Maryland State Highway Administration
Office of Materials Technology
Aggregate Bulletin
Test Data

a. **Any asphalt mix approved prior to March 01, 2016 should use the Dynamic Friction Values (DFVs) included in the Aggregate Bulletin of Fourth Quarter 2014 (PDF, 1.5 MB), MSMT 416 (April 2012) (PDF, 100 KB) and Table 901 D (September 2014) (PDF, 76 KB).**

b. **All asphalt mix designs approved after March 01, 2016 shall use the DFVs provided in this Aggregate Bulletin and the revised MSMT 416 (January 2016) (PDF, 100 KB) and Table 901 (February 2016) (PDF, 75 KB).**

Soils and Aggregate Technology Division
7450 Traffic Drive
Hanover, Maryland 21076

Updated: January 31, 2017

Aggregate Bulletin Contacts

Dan Sajedi, *Division Chief*
443-572-5162 or dsajedi@sha.state.md.us
Intikhab Haider, Aggregate Lab Team Leader
443-572-5275 or ihaider2@sha.state.md.us

http://www.roads.maryland.gov/OMT/AggBlt.pdf

Toll Free: 866-926-8501

Maryland State Highway Administration

Aggregate Bulletin

1. Introduction

This bulletin contains the qualified list of aggregate producers with the physical test data. The bulletin will be updated on a quarterly basis. The last day of January, April, July and October of each year will be the publishing date. Published bulletin data will be valid for one year. For instance, if a test is required to be performed each year, for test data published in the 1st quarter, new test data will be due by the beginning of the 1st quarter of the next year. We encourage producers to keep track of their records, including due dates and submit their requests for aggregate testing on time. Producers are responsible for informing the Soils and Aggregate Technology Division (SATD) of any changes to producer information, such as producer name, quarry name, subsidiary producer's name, contact information, qualified use of aggregate.

The data listed in the aggregate bulletin are considered to be representative of material supplied by a particular source of aggregate. The materials contained within this document are not meant to represent all aggregate materials a particular quarry can produce or supply. It is emphasized that the listed data must not be interpreted in absolute terms. The information is provided as a guide for the expected quality of the material furnished by a listed source.

