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ANNEX D SPECIFICATION FOR ASPHALT PAVING

SANDS AND AGGREGATE MATERIALS

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GENERAL PURPOSE

This specification is to be used to determine the sand and aggregate to be used for asphalt paving material for the Bermuda Government to use on Roadway within Island of Bermuda.

The bidders are to use this document to acquire fine sands and coarse Aggregates suitable material to meet the need of Bermuda Government to create Hot Mix asphalt material.

The bidder is to locate two types of sands for this asphalt material. The first type will have high content of dust material and this material will be referred to as dirty or asphalt sand material in this document. While the second will have low content of dust and must be wash sand type material and be referred to as wash sand.

The third material is aggregate stone material with the large aggregate size being ½" size stone. This material will be referred to as No 7 stone material within this document.

Bidders are to provide their quarry specification for this material so that this Ministry can verify the material.

The quarry specification must present the sieve analysis for dirty sand, wash sand and the No 7 stone.

The dust content must be present in the material and be made known within the sieve analysis.

Note: The Asphalt Plant does not have a Dust Silo attached.

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REFERENCE

Here below are the specifications refer to for standard, specification, or publication reference.

American Society for Testing Materials (ASTM)

Specification – ASTM D1073 – Standard Specification for Fine Aggregate for Asphalt Paving Mixtures

Specification – ASTM D692 -- Standard Specification for Coarse Aggregate for Bituminous mixtures

Specification – ASTM D448 --Standard Classification for Sizes of aggregate for Road and Bridge Construction

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MIX CLASSIFICATION

Table A

SUMMARY OF AGGREGATE REQUIREMENTS

Hot Mix Type	Typical use	Acceptable coarse aggregate	Acceptable fine aggregate	Maximum Allowable RAP material	Largest aggregate size	Asphalt sand or dirty sand mini-Dust	Wash sand Mini dust
Dense Grade Friction Course	Basalt Road types	Basalt Rock type	Basalt Rock Type	0 %	1/2in or 12.5mm	Minimum 9%	Minimum 2.8%

Notes:

1. The Dense Grade Friction Coarse material is to be obtained from the same source.
2. The Coarse Aggregate shall be graded in accordance with ASTM D692 and meet the requirements of ASTM D448 for aggregate sizes. The buyer may accept or reject aggregates based on pass performance.
3. The Fine Aggregate shall be graded in accordance with ASTM 1073.
4. Changes in Coarse or Fine Aggregate sizes shall not be made unless approved by buyer.
5. When using ASTM D1073 for fine aggregates, you are to use the Grading No 1 specification for the gradation of the material.
6. When using the D448 for coarse aggregate, you are to use Sieve Size No7 stone size for the gradation of the material.
7. When using ASTM D696, we are looking for strong, hard aggregate suitable for road use.

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CONCLUSION

The specification here is prepared to give a firm understanding of the material request to meeting the Ministry of Public Works specification. Should you have any question, you have right to request more information given that we find what you have request is acceptable question to this Ministry. The specification here is intended to give precise detail of what is to be provided. You are not to change the specification without this Ministry knowing about the changes unless they have been approved.

You are required to use the table of grades for material from the ASTM specified here in this document. The end product is to meet the minimum specification of the table requirement for the materials requested.

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APPENDIX

Designation: D1073 – 16

Standard Specification for Fine Aggregate for Asphalt Paving Mixtures[1]

This standard is issued under the fixed designation D1073; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This specification covers fine aggregate for use in asphalt paving mixtures.

1.2 This specification is intended to describe material from a single source. When material from two or more sources is to be blended to produce a grading to meet requirements in other specifications for asphalt paving mixtures, the grading requirements of Table 1 of this specification are not applicable.

NOTE 1—When obtaining materials from two or more sources that are to be blended to produce the final mix, it is recommended that the specifying or the ordering agency specify the alternative gradings and blend ratios to be supplied.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard. Sieve numbers shown in the text and Table 1 are labels only and are included for ease of reference of the user of this standard.

