the target optimum density will be determined using the density gauge readings from the control strip; verified by the core results. The lot average density from the five control strip

When the Pre-pave meeting is not held before "everything else" happens, there's no documentation for material clearance.

wedge/level courses.

5) Sampling and Testing of Small Quantities of Asphalt Materials

a) Asphalt Paving – Mixture Sampling

- i. Quantities of 200 tons or less of asphalt production will not require random field mix samples unless otherwise directed by the Engineer.
- ii. Random field mix samples must be taken from behind the paver and must not be taken from areas of bridge approaches, entrances, gore areas, handwork, Gradall placed material, paver hoppers and ends of paver augers.
- iii. Daily quantities greater than 200 tons may be considered small tonnage if accumulated through non-continuous paving. For example, bridge approaches, widening areas, turn lanes, entrances, gore areas. This information must be detailed on the OOC-90 QA Project Report – Mixture/Density Samples.

b) Asphalt Paving – Cores

- i. Density cores and gauge readings will be waived for entrances and gore areas.
- ii. Density cores may be waived on small quantities (200 tons or less). For mainline, ramp and intersection paving requiring less than 200 tons, gauge readings must be performed as per Category 505.03.12

- iii. Daily quantities 200 tons or greater may be considered small tonnage if accumulated through non-continuous paving. For example: bridge approaches, widening areas, turn lanes. Gauge readings must be performed.
- iv. SHA 73.04 – Core Sheets and OOC-90 forms must be submitted daily for all production including low tonnage.

c) Asphalt Patching – Mixture Sampling

- i. Quantities of 200 tons or less of asphalt may not require daily field mix samples. However, one random sample per mix will be required for every 1000 tons of asphalt or one sample per mix for every five days of patching, whichever yields the greater frequency.
- ii. Patches not placed with a paver or patches less than 1,000 sq. ft. (10' wide x 100' long) will not require a mix sample.

d) Asphalt Patching – Cores

- i. A calibrated density gauge will be used.
- ii. A minimum of one test per lift of asphalt will be required and the results recorded for the project records.
- iii. Three cores per 1000 tons (or portion thereof) per mix will be used to validate the density gauge for quality control purposes as per 505.03.13.
- iv. Core sheets must be submitted daily for all production including low tonnage.

Daily Communication between the project and ATD

- FMIS # (especially important for area-wide contracts)
 - Date
 - # of Samples taken
 - Tonnage accepted for payment
 - Is project complete?
 - PE's name
-
- Most importantly – Written explanation for exceptions to the sampling requirements
 - Independent from Contractor's Input

OOC90 Rev 09-04-17

MARYLAND STATE HIGHWAY ADMINISTRATION
OFFICE OF CONSTRUCTION

QA Project Report - Mixture / Density Samples

MDOT
MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY
ADMINISTRATION

Prepare Daily:
Email to: superpave@sha.state.md.us or Fax to: 410-787-0482
Email Directions: Complete this form, go to File or Office Button, Save as: OOC90_ContractID_Date
(Ex. OOC90_xx123456_03-05-10), Send To: Type in email address above and click Send.

Contract Number:

FMIS Number:

Mix Number:

Date Placed:

Actual Tonnage Placed:

Asphalt Production complete for this project / FMIS? Y/N

Number of Mix Samples Taken for SHA:

Ref: 504.03.10 One mixture sample per paving day per mix or one per 1000 tons of paving, whichever yields the higher frequency.

If no samples or insufficient samples taken, note reason:

Number of Density (core) samples taken:

Ref: 504.03.11 A minimum of 10 cores per day's paving per mix or two per 500 tons of paving per mix, whichever yields the higher frequency.

If no samples or insufficient samples taken, note reason:

Project Engineer/Office Engineer/Phone No. _____ Date _____

Samples Must Be Identified;

Samples were received that could not be Tested

Missing Contract Numbers

Missing Dates

No Material Identification

A Few Examples:

Ton 351.94

Load 16

Date 8/8/16

Time 1:45

Loc Exit Ramp

Ijamsville Rd.

5/19/16

North end of bridge

137+00 - 136+60

136+95 R/C

Contract: _____

Sample was taken: _____ Date _____ Time _____ am pm
(circle one)

Mix: _____

Tonnage (at time of sample): _____

Location (Station/GPS): _____

Comments: _____

Sampled By: _____

SHA Witness: _____

MARYLAND STATE HIGHWAY ADMINISTRATION OFFICE OF MATERIALS TECHNOLOGY

HMA FIELD COMPACTION REPORT - CORE METHOD (MSMT 459)

Date Laid: _____ Contract No.: _____ FAP No.: _____ Plant #Name: _____

Producer _____ Contractor _____

Comments: _____

Sampled By: _____

SHA Witness: _____

MSMT 459
March 2011

MARYLAND STATE HIGHWAY ADMINISTRATION OFFICE OF MATERIALS TECHNOLOGY

HMA FIELD COMPACTION REPORT - CORE METHOD (MSMT 459)

Date Laid: _____ Contract No.: _____ Item No.: _____ FAP No.: _____ Plant #Name: _____