2. Process for Listing as an Qualified Aggregate Source in MDSHA Aggregate Bulletin

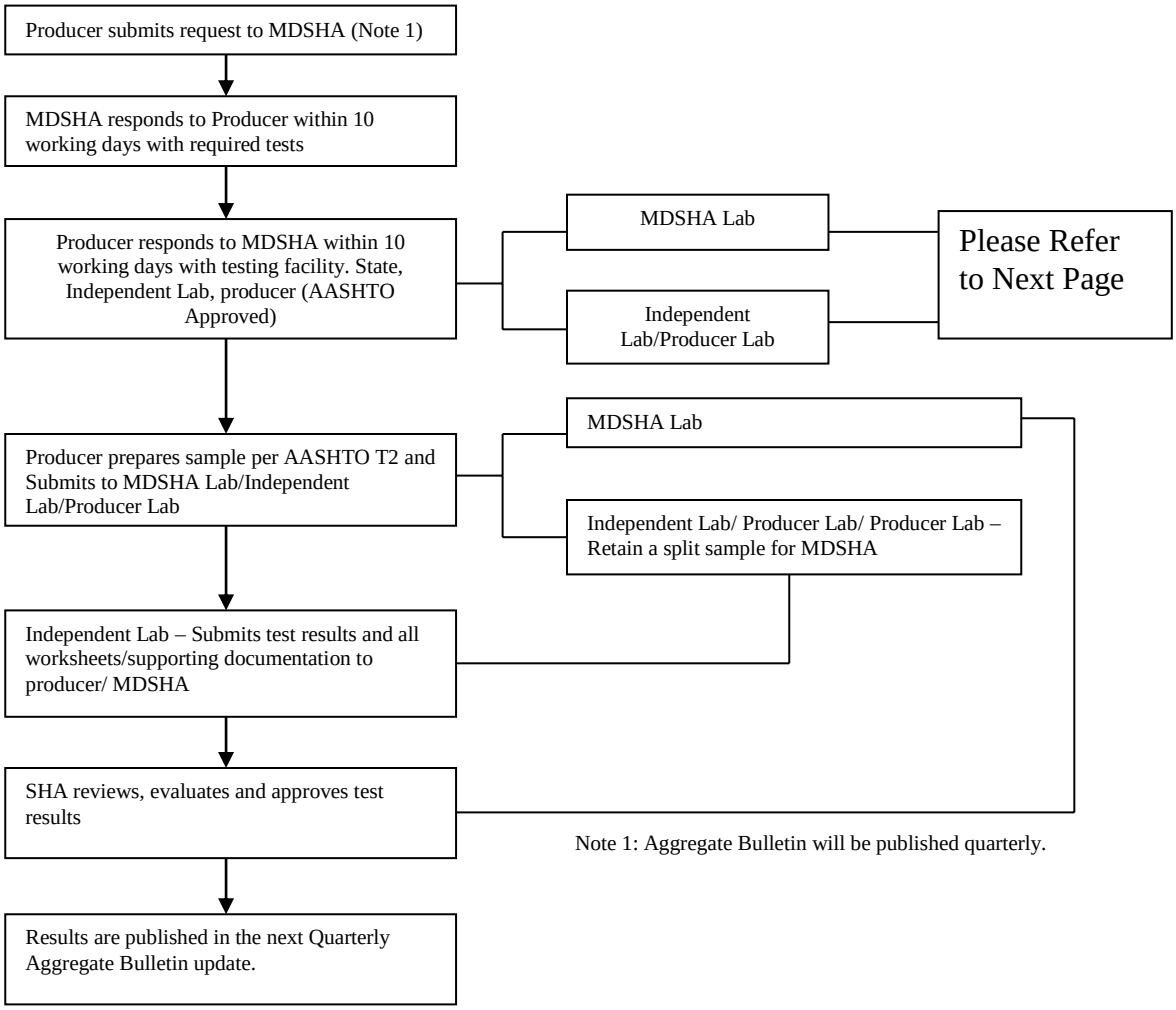
I. Written Request

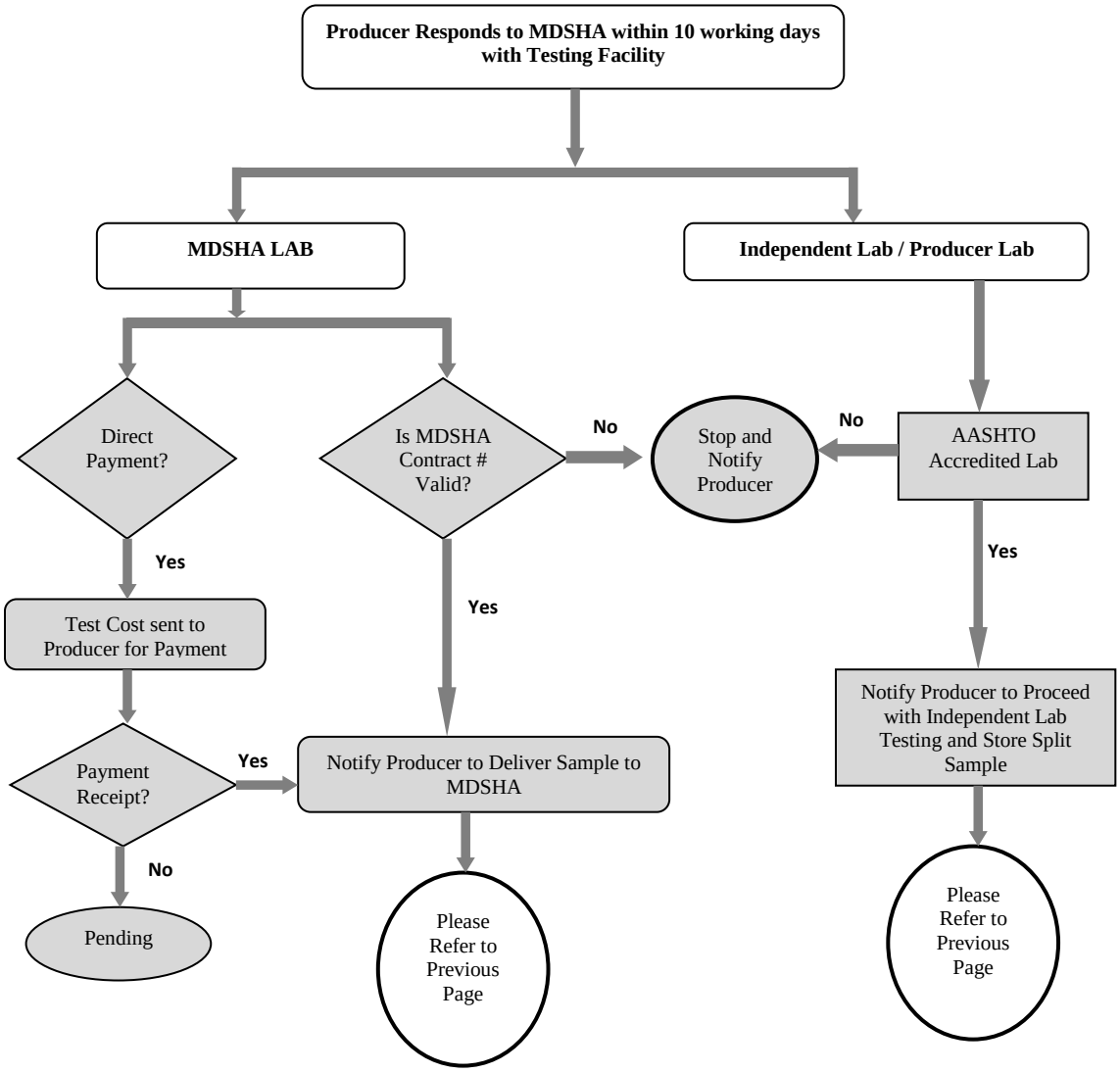
The aggregate producer shall submit a written request to:

Dan Sajedi, Division Chief
Soils and Aggregate Technology
Maryland State Highway Administration
7450 Traffic Drive
Hanover, MD 21076 OR
dsajedi@sha.state.md.us

A. The SATD requires the producers to submit their written requests before the quarterly aggregate bulletin update. Please refer to the flow chart in Section II for "MDSHA Annual Quality Testing Process." If samples are tested at MDSHA lab, we are requesting the producers to deliver aggregate samples to the MDSHA laboratory 45 days prior to the next publishing date of the aggregate bulletin in order to publish the test data on time.
B. Please refer to Appendix A for "Aggregate Quality Test Request" Form. Producers shall complete and submit this form for each material (i.e. No. 57, Concrete Sand, Mortar Sand, etc.) for each quarry.
C. Materials Safety Data Sheet (MSDS): All requests must be accompanied by a Materials Safety Data Sheet with **specific quarry location** with the effective date. No aggregate will be accepted prior to receipt of the MSDS.

II. MDSHA Annual Quality Testing Process




Producer Responds to MDSHA within 10 working days with Testing Facility
MDSHA LAB
Independent Lab / Producer Lab
Direct Payment?
Is MDSHA Contract # Valid?
No
Stop and Notify Producer
No
AASHTO Accredited Lab
Yes
Yes
Test Cost sent to Producer for Payment
Yes
Notify Producer to Proceed with Independent Lab Testing and Store Split Sample
Payment Receipt?
Yes
Notify Producer to Deliver Sample to MDSHA
No
Pending
Please Refer to Previous Page
Please Refer to Previous Page

3. Aggregate Tests, Test Frequency and Sample Quantity Requirements

Aggregate Category	Use	Required Tests	Specifications	Test Frequency[1]	Material Quantity/Type
Coarse	General Use (HMA Base, GAB, Backfill, etc.)	Specific Gravity & Absorption	AASHTO T-85	1 year	3 bags of No. 57 (at least 40 lbs per bag)
		Soundness	AASHTO T-104	3 years	
		Los Angeles Abrasion (LA)	AASHTO T-96	2 years	
	PCC	In addition to tests for **General Use**			
		Alkali-Silica Reaction (ASR)	ASTM C1260	3 years	1 bag of No. 10 Dust from the parent rock (at least 30 lbs)
	HMA Surface	In addition to tests for **General Use**			
		British Pendulum Test	ASTM D3319 & E303	2 years	1 bag of material passing ½ sieve and remain on 3/8" sieve (at least 40 lbs)
		Dynamic Friction Test	MSMT 215 & 216[2]	2 years	
	High Friction Materials	In addition to tests for **General Use and HMA Surface**			
		Petrography for non-carbonate aggregate	TBD	2 years	As required per Independent Lab
		Acid Insoluble Residue (AIR) for carbonate aggregate	TBD	2 years	
Fine	PCC (Concrete Sand)	Specific Gravity and Absorption	AASHTO T-84	1 year	3 bags (at least 30 labs per bag)
		Soundness	AASHTO T-104	3 years	
		Alkali-Silica Reactivity (ASR)	ASTM C1260	3 years	
	Mortar Sand and No. 10 Dust	Specific Gravity and Absorption	AASHTO T-84	1 year	3 bags (at least 30 labs per bag)
		Soundness	AASHTO T-104	3 years	
Note: [1] Except for new quarry requesting first time [2] Dynamic friction testing will be performed by MDSHA lab only.					

A. Please note that, for quality assurance purposes, SATD has the right to request aggregate tests to be performed more frequently (i.e., Quality Assurance (QA) Testing) than the testing frequency specified above.

B. If aggregate samples are tested at the MDSHA laboratory, upon the receipt of payment or confirmation of valid contract charge number, the SATD will send a notice to the producer for sampling. Also, SATD will provide "Aggregate Test for Quality," Form 12, Appendix B, to producers for logging each sample for each quarry. The producers are required to complete this form and submit back to the

MDSHA lab along with samples at the address mentioned above. The sampling shall be in conformity with AASHTO T-2.