1.4 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

C88 Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
C117 Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
C125 Terminology Relating to Concrete and Concrete Aggregates
C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
C294 Descriptive Nomenclature for Constituents of Concrete Aggregates
D8 Terminology Relating to Materials for Roads and Pavements
D75 Practice for Sampling Aggregates
D3665 Practice for Random Sampling of Construction Materials
D4318 Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

3. Terminology

3.1 *Definitions:*

3.1.1 For defining aggregate types, see Descriptive Nomenclature C294, and Terminology D8 and C125.

3.1.2 *expanded shale, n; expanded clay, n; expanded slate, n;* the product resulting from the expanding of selected materials (shale, clay, or slate) in a rotary kiln at temperatures over 1000°C.

4. Ordering Information

4.1 Orders for material under this specification shall include the following:

4.1.1 This specification designation including year,

4.1.2 Grading (6.2 and Table 1), or alternative grading designated by the purchaser,

4.1.3 Supplementary requirement for sulfate soundness, if required, including salt to be used (See S1), and

4.1.4 Any exceptions or additions to this specification.

5. General Characteristics

5.1 Fine aggregate is aggregate passing the 9.5-mm (⅜-in.) sieve and almost entirely passing the 4.75-mm (No. 4) sieve. It shall consist of natural sand; or of manufactured fine aggregate from crushed stone, crushed blast–furnace slag, or crushed gravel; or crushed or uncrushed expanded shale, expanded clay, or expanded slate; or combinations thereof. It shall consist of hard, tough grains, free of injurious amounts of clay, loam, or other deleterious substances.

[1] This specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.50 on Aggregate Specifications.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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TABLE 1 Grading Requirements for Fine Aggregates

Sieve Size	Amounts Finer than Each Laboratory Sieve (Square Openings), mass %				
	Grading No. 1	Grading No. 2	Grading No. 3	Grading No. 4	Grading No. 5
9.5-mm (⅜-in.)	100	...	...	100	100
4.75-mm (No. 4)	95 to 100	100	100	80 to 100	80 to 100
2.36-mm (No. 8)	70 to 100	75 to 100	95 to 100	65 to 100	65 to 100
1.18-mm (No. 16)	40 to 80	50 to 74	85 to 100	40 to 80	40 to 80
600-µm (No. 30)	20 to 65	28 to 52	65 to 90	20 to 65	20 to 65
300-µm (No. 50)	7 to 40	8 to 30	30 to 60	7 to 40	7 to 46
150-µm (No. 100)	2 to 20	0 to 12	5 to 25	2 to 20	2 to 30
75-µm (No. 200)	0 to 10	0 to 5	0 to 5	0 to 10	...

6. Physical Properties

6.1 To determine conformance to this specification, each value for grading (and sulfate soundness, when required) shall be rounded to the nearest 1 %, and each value for the plasticity index shall be rounded to the nearest 0.1 unit, both in accordance with the rounding-off method of Practice E29.

6.2 *Grading*—Grading of fine aggregate shall conform to the grading in Table 1 for the Grading Number specified in the order, or other grading designated by the purchaser.

6.3 *Grading Variability Limits*—For continuing shipments of fine aggregate from a given source, the fineness modulus shall not vary more than 0.25 from the base fineness modulus. The base fineness modulus shall be that value that is typical of the source, and shall be determined from previous tests, or if no previous tests exist, from the average of the fineness modulus values for the first ten samples (or all preceding samples if less than ten) on the order. The base fineness modulus shall not be changed except when approved by the purchaser.

NOTE 2—The proportioning of an asphalt mixture may be dependent on the fineness modulus of the fine aggregate to be used. Therefore, when it appears that the base fineness modulus is considerably different from the value used in the design of the asphalt mixture, a suitable adjustment in the mixture may be necessary.

6.4 *Plasticity Index*—The plasticity index of the fraction passing the 425-µm (No. 40) sieve shall not exceed 4.0.

7. Methods of Sampling and Testing

7.1 The aggregate shall be sampled and the properties enumerated in this specification shall be determined in accordance with the following ASTM methods:

7.1.1 *Sampling*—Practice D75,

7.1.2 *Random Sampling*—Practice D3665,

7.1.3 *Grading*—Test Method C136 and Test Method C117, Procedure A,

7.1.4 *Fineness Modulus*—Test Method C136, and

7.1.5 *Plasticity Index*—Test Method D4318.