Design No.: _____ Depth: _____ Laid Over: _____ Actual Tons Laid: _____ Cut By: _____

Tested By: _____ Core Diameter: _____ Transported By: _____ Received By: _____

Received at Lab: _____ Tested By: _____ Date Tested: _____

Location of Construction: SURFACE BASE W/L SHOULDER OTHER

Direction: N E W S Lane: 1 2 3 4

| CORE SAMPLE NUMBER | TIME OF CORE AM / PM | LOCATION (Indicate GPS Location and/or Station Number & Offset per MSMT 459) Offset | DENSITY RESULTS | Max. Specific Gravity | Core Thickness |
|--------------------|----------------------|--|-----------------|-----------------------|----------------|
| | | | | | |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| | | | AVERAGE | | |

Attach: Random Sampling Sheet MSMT 459
Original: Project Engineer

Density and Mix Pay Factor Distribution

Comes from ATD lab team

Project personnel changes so rapidly that OOC's Assignment List and MMS postings can't keep up.

Need a secure, central location to post and store pay factors

Ride Pay Factor Distribution


Comes from ATD field team

Factors that affect amount of time to produce pay factor

- Obtaining the ride tolerance calculation form (PD-11) from PE on *AW* contracts
- Defect section consideration partnering
- Waiting on contractor's QC data

- Identify your sample
 - Label the side of the jug
 - Completed Form 88 including truck tag number
 - Include a Certificate Of Analysis
- Don't sample buckets
- Don't put sample in drop box if it's going to be real cold
 - No daily pickup December – March
 - Notify OMT for pickup or deliver directly to OMT Hanover

Bill Of Lading



HAMMAKER EAST, LTD.
Baltimore Plant
 3450 Asiatic Ave
 Baltimore, MD 21226

Plant Manager
Tom Randall

Office: 410-355-6363
 Fax: 410-335-6364

**TRUCK BILL OF LADING
 DELIVERY RECEIPT AND INVOICE**

BOL#: 410003112

Charge To: **George & Lynch, Inc.**

Date: **3/5/2012**

Carrier: **1425** Destination:

Truck: **FLT-436** FLT-436 Time In: **5:30 am**

Trailer: **158** P.O. #:

Driver: **BRIAN** Time Out: **6:08 am**

I CERTIFY THAT THIS TRAILER IS FREE OF CONTAMINATING MATERIAL UPON LOADING

Product on Tanker Prior to loading

In Case of Emergency:
 1-800-424-9300 CHEMTREC, IF DC USE 1-202-483-7616

| Product | Description | Tank: |
|---------|-------------|-------|
| 30.1001 | CRS-1 | 17 |


| | Qty | Rate | Amount |
|--------------|----------|-------|--------|
| Mat. | 5,398.88 | GAL | |
| Freight | | | |
| Tax | | MDSLS | |
| Total | | | |

The material referenced above meets PADOT specifications published in the 408 section 702 and Bulletin #25
 The Material Referenced above is certified to meet DC, DE, MD, PA, VA and WV D.O.T.
 Specifications for performance grade asphalt emulsions, AASHTO Materials Part II 14th Edition

| Gross: | Tare: | Net Lbs: | Total Net (GAL): |
|--------|-------|----------|------------------|
| 74340 | 29200 | 45140 | 5,398.88 |

I certify that this material has been checked as to the compatibility with job aggregate and was loaded into above designated trailer on date and time stated and that this trailer contained no foreign matter that could contaminate the above described material when loaded.
 Warranty - All products manufactured by use are warranted to be first class materials and free from defects in material and workmanship.
 We make no warranty, expressed or implied, as to suitability of any of our products for any particular use, and we shall not be subject to liability from any damages resulting from their use in operation not under our direct control.

Certificate of Analysis



Hammaker East, Ltd.
 A subsidiary of Russell Standard Corp.
 3450 Asiatic Ave.
 Baltimore, Md, 21226

Phone: 410-355-6363
 Fax: 410-355-6364

Certificate of Analysis

Grade: CRS-1 Lot: 3-12 Tank: 17 Lot Gal: 29,000

Residue From Distillation: 63.3

Penetration, 77°F, 100g., 5 Sec: 1

Ductility, 4C or 25C, 5cm/minute, cm: 1

Softening Point, Ring & Ball, Degrees C, (vendor Results): 1

Elastic Recovery @ 10°C AASHTO T301: 1

Viscosity, SSF @ 122°F: 29

Deumisibility, 35 ml 0.8% sodium dioctyl sulfosuccinate, %: 1

Classification Test: Pass

Storage Stability, 24 hr, %: 100%

Particle Charge: POS

Sieve Test, %: .02

Oil Distillate, by volume of emulsion, %: Trace

This Certificate Of Analysis exclusively certifies material manufactured and stored on location at Hammaker East - Baltimore plant. Third party distribution of this certification is unauthorized as Hammaker East claims no liability for material received through third party brokers. The referenced material is certified to meet DC, DE, MD, PA, VA, and WV D.O.T. Specifications.

Refinery Representative: [Signature] Date: 2-22-12

Will Contain Minimal Test Results (if any)

Technician's Signature