Appendix A
Aggregate Quality Test Request Form

Office of Materials Technology
Soils and Aggregate Technology Division
Aggregate Quality Test Request Form
Aggregate Producer's Data Sheet
Date Submitted: _____

Organization's Name (Parent Aggregate Producer):
_____

Office / Facility's Name (Subsidiary Aggregate Producer): ***Same as above ____ or***
_____

Supervising Office's Mailing Address:
Street or P.O. Box: _____
Town / City: _____
State: _____ Zip: _____
E-Mail Address: _____
Phone No(s): _____ _____
Fax No.: _____

Quarry Name's (If Applicable): _____
Street or P.O. Box: _____
Town / City: _____ State: _____ Zip: _____
Entitled Point of Contact: _____
Title / Position: _____
E-Mail Address: _____
Phone No(s): _____ _____
Fax No.: _____

MSDS Provided: Yes _____ No_____
Testing Charges: Bill Direct (Yes or No) _____ If No,
MDSHA Contract #/Charge #:_____
MDSHA Project # (if available):_____
Please provide the following information if applicable:
Testing Facility: MDSHA Lab _____ Independent Lab____If yes, Lab Name_____

Aggregate Category (ies) for Testing: Coarse_____Fine_____Other_____
_____
Aggregate Type (s) for Testing: #57_____Concrete Sand _____Mortar Sand_____
#10 Dust_____Other_____
_____
Aggregate Use(s): HMA Surface____ HMA Base _____PCC_____GAB
_____Other_____General_____

Note: Shaded areas will be published in the Aggregate Bulletin.

Appendix B
Aggregate Test for Quality
(Form 12)

Testing Completed – Reporting Results.

Upon request, the producer will be notified of the preliminary test results once the testing is completed. Subsequently, the test results will be entered into SATD's aggregate database for the next quarterly Aggregate Bulletin update.

S.H.A. 73.0-12
12/18/2012

STATE OF MARYLAND
STATE HIGHWAY ADMINISTRATION
OFFICE OF MATERIALS TECHNOLOGY

AGGREGATE TEST FOR QUALITY

Date Sampled _____ Log No. _____

Contract No. _____ Charge No. _____ ☐ MSDS

Type of Construction _____ Item No. _____
(Description of Exact Use of Material)

Type of Material _____ Quantity Represented _____ Size of Sample _____

Type of Sample: ☐ Quality ☐ Job Control ☐ Other _____
(Experimental, Resample, Re-Stock, Etc.)

Produced By _____
(Full Name and Address)

Source of Supply _____
(Full Name and Address)

Sample Taken From _____ ☐ Source ☐ Source of Supply ☐ Job Site

Sample By (Full Name) _____ Witnessed By _____
Federal, County, Municipal Representative's Name

Remarks _____

TEST RESULTS

☐ Gradation:

	3 ½	3	2 ½	2	1 ¾	1 ½	1 ¼	1	¾	5/8	½	3/8	#4	#8
Prod. ☐ Field ☐														
Lab.														

	5/8	½	3/8	#4	#8	#10	#16	#20	#30	#40	#50	#80	#100	#200
Prod. ☐ Field ☐														
Lab.														

Test:

☐	Los Angeles Abrasion, % Loss		☐	Absorption, %		☐	Petro	
☐	Sodium Sulfate, % Loss		☐	Washing over #200, % Loss		☐	Thin or Elongated, %	
☐	Unit Wt. Loose (lbs/ft3)		☐	ASR		☐	Acid Insoluble Residue(AIR),%	
☐	Unit Wt. Rodded (lbs/ft3)		☐	BPN		☐	Color	
☐	Specific Gravity		☐	DFV		☐	Micro Deval, % Loss	
☐	pH		☐	Other		☐		

Remarks: Results of tests on this sample _____ meet specified requirements per the Standard Provision Insert (SPI) of Standard Specifications for Construction and Materials, July 2008, Table 901 B, Aggregate Physical Property Requirements.

Appendix C - Procedures of Quality Aggregate Testing by Independent Laboratories

Submittal Requirements to Independent Laboratory

The submission package by each producer shall contain the following:

A. Aggregate Quality Test Request Form (Appendix A)

B. Material Safety Data Sheet (MSDS) for each test material per each quarry location

C. Independent laboratory package including name, address, a list of aggregate tests the lab is qualified to perform, experience, AASHTO certification and AMRL Proficiency sample ratings for the last two years.

D. The independent lab organization chart and technician's qualification including point of contact for manager, resumes, training records and experience.

The submittal package shall be provided to SATD via mail or electronically to the following address 45 days prior to the Quarterly Aggregate Bulletin update otherwise the SATD does not guarantee the test data to be included to the next published Aggregate Bulletin:

Attn: Dan Sajedi
Soils and Aggregate Technology Division
Maryland State Highway Administration
Office of Materials Technology
7450 Traffic Drive
Hanover, MD 21076
Fax - 410-787-0464
dsajedi@sha.state.md.us

After reviewing the submittals, we will inform you whether the independent lab is accepted or not. If the lab is accepted, the independent lab shall be valid for one (1) year from the date of the acceptance letter.

Aggregate Tests for Independent Laboratory

The accepted independent lab shall comply with the following aggregate test procedures and specification for aggregate testing.

- AASHTO T11 - Materials Finer Than 75-µm (No. 200) Sieve by Washing
- AASHTO T27 - Sieve Analysis of Fine and Coarse Aggregate
- AASHTO T84 - Specific Gravity (Relative Density) and Absorption of Fine Aggregate

- AASHTO T85 - Specific Gravity (Relative Density) and Absorption of Coarse Aggregate
- AASHTO T96 – Resistance to Degradation of Small-Size Coarse Aggregate by Abrassion and Impact in the Los Angeles Machine
- AASHTO T104 - Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate
- AASHTO T248 – Reducing Samples of Aggregate to Testing Size
- AASHTO T255 – Total Evaporable Moisture Content of Aggregate by Drying
- ASTM E303 – Measuring Surface Frictional Properties Using the British Pendulum Tester
- ASTM D3319 - Accelerated Polishing of Aggregate using the British Wheel
- ASTM C 1260 - Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars due to Alkali-Silica reaction Aggregate or Aggregate/Pozzolan Combinations

A. AASHTO accredited laboratories shall meet R-18 requirements and participate in the AMRL proficiency testing program. In addition, the laboratories should possess or have access to the equipment, facilities, personnel, and calibrated instruments, which are necessary to test material.

B. The producers are encouraged to minimize the number of laboratories used per quarry to minimize errors of precision due to technicians and laboratories to ensure the test quality.

C. The producers shall be submitting the independent lab submittal package to MDSHA rather than the independent lab submitting their information directly to us.

Split Samples

The producers shall have a split sample for each quarry before submitting samples to the independent lab.