8. Keywords

8.1 aggregate; asphalt paving; fine aggregate; paving mixtures

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirement shall apply only when specified by the purchaser in the contract or order.

S1. Sulfate Soundness

S1.1 The fine aggregate, when subjected to 5 cycles of the soundness test in accordance with Test Method C88, shall have a weighted loss of not more than 15 % when sodium sulfate is used or 20 % when magnesium sulfate is used. If the salt to be used is not stated by the purchaser, the fine aggregate shall be acceptable if it meets the requirements when tested with either salt.

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Designation: D692/D692M – 15

Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures[1]

This standard is issued under the fixed designation D692/D692M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers crushed stone, crushed hydraulic-cement concrete, crushed blast-furnace slag, crushed gravel, crushed expanded shale, crushed expanded clay, and crushed expanded slate suitable for use in bituminous paving mixtures, as described in Specifications D3515 or D4215.

NOTE 1—Other slags having demonstrated a satisfactory service record may be used.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.3 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

C29/C29M Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
C88 Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
C125 Terminology Relating to Concrete and Concrete Aggregates
C131 Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
C294 Descriptive Nomenclature for Constituents of Concrete Aggregates
D8 Terminology Relating to Materials for Roads and Pavements
D75 Practice for Sampling Aggregates
D448 Classification for Sizes of Aggregate for Road and Bridge Construction
D3319 Practice for the Accelerated Polishing of Aggregates Using the British Wheel
D3515 Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures (Withdrawn 2009)[3]
D3665 Practice for Random Sampling of Construction Materials
D4215 Specification for Cold-Mixed, Cold-Laid Bituminous Paving Mixtures
D5821 Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

3. Terminology

3.1 For defining aggregate types, see Descriptive Nomenclature C294, and Terminology D8 and C125.

3.2 *Definitions:*

3.2.1 *expanded shale, n; expanded clay, n; expanded slate, n*—the product resulting from the expanding of selected materials (shale, clay, or slate) in a rotary kiln at temperatures over 1000°C [1832°F].

4. Ordering Information

4.1 Orders for the material under this specification shall include the following information:

4.1.1 The specification designation and year of issue.

4.1.2 The size to be furnished (see 5.2).

4.1.3 The quantity required.

4.1.4 Use of the coarse aggregate, whether for conventional mixtures or open-graded friction course mixtures (see 5.4), and whether for surface courses or base courses (see 5.7),

4.1.5 In the case of sulfate soundness tests (5.6), which salt is to be used.

4.1.6 Any special requirements.

[1] This specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.50 on Aggregate Specifications.

Current edition approved June 1, 2015. Published July 2015. Originally approved in 1942. Last previous edition approved in 2014 as D692/D692M – 09 (2014). DOI: 10.1520/D0692_D0692M-15.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] The last approved version of this historical standard is referenced on www.astm.org.

5. Physical Requirements

5.1 *General*—The coarse aggregate shall consist of hard, strong, durable pieces, free of coherent coatings and conforming to the requirements of this specification.

5.2 *Grading:*

5.2.1 The coarse aggregate grading shall conform to the requirements of Classification D448 for the size number designated, or to another grading as stated in the order (see Note 2).

NOTE 2—The coarse aggregate grading to be furnished is dependent upon the desired composition of the paving mixture, and whether the grading to be used in the mixture is achieved with or without blending. Other coarse aggregate gradings may be used provided that the combined aggregate and filler, when used, will produce a paving mixture that provides the desired characteristics.

5.2.2 The size to be used is dependent upon the desired composition of the paving mixture, and the required size or sizes either before or after blending as specified.

5.3 *Density:*

5.3.1 *Slag*—Air-cooled blast-furnace-slag coarse aggregate, when tested in size No. 57 or No. 8, shall have a minimum density of 1120 kg/m^3 [70 lb/ft^3] as determined in accordance with Test Method C29/C29M, rodding procedure.