The SATD will require the split samples as needed to ensure the test quality. The SATD Quality Assurance team may witness and pick the split sample during their normal plant visit. The aggregate producers are required to pay for sampling and reviewing test results in case they do not provide an approved/active contract number and a project charge number.

Test Results Submission by the Independent Laboratory

The independent lab shall submit the final test results along with raw data to the MDSHA lab. The raw data sheet shall include the laboratory letterhead with the technician's name, test date, address, contact information, and manager signature. The MDSHA will review and verify the test data before publishing in the Aggregate Bulletin.

Aggregate Bulletin

Keys

(-) Under test/under evaluation

(#) In accordance with the Standard Provision Insert (SPI) of Standard Specifications for Construction and Materials, July 2008, Table 901 D, and Aggregate Physical Property Requirements for Asphalt Mixes (Note (e)): when carbonate rock is used, it shall have a minimum of 25 percent insoluble residue retained on the No. 200 sieve. Otherwise, the aggregate source does not qualify for use as a high friction aggregate.

(**) ASR determined in accordance with ASTM C 1293, *Determination of length change of concrete due to Alkali Silica Reaction*.

DFV Dynamic Friction Value is defined as a coefficient of friction multiplied by 100. Accordingly, coarse aggregate is categorized as three broad categories: high, standard, and low DFVs, designated as HDFV, SDFV, and LDFV. These categories are presented below in detail:

HDFV:

- Category I (HDFV I): DFV is equal to 50
- Category II (HDFV II): DFV is equal to 45
- Category III (HDFV III): DFV is equal to 40

SDFV:

- Category IV (SDFV IV): DFV is equal to 30
- Category V (SDFV V): DFV is equal to 25

LDFV:

- Category VI (LDFV VI): DFV is less than 25

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Aggregate Industries, Inc. Accokeek Sand & Gravel Brandywine, MD													
	Coarse	#57	2.602	1.2	36			0.04(R1)**	4.0	☑	☐	☐	☑
	Fine	Concrete Sand	2.571	0.8				0.02(R1)**	1.1	☑	☐	☐	☑
Aggregate Industries, Inc. Charles City Sand & Gravel Charles City, VA													
	Coarse	#57	2.582	1.2	35			0.29	2.1	☑	☐	☐	☑
	Fine	Concrete Sand	2.590	0.8				0.23	2.5	☑	☐	☐	☑
Aggregate Industries, Inc. Fulks Sand & Gravel Fredericksburg, VA													
	Coarse	#57	2.641	0.5	33			0.12	0.7	☑	☐	☐	☑
	Fine	Concrete Sand	2.577	1.1				0.12	4.0	☑	☐	☐	☑
Aggregate Industries, Inc. Kirby Road Sand & Gravel Clinton, MD													
	Coarse	#57	2.596	1.1	33			0.03(R1)**	0.9	☑	☐	☐	☑
	Fine	Concrete Sand	2.586	0.9				0.02(R1)**	0.6	☑	☐	☐	☑
Aggregate Industries, Inc. La Plata Sand & Gravel La Plata , MD													
	Coarse	#57	2.579	1.4	36			0.02(R1)**	2.2	☑	☐	☐	☑
	Fine	Concrete Sand	2.592	1.2				0.02(R1)**	1.7	☑	☐	☐	☑
Aggregate Industries, Inc. Mataponi Sand & Gravel Aylett, VA													
	Fine	Concrete Sand	2.589	0.4				0.02	0.6	☑	☐	☐	☑

Note [1]: Category I (HDFV I): DFV-50 | Category II (HDFV II): DFV-45 | Category III (HDFV III): DFV-40
Category IV (SDFV IV): DFV-30 | Category V (SDFV V): DFV-25 | Category VI (LDFV VI): DFV is less than 25.

Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Aggregate Industries, Inc. Millville Quarry Millville, WV													
	Coarse	#57	2.854	0.3	18	27	SDFV V	0.04	0.5	☑	☑	☐	☑
	Fine	#10	2.773	1.5				0.04	1.4	☑	☐	☐	☑
Aggregate Industries, Inc. Rappahanock Farms Sand & Gravel Douge, VA													
	Coarse	#57	2.659	0.3	34			0.10	0.1	☑	☐	☐	☑
	Fine	Concrete Sand	2.592	1.0				0.10	1.4	☑	☐	☐	☑
Aggregate Industries, Inc. Rockville Crushed Stone Rockville, MD													
	Coarse	#57	2.727	0.4	12	34	SDFV IV	0.01	0.1	☑	☑	☐	☑
	Fine	#10	2.579	2.0					1.6	☑	☑	☐	☐
Allan Myers Materials, Inc. Cedar Hill Quarry Peach Bottom, PA													
	Coarse	#57	2.625	0.9	19	30	SDFV IV	0.02	1.4	☑	☑	☐	☑
	Fine	#10	2.513	3.1					5.6	☑	☑	☐	☐
Allan Myers Materials, Inc. Elk Mills Quarry Elk Mills, MD													
	Coarse	#57	2.654	0.4	30	31	HDFV II	0.08(-)	0.1	☑	☑	☑	☑
	Fine	#10	2.565	1.6					7.3	☑	☑	☐	☐
Allan Myers Materials, Inc. Paradise Quarry Paradise, PA													
	Coarse	#57	2.837	0.3	29	28	SDFV V	0.02	0.3	☑	☑	☐	☑
Allegany Aggregates, Inc. Bedrock Quarry Flintstone, MD													
	Coarse	#57	2.731	0.8	16	30	SDFV V	0.06	3.3	☑	☑	☐	☑

Note [1]: Category I (HDFV I): DFV-50 | Category II (HDFV II): DFV-45 | Category III (HDFV III): DFV-40
Category IV (SDFV IV): DFV-30 | Category V (SDFV V): DFV-25 | Category VI (LDFV VI): DFV is less than 25.

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* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Allegany Aggregates, Inc. Short Gap Quarry Keyser, WV													
	Coarse	#67	2.713	0.4	21	26	SDFV V	0.13	3.8	☑	☑	☐	☑
Bluegrass Materials Company, LLC Beaver Creek East Quarry Hagerstown, MD													
	Coarse	#57	2.757	0.4	16	30	SDFV IV	0.23	0.1	☑	☑	☐	☑
	Fine	#10	2.667	2.6					2.1	☑	☑	☐	☐
Bluegrass Materials Company, LLC Blue Mount Materials White Hall, MD													
	Coarse	#57	2.750	0.4	36	32	HDFV III	0.06	3.4	☑	☑	☑	☑
	Fine	#10	2.819	0.3				0.04	5.2	☑	☐	☐	☑
Bluegrass Materials Company, LLC Churchville Quarry Bel Air, MD													
	Coarse	#57	3.001	0.3	22	28	HDFV III	0.02	1.1	☑	☑	☑	☑
	Fine	#10	3.003	0.4					2.7	☑	☑	☐	☐
Bluegrass Materials Company, LLC Frederick Quarry Frederick, MD													
	Coarse	#57	2.715	0.2	23	34	SDFV IV	0.04	0.3	☑	☑	☐	☑
	Fine	#10	2.681	0.9					5.1	☑	☐	☐	☐
Bluegrass Materials Company, LLC Kent Sand & Gravel, LLC Massey, MD													
	Fine	Concrete Sand	2.627	0.4				0.22	2.8	☑	☐	☐	☑

Note [1]: Category I (HDFV I): DFV-50 | Category II (HDFV II): DFV-45 | Category III (HDFV III): DFV-40
Category IV (SDFV IV): DFV-30 | Category V (SDFV V): DFV-25 | Category VI (LDFV VI): DFV is less than 25.

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Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Bluegrass Materials Company, LLC Medford Quarry New Windsor, MD													
	Coarse	#57 Medford Basalt	2.928	0.5	29	38	HDFV I	0.02	1.2	☑	☑	☑	☑
	Coarse	#67 Medford Limestone	2.694	0.6	42	24	SDFV V	0.03	1.3	☑	☑	☐	☑
	Fine	#10 Medford Limestone	2.701	0.5				0.01	3.9	☑	☐	☐	☑
Bluegrass Materials Company, LLC North East Quarry North East, MD													
	Coarse	#57	2.879	0.4	15	31	HDFV III	0.09	0.2	☑	☑	☑	☑
	Fine	#10	2.865	1.1					4.7	☑	☑	☐	☐
Bluegrass Materials Company, LLC Texas Quarry Cockeysville, MD													
	Coarse	#57	2.836	0.2	38	29	SDFV V	0.06	1.0	☑	☑	☐	☑
	Fine	Concrete Sand	2.799	0.3				0.03	2.8	☑	☐	☐	☑
Bluegrass Materials Company, LLC Warfordsburg Warfordsburg, PA													
	Coarse	#57	2.709	0.5	19	31	SDFV V	0.29	1.2	☑	☑	☐	☑
	Fine	#10	2.650	1.6					4.2	☑	☐	☐	☐
Bluegrass Materials Company, LLC Yali Quarry Yali, Greece													
	Fine	#10	1.931	3.4					2.2	☑	☐	☐	☐
Carolina Stalite Company Gold Hill Gold Hill, NC													
	Coarse	#57	1.541	4.1	29			0.10	0.2	☑	☐	☐	☑
	Fine	Concrete Sand	1.885	4.7				0.08	1.9	☑	☐	☐	☑

Note [1]: Category I (HDFV I): DFV-50 Category II (HDFV II): DFV-45 Category III (HDFV III): DFV-40
Category IV (SDFV IV): DFV-30 Category V (SDFV V): DFV-25 Category VI (LDFV VI): DFV is less than 25.

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Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Chaney Enterprises, Inc. Loveville Quarry Loveville, MD													
	Coarse	# 67	2.582	0.9	36			0.14	5.6	☑	☐	☐	☑
	Fine	Concrete Sand	2.625	0.4				0.23	1.9	☑	☐	☐	☑
Chaney Enterprises, Inc. Moss Neck Woodford, VA													
	Coarse	# 57	2.630	0.4	34			0.30	0.9	☑	☐	☐	☑
	Fine	Concrete Sand	2.590	1.3				0.25	1.4	☑	☐	☐	☑
Chaney Enterprises, Inc. Riddle Pit Harwood, MD													
	Coarse	#57	2.617	0.4	43			0.28	0.1	☑	☐	☐	☑
	Fine	Concrete Sand	2.634	0.3				0.28	0.9	☑	☐	☐	☑
Chaney Enterprises, Inc. Sussex Sand & Gravel Seaford, DE													
	Fine	Concrete Sand	2.633	0.4				0.18	2.2	☑	☐	☐	☑
	Fine	Mortar	2.629	0.4					0.9	☑	☐	☐	☐
Chaney Enterprises, Inc. Vienna Sand & Gravel Rhodesdale, MD													
	Fine	Concrete Sand	2.627	0.4				0.16	1.1	☑	☐	☐	☑
Chaney Enterprises, Inc. Waldorf Quarry Waldorf, MD													
	Coarse	#67	2.577	1.0	32			0.24	2.8	☑	☐	☐	☑
	Fine	Concrete Sand	2.623	0.4				0.24	1.4	☑	☐	☐	☑

Note [1]: Category I (HDFV I): DFV-50 | Category II (HDFV II): DFV-45 | Category III (HDFV III): DFV-40
Category IV (SDFV IV): DFV-30 | Category V (SDFV V): DFV-25 | Category VI (LDFV VI): DFV is less than 25.

Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Chaney Enterprises, Inc. Winchester Plant Clear Brook, VA													
	Coarse	#57	2.710	0.4	20	30	LDFV VI	0.27	1.3	☑	☑	☐	☑
	Fine	Concrete Sand	2.677	1.1				0.37 (-)	2.2	☑	☑	☐	☐
Chaney Enterprises, Inc. Shore Sand & Gravel Bridgetown Facility Henderson, MD													
	Coarse	#57	2.580	1.2	40			0.14	0.6	☑	☐	☐	☑
	Fine	Concrete Sand	2.597	0.9				0.14	1.4	☑	☐	☐	☑
County Line Quarry, Inc. County Line Quarry Wrightsville, PA													
	Coarse	#57	2.754	0.5	24	41	HDFV I		0.3	☑	☑	☑	☐
	Fine	#10	2.728	0.9					3.8	☑	☐	☐	☐
David A. Bramble, Inc. Bridgetown Sand & Gravel Goldsboro, MD													
	Fine	HMA Sand	2.581	1.6					1.0	☑	☑	☐	☐
David A. Bramble, Inc. Dudley Pit Wye Mills, MD													
	Fine	HMA Sand	2.619	0.6					1.0	☑	☑	☐	☐
Disney Sand & Gravel, LLC Hebron Quarry Hebron, MD													
	Fine	Concrete Sand	2.615	0.7				0.13	2.4	☐	☐	☐	☑
	Fine	Mortar	2.603	0.7					2.4	☑	☐	☐	☐

Note [1]: Category I (HDFV I): DFV-50 | Category II (HDFV II): DFV-45 | Category III (HDFV III): DFV-40
Category IV (SDFV IV): DFV-30 | Category V (SDFV V): DFV-25 | Category VI (LDFV VI): DFV is less than 25.

Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Dyer Quarry, Inc. Dyer Quarry Birdsboro, PA													
	Coarse	#57	2.944	0.4	15	29	HDFV III	0.02	0.6	☑	☑	☑	☑
	Fine	#10	2.801	2.9					3.5	☑	☑	☐	☐
Eastern Shore Sand & Gravel, LLC Ingleside Plant Henderson, MD													
	Fine	Concrete Sand	2.607	0.8				0.05	1.5	☑	☐	☐	☑
Fairfax Materials Inc. Ours Quarry Petersburg, WV													
	Coarse	#57	2.705	0.4	39				1.5	☑	☐	☐	☐
Fairfax Materials Inc. Scherr Quarry New Creek, WV													
	Coarse	#67	2.715	0.5	23			0.07	1.3	☑	☐	☐	☑
Fairfax Materials Inc. Thomas Quarry Thomas, WV													
	Fine	Concrete Sand	2.636	0.4				0.12	2.1	☑	☐	☐	☑
Garrett Limestone Co., Inc. Romesburg Quarry Garrett, PA													
	Coarse	#57	2.687	0.4	18	37	HDFV II	0.04	0.4	☑	☑	☑	☑
	Fine	#10	2.634	1.4					1.4	☑	☐	☐	☐
George's Creek Stone and Gravel, Inc. Barton Quarry Barton, MD													
	Coarse	#57: Limestone	2.732	0.5	21			0.06	1.3	☑	☐	☐	☑
	Coarse	#57: Sandstone	2.545	2.3	45			0.18	2.3	☑	☐	☐	☑
	Fine	#10 Sandstone	2.499	3.0					1.6	☑	☑	☐	☐
	Fine	#10: Limestone	2.701	1.2					1.6	☑	☑	☐	☐

Note [1]: Category I (HDFV I): DFV-50 | Category II (HDFV II): DFV-45 | Category III (HDFV III): DFV-40
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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Goldsboro Sand and Gravel Goldsboro Sand and Gravel/Perry Corner Goldsboro, MD													
	Fine	Concrete Sand	2.615	0.5				0.20	2.9	☑	☐	☐	☑
	Fine	Motar Sand	2.625	0.2					3.5	☑	☐	☐	☐
Gudelsky Group Chantilly Crushed Stone Chantilly, VA													
	Coarse	#57	2.936	0.6	17	30	HDFV II	0.03	0.6	☑	☑	☑	☑
	Fine	#10	2.897	1.4					3.2	☑	☐	☐	☐
Gudelsky Group Gudelsky Materials Brandywine, MD													
	Coarse	#67	2.579	0.9	31			0.12	0.9	☑	☐	☐	☑
	Fine	Concrete Sand	2.625	0.5				0.30	0.6	☑	☐	☐	☑
Haines & Kibblehouse, Inc. Birdsboro Materials Birdsboro, PA													
	Coarse	#57	3.008	0.5	16	31	HDFV III	0.05	0.3	☑	☑	☑	☑
	Fine	#10	2.893	1.8					4.4	☑	☑	☐	☐
Haines & Kibblehouse, Inc. Douglassville Quarry Douglassville, PA													
	Coarse	#57	2.712	0.8	11	36	HDFV II	0.09	3.6	☑	☑	☑	☑
Haines & Kibblehouse, Inc. Penn/MD Materials Peach Bottom, PA													
	Coarse	#57	2.681	0.8	19	31	SDFV IV	0.01	0.5	☑	☑	☐	☑
	Fine	#10	2.654	1.5					2.2	☑	☑	☐	☐

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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Haines & Kibblehouse, Inc. Silver Hill Quarry Narvon, PA													
	Coarse	#57	3.010	0.4	18	28	HDFV II	0.01	0.2	☑	☑	☑	☑
	Fine	#10	2.980	1.0					5.9	☑	☑	☐	☐
Howard Sand & Gravel, Inc. Mardela Quarry Mardela Springs, MD													
	Fine	Concrete Sand	2.614	0.7				0.12	1.5	☐	☐	☐	☑
	Fine	Mortar	2.597	0.7					0.5	☑	☐	☐	☐
Howlin Concrete, Inc. Mechanicsville MD Mechanicsville, MD													
	Coarse	#57	2.560	1.3	34			0.10	2.3	☑	☐	☐	☑
	Fine	Concrete Sand	2.608	0.8				0.18	1.5	☐	☐	☐	☑
Keystone Lime Co., Inc. Eichorn Quarry Fort Hill, PA													
	Coarse	#57 - Deer Valley Limestone	2.697	0.5	21				0.7	☑	☐	☐	☐
	Coarse	#57 - Loyalhanna	2.690	0.5	18	38	HDFV III	0.31	0.1	☑	☑	☑	☑
Kinsley Materials PenRoc Operations York, PA													
	Coarse	#57	2.761	0.4	32	27	LDFV VI	0.03	0.4	☑	☑	☐	☑
	Fine	#10	2.728	0.8					1.4	☑	☑	☐	☐
Laurel Sand & Gravel, Inc. S.W. Barrick & Sons Woodsboro Quarry Woodsboro, MD													
	Coarse	#57	2.707	0.3	22	28	SDFV V	0.07	0.6	☑	☑	☐	☑
	Fine	Manufacture Sand	2.680	0.8				0.07	0.8	☑	☑	☐	☑

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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

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			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Luck Stone Corporation Boscobel Boscobel, VA													
	Coarse	#57	2.606	0.8	29			0.12	2.1	☐	☐	☐	☑
Luck Stone Corporation Caroline Plant Milford, VA													
	Fine	Concrete Sand	2.633	0.4				0.07	1.5	☐	☐	☐	☑
Luck Stone Corporation Leesburg Leesburg, VA													
	Coarse	#57	3.008(-)	0.5(-)	19	31	HDFV II		0.5	☑	☑	☑	☐
Luck Stone Corporation Rockville Plant Rockville, VA													
	Coarse	#57	2.670	0.5	21			0.15(R2)**	0.7	☐	☐	☐	☑
Luck Stone Corporation Spotsylvania - VA Spotsylvania, VA													
	Coarse	#57	2.745(-)	0.5(-)	28			0.06	0.8	☐	☐	☐	☑
Martin Marietta Materials Anderson Creek Quarry Rockville, VA													
	Coarse	#57	2.718	0.5	13			0.25	0.6	☑	☐	☐	☑
Martin Marietta Materials Boonsboro Quarry Boonsboro, MD													
	Coarse	#57	2.846	0.3	12	27	SDFV V	0.03	0.1	☑	☑	☐	☑
	Fine	#10	2.793	1.3					1.9	☑	☑	☐	☐
Martin Marietta Materials Doswell Doswell, VA													
	Coarse	#57	2.767	0.5	15			0.20	0.7	☑	☐	☐	☑

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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Martin Marietta Materials Pinesburg Quarry Williamsport, MD													
	Coarse	#57	2.740	0.3	20	27	LDFV VI	0.07	0.3	☑	☑	☐	☑
	Fine	#10	2.650	1.8					0.9	☑	☑	☐	☐
Martin Stone Quarries Bechtelsville Bechtelsville, PA													
	Coarse	#57	2.821	0.5	16	29	HDFV III	0.03(-)	0.3	☑	☑	☑	☑
Maryland Minerals, Inc. Sang Run Quarry McHenry, MD													
	Fine	Concrete Sand	2.622	0.4				0.13	2.8	☐	☐	☐	☑
Maryland Minerals, Inc. Thayerville Quarry Oakland, MD													
	Coarse	#67	2.707	0.5	18			0.18	3.9	☑	☐	☐	☑
Melvin L. Joseph Sand and Gravel, Co. Georgetown Quarry Georgetown, DE													
	Fine	Concrete Sand	2.618	0.5				0.23	1.8	☑	☐	☐	☑
	Fine	Mortar Sand	2.618	0.6					0.5	☑	☐	☐	☐
New Enterprise Stone & Lime Co., Inc. Ashcom Plant Everett, PA													
	Coarse	#57	2.796	0.3	16	26	LDFV VI		0.0.2	☑	☑	☐	☐
	Fine	#10	2.723	1.6					1.7	☑	☐	☐	☐
New Enterprise Stone & Lime Co., Inc. Bakersville Plant Somerset, PA													
	Coarse	#57	2.673	0.4	15	38	HDFV II(-)		0.1	☑	☑	☑	☐