5.3.2 *Expanded Shale, Expanded Clay, Expanded Slate*—The coarse aggregate, when tested in size No. 57 or No. 8, shall have a minimum density of 500 kg/m^3 [31 lb/ft^3] as determined in accordance with Test Method C29/C29M, shoveling procedure.

5.4 *Fractured Particles in Coarse Aggregate*—Orders for materials under this specification shall state the appropriate requirements for fractured particles.

5.4.1 *Conventional Mixtures*—Not less than 40 %, by mass, of the aggregate particles retained on the 4.75-mm [No. 4] sieve shall have at least one fractured face (see Notes 3 and 4).

5.4.2 *Open Graded Friction Course Mixtures*—Of the aggregate particles retained on the 4.75-mm [No. 4] sieve, not less than 90 %, by mass, shall have one or more fractured faces and 75 %, by mass, two or more fractured faces.

NOTE 3—Attention is called to the distinction between conventional (dense mixtures or open mixtures) and open-graded friction course mixtures in Specification D3515.

NOTE 4—Some sources of aggregate contain angular particles that will perform similarly to a mechanically fractured particle. Where laboratory tests or service records indicate this to be true, such angular particles may be considered as fractured.

5.5 *Polishing Characteristics*—The coarse aggregates, or the coarsest fraction of the aggregate for use in surface course mixtures, shall be of a type known to possess adequate resistance to the polishing action of the anticipated traffic. (see Note 5)

NOTE 5—No standard ASTM method has been recognized to be capable of defining adequate resistance to the polishing action of specific traffic conditions. Test Method D3319 has been found useful in evaluating the relative polish resistance between samples of different aggregates or mixtures containing different aggregates.

5.6 *Soundness*—The coarse aggregate, when subjected to five cycles of the soundness test, shall have a weighted loss not greater than 12 % when sodium sulfate is used or 18 % when magnesium sulfate is used. (see Note 6). If the salt is not designated by the purchaser, the aggregate will be acceptable if it meets the indicated limit for the salt used.

5.7 *Degradation*—The aggregate (with the exception of crushed blast-furnace slag) when subjected to testing in accordance with Test Method C131 shall have a loss not greater than 40 % for surface courses or 50 % for base courses (see Note 6).

NOTE 6—Coarse aggregate (other than crushed hydraulic-cement concrete) failing to meet the requirements of 5.6 or 5.7, may be considered for use provided that (*a*) similar aggregates from the same source or geologic formation have been shown by experience to result in satisfactory pavements and (*b*) the results of other tests suggest that the desired performance can be obtained. Aggregate from a new source (including crushed hydraulic-cement concrete) that fails the requirements of 5.6 or 5.7 and for which no experience exists, may be considered provided the results of the other tests suggest that the desired performance can be obtained. Crushed hydraulic-cement concrete may chemically react with Na_2SO_4 or $MgSO_4$, giving higher results which may not reflect the aggregate's freeze-thaw properties. Additional tests may be required.

6. Methods of Sampling and Testing

6.1 Sample the aggregates and determine the properties enumerated in this specification in accordance with the following methods:

6.1.1 *Sampling*—Practice D75 and Practice D3665.
6.1.2 *Grading*—Test Method C136.
6.1.3 *Bulk Density of Aggregate*—Test Method C29/C29M.
6.1.4 *Soundness*—Test Method C88.
6.1.5 *Degradation*—Test Method C131.
6.1.6 *Fractured Particles*—Test Method D5821.

7. Keywords

7.1 aggregate; bituminous paving; coarse aggregate; open graded friction; paving mixtures

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Designation: D448 – 12 (Reapproved 2017)

Standard Classification for Sizes of Aggregate for Road and Bridge Construction[1]

This standard is issued under the fixed designation D448; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This classification defines aggregate size number designations and standard size ranges for mechanical sieve analyses of coarse aggregate and screenings for use in the construction and maintenance of various types of highways and bridges.

1.2 *Units*—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

NOTE 1—Sieve size is identified by its standard designation in Specification E11. The alternative designation given in parentheses is for information only and does not represent a different standard sieve size.