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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
New Enterprise Stone & Lime Co., Inc. Denver Quarry Denver, PA													
	Coarse	#57	2.744	0.3	17			0.13	0.2	☑	☐	☐	☑
	Fine	#10	2.714	1.8					1.6	☑	☑	☐	☐
New Enterprise Stone & Lime Co., Inc. Hinkletown Quarry Hinkletown, PA													
	Coarse	#57	2.799	0.3	26	26	LDFV VI	0.03	0.3	☑	☑	☐	☑
New Enterprise Stone & Lime Co., Inc. Honey Brook Quarry Honey Brook, PA													
	Fine	Concrete Sand	2.629	0.4				0.06	3.5	☑	☐	☐	☑
New Enterprise Stone & Lime Co., Inc. Schoeneck Quarry Schoeneck, PA													
	Coarse	#57	2.789	0.6	17			0.01	8.1	☑	☐	☐	☑
	Fine	#10	2.755	0.9				0.01	2.8	☑	☑	☐	☑
New Enterprise Stone & Lime Co., Inc. Valley Quarries, Inc. Chambersburg Quarry Chambersburg, PA													
	Coarse	#57	2.710	0.3	23	31	SDFV V	0.24	2.4	☑	☑	☐	☑
	Fine	#10	2.644	1.7					1.4	☑	☑	☐	☐
New Enterprise Stone & Lime Co., Inc. Valley Quarries, Inc. Fairfield Quarry Fairfield, PA													
	Coarse	#57	2.783	0.9	25	32	SDFV IV	0.09	1.3	☑	☑	☐	☑
	Fine	#10	2.704	2.3					5.6	☑	☐	☐	☐

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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
New Enterprise Stone & Lime Co., Inc. Valley Quarries, Inc. Gettysburg Quarry Gettysburg, PA													
	Coarse	#57	2.750	0.6	10	31	HDFV I	0.27	0.6	☑	☑	☑	☑
	Fine	#10	2.684	2.7					1.6	☑	☐	☐	☐
New Enterprise Stone & Lime Co., Inc. Valley Quarries, Inc. Mt. Cydonia, Plant I Fayetteville, PA													
	Fine	Concrete Sand	2.617	0.6				0.27	1.2	☐	☐	☐	☑
New Enterprise Stone & Lime Co., Inc. Valley Quarries, Inc. Roaring Spring Plant Roaring Spring, PA													
	Coarse	#57	2.809	0.4	14	26	SDFV V	0.22	0.1	☑	☑	☐	☑
	Fine	Concrete Sand	2.811	0.7				0.18	1.9	☑	☐	☐	☑
New Enterprise Stone & Lime Co., Inc. Valley Quarries, Inc. Williamson Quarry Williamson, PA													
	Coarse	#57	2.730	0.4	22	27	SDFV V	0.02	0.4	☑	☑	☐	☑
	Fine	#10	2.648	2.0					2.4	☑	☐	☐	☐
Pennsy Supply, Inc. East Petersburg/East Hempfield TWP Manheim, PA													
	Coarse	#57	2.771	0.3	22	27	SDFV IV	0.06	2.0	☑	☑	☐	☑
	Fine	#10	2.701	1.0					4.2	☑	☑	☐	☐
Pennsy Supply, Inc. Fiddler's Elbow North Middletown, PA													
	Coarse	#57	2.807	0.3	17	26	LDFV VI	0.02	0.1	☑	☑	☐	☑
	Fine	#10	2.767	1.7					3.0	☑	☑	☐	☐

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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

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			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Pennsy Supply, Inc. Millard Quarry Annville, PA													
	Coarse	#57	2.811	0.3	17	23	LDFV VI	0.07	0.3	☑	☑	☐	☑
	Fine	#10	2.704	1.7					1.5	☑	☑	☐	☐
Pennsy Supply, Inc. Mt. Holley / Dickinson Township Mount Holly Springs, PA													
	Fine	Concrete Sand	2.618	0.4				0.29	2.4	☑	☐	☐	☑
Pennsy Supply, Inc. Prescott/South Lebanon Township Lebanon, PA													
	Coarse	#57	2.794	0.2	23	24	LDFV VI	0.02	0.4	☑	☑	☐	☑
	Fine	#10	2.685	1.9					4.0	☑	☑	☐	☐
Pioneer Materials Bay Road Plant Dover , DE													
	Fine	Concrete Sand	2.598	0.8				0.14(-)	1.4	☑	☐	☐	☑
Pioneer Materials Tarburton Plant Dover, DE													
	Fine	Concrete Sand	2.585	1.0				0.14(-)	2.3	☑	☐	☐	☑
	Fine	Mortar	2.585	0.8					1.0	☑	☐	☐	☐
Recycled Conservation Group Tolson Crofton, MD													
	Fine	Concrete Sand	2.646	0.4				0.12	1.4	☑	☐	☐	☑
Reliable Contracting Company, Inc. BBSS Pit Gambrills, MD													
	Fine	Concrete Sand	2.650	0.6				0.09	2.7	☑	☐	☐	☑

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Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

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			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Rockville Fuel & Feed Marshyhope Operations, LLC Rosser Pit Federalsburg, MD													
	Fine	Concrete Sand	2.617	0.5				0.17(-)	1.2	☑	☐	☐	☑
	Fine	Motor Sand	2.616	0.4					1.2	☑	☐	☐	☐
Rohrer Quarry Lititz - PA Lititz, PA													
	Coarse	#57	2.774	0.2	24			0.06	0.6	☑	☐	☐	☑
	Fine	#10	2.793	1.4	24			0.06	2.3	☑	☑	☐	☐
Ryan Forms, LLC DBA Ingleside Plant, Formerly York Building Merrick Sand & Gravel, Ingleside, MD													
	Fine	Concrete Sand	2.591	1.3				0.18	1.0	☑	☐	☐	☑
	Fine	Motar Sand	2.559	1.3					1.0	☑	☐	☐	☐
Savage Stone, LLC Savage Quarry Jessup, MD													
	Coarse	#57	2.927	0.9	25				9.6	☑	☐	☐	☐
Shelly Materials, Inc. Reedsville Reedsville, OH													
	Fine	Concrete Sand	2.621	1.2				0.30	1.4	☑	☐	☐	☑
Shoreline Materials Shoreline Quarry Stony Creek, VA													
	Coarse	#57	2.597	0.8	37			0.10	1.1	☑	☐	☐	☑
	Fine	Concrete Sand	2.597	0.8				0.10	1.5	☑	☐	☐	☑
Sloan Materials, LLC Leonardtown MD Leonardtown, MD													
	Fine	Concrete Sand	2.610	0.9				0.21	2.75	☑	☐	☐	☑

Note [1]: Category I (HDFV I): DFV-50 | Category II (HDFV II): DFV-45 | Category III (HDFV III): DFV-40
Category IV (SDFV IV): DFV-30 | Category V (SDFV V): DFV-25 | Category VI (LDFV VI): DFV is less than 25.

Updated:
January 31, 2017

* See notes on front page of Aggregate Bulletin

** ASTM C1293

Maryland State Highway Adminstration: Coarse and Fine Aggregate Test Data

Producer	Aggregate Category	Aggregate Type	Specific Gravity (SSD)	ABS (%)	LA (%)	BPN	Friction Rating[1]	ASR (%)	Soundness (%)	Material Tested For			
			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Specialty Granules Charmian Plant Blue Ridge Summit, PA													
	Coarse	#57	2.918	1.3	25	36	HDFV I	(-)	1.2 (-)	☑	☑	☑	☐
St. Thomas Development, Inc. St. Thomas Development St. Thomas, PA													
	Coarse	#57	2.740	0.3	20	27	LDFV VI	0.14	0.3	☑	☑	☐	☑
	Fine	#10	2.693	1.5					1.6	☑	☐	☐	☐
Titan Mid-Atlantic Aggregates Waverly Sand Plant Waverly, VA													
	Fine	Concrete Sand	2.623	0.3				0.13	1.9	☑	☐	☐	☑
Tuckahoe Sand & Gravel Tuckahoe NJ Tuckahoe, NJ													
	Fine	Concrete Sand	2.633	0.5				0.17	0.9	☑	☐	☐	☑
Vulcan Materials Company, Inc. Brooklyn MD Terminal Baltimore, MD													
	Fine	Concrete Sand	2.614	0.9				0.13	2.0	☑	☐	☐	☑
Vulcan Materials Company, Inc. Frederick Plant Frederick, MD													
	Coarse	#57	2.725	0.5	23	33	SDFV IV	0.20	0.6	☑	☑	☐	☑
	Fine	Manufactured Sand	2.706	1.1				0.13	2.4	☑	☐	☐	☑
Vulcan Materials Company, Inc. Graham Quarry Lorton, VA													
	Coarse	#57	2.662	0.5	29	31	HDFV II	0.06	0.3	☑	☑	☑	☑
	Fine	#10	2.665	0.4					1.9	☑	☐	☐	☐

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			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Vulcan Materials Company, Inc. Hanover Plant Hanover, PA													
	Coarse	#57	2.792	0.4	23	26	SDFV V	0.02	1.4	☑	☑	☐	☑
	Fine	Manufactured Sand	2.789	0.4				0.02	2.4	☑	☐	☐	☑
Vulcan Materials Company, Inc. Havre de Grace Quarry Havre de Grace, MD													
	Coarse	#57	2.797	0.3	16	29	HDFV III	0.13	0.2	☑	☑	☑	☑
	Fine	#10 Dust	2.807	0.2					3.7	☑	☑	☐	☐
Vulcan Materials Company, Inc. Jack Quarry Petersburg, VA													
	Coarse	#57	2.637	0.5	25			0.08	0.6	☑	☐	☐	☑
Vulcan Materials Company, Inc. James Pit Georgetown, DE													
	Fine	Concrete Sand	2.607	0.9				0.13	1.3	☑	☐	☐	☑
	Fine	Mortar	2.601	0.8					1.2	☑	☐	☐	☐
Vulcan Materials Company, Inc. Laurel Laurel, DE													
	Fine	Concrete Sand	2.590	0.8				0.10	2.7	☑	☐	☐	☑
	Fine	Mortar Sand	2.601	1.3					3.6	☑	☐	☐	☐
Vulcan Materials Company, Inc. Manassas Quarry Manassas, VA													
	Coarse	#57	2.945	0.7	14			0.10	0.5	☑	☐	☐	☑
	Fine	#10	2.749	4.2					6.1	☑	☐	☐	☐

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* See notes on front page of Aggregate Bulletin

** ASTM C1293

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			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
Vulcan Materials Company, Inc. Pocomoke Sand Plant Pocomoke City, MD													
	Fine	Concrete Sand	2.629	0.4				0.15	2.1	☑	☐	☐	☑
	Fine	Motar Sand	2.631	0.4					0.6	☑	☐	☐	☐
Vulcan Materials Company, Inc. Puddledock Prince George, VA													
	Fine	Concrete Sand	2.533	0.5				0.04	0.8	☑	☐	☐	☑
Vulcan Materials Company, Inc. Sanders Quarry Warrenton, VA													
	Coarse	#57	2.965	0.8	13	30	HDFV I	0.19	0.1	☑	☑	☑	☑
	Fine	#10	2.885	2.4					2.0	☑	☐	☐	☐
Vulcan Materials Company, Inc. Seaford Terminal Seaford, DE													
	Fine	Concrete Sand	2.608	0.6				0.12	2.7	☑	☐	☐	☑
Vulcan Materials Company, Inc. Stafford Quarry Garrisonville, VA													
	Coarse	#57	2.920	0.4	14			0.12	0.7	☑	☐	☐	☑
Vulcan Materials Company, Inc. York Plant York, PA													
	Coarse	#57	2.845	0.3	28	27	SDFV V	0.01	0.2	☑	☑	☐	☑
	Fine	Manufactured Sand	2.815	0.5				0.02	1.8	☑	☐	☐	☑
York Building Products Lincoln Stone Division Thomasville Quarry Thomasville, PA													
	Coarse	#57	2.780	0.3	30			0.04	0.5	☑	☐	☐	☑

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			T-84 & 85		T-96	ASTM D3319 & E303	MSMT 215 & 216	ASTM C1260	T-104	General (HMA Base, GAB, Backfill, etc.)	HMA Surface	High Friction Materials	PCC
York Building Products Roosevelt Ave Division York Quarry York, PA													
	Coarse	#57	2.767	0.5	30	25	LDFV VI	0.02	0.3	☑	☑	☐	☑
	Fine	#10	2.723(-)	0.8(-)					2.1	☑	☑	☐	☐
York Building Products Mason-Dixon Materials Belvedere Plant Port Deposit , MD													
	Fine	Concrete Sand	2.639	0.5				0.07	2.6	☑	☐	☐	☑
York Building Products Mason-Dixon Materials Cecil Plant Port Deposit, MD													
	Fine	Concrete Sand	2.613	0.9				0.05	1.2	☑	☐	☐	☑
York Building Products Mason-Dixon Materials Perryville Plant Port Deposit, MD													
	Fine	Concrete Sand	2.646	0.4				0.02	0.8	☑	☐	☐	☑
	Fine	Mortar	2.629	0.8					0.5	☑	☐	☐	☐

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