1.3 The text of this classification references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the classification.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates

D8 Terminology Relating to Materials for Roads and Pavements

D75 Practice for Sampling Aggregates

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Terminology

3.1 For definitions of terms, see Terminology D8.

4. Significance and Use

4.1 Some contract documents specify certain aggregate sizes for specific uses or may suggest one or more of these sizes as appropriate for the preparation of various end-product mixtures. In some cases, closer limits on variability of the aggregate grading are required.

5. Manufacture

5.1 The standard sizes of aggregate described in this classification are manufactured by means of any suitable process used to separate raw material into the desired size ranges. Production of standard sizes by blending two or more different components is permitted.

6. Standard Sizes

6.1 Standard aggregate sizes shall conform to the requirements prescribed in Table 1 for the size number specified. Conformance shall be determined by means of laboratory sieves having square openings and conforming to Specification E11.

7. Basis of Classification

7.1 Classification of an aggregate is based upon the size number designation and size ranges shown in Table 1. Aggregate shall be sampled in accordance with Practice D75 and tested for grading by Test Method C136.

[1] This classification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.50 on Aggregate Specifications.

Current edition approved Oct. 1, 2017. Published October 2017. Originally approved in 1937. Last previous edition approved in 2012 as D448 – 12. DOI: 10.1520/D0448-12R17.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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TABLE 1 Standard Sizes of Processed Aggregate

Size Number	Nominal Size, Square Openings	Amounts Finer than Each Laboratory Sieve (Square Openings), mass percent																					
		100-mm (4-in.)	90-mm (3½-in.)	75-mm (3-in.)	63-mm (2½-in.)	50-mm (2-in.)	37.5-mm (1½-in.)	25.0-mm (1-in.)	19.0-mm (¾-in.)	12.5-mm (½-in.)	9.5-mm (⅜-in.)	4.75-mm (No. 4)	2.36-mm (No. 8)	1.18-mm (No. 16)	300-µm (No. 50)	150-µm (No. 100)
1	90 to 37.5 mm (3½ to 1½-in.)	100	90 to 100	...	25 to 60	...	0 to 15	...	0 to 5	...	...	...	...	...	...	...
2	63 to 37.5-mm (2½ to 1½-in.)	...	...	100	90 to 100	35 to 70	0 to 15	...	0 to 5	...	...	...	...	...	...	...
24	63 to 19.0-mm (2½ to ¾-in.)	...	...	100	90 to 100	...	25 to 60	...	0 to 10	0 to 5	...	...	...	...	...	...
3	50 to 25.0-mm (2 to 1-in.)	...	...	...	100	90 to 100	35 to 70	0 to 15	...	0 to 5	...	...	...	...	...	...
357	50 to 4.75-mm (2-in. to No. 4)	...	...	...	100	95 to 100	...	35 to 70	...	10 to 30	...	0 to 5	...	...	...	...
4	37.5 to 19.0-mm (1½ to ¾-in.)	...	...	...	...	...	90 to 100	20 to 55	0 to 15	...	0 to 5	...	...	...	...	...
467	37.5 to 4.75-mm (1½-in. to No. 4)	...	...	...	...	100	95 to 100	...	35 to 70	...	10 to 30	0 to 5	...	...	...	...
5	25.0 to 12.5-mm (1 to ½-in.)	...	...	...	...	...	100	90 to 100	20 to 55	0 to 10	0 to 5	...	...	...	...	...
56	25.0 to 9.5-mm (1 to ⅜-in.)	...	...	...	...	...	100	90 to 100	40 to 85	10 to 40	0 to 15	0 to 5	...	...	...	...
57	25.0 to 4.75-mm (1-in. to No. 4)	...	...	...	...	...	100	95 to 100	...	25 to 60	...	0 to 10	0 to 5	...	...	...
6	19.0 to 9.5-mm (¾ to ⅜-in.)	...	...	...	...	...	...	100	90 to 100	20 to 55	0 to 15	0 to 5	...	...	...	...
67	19.0 to 4.75-mm (¾-in. to No. 4)	...	...	...	...	...	...	100	90 to 100	...	20 to 55	0 to 10	0 to 5	...	...	...
68	19.0 to 2.36-mm (¾-in. to No. 8)	...	...	...	...	...	...	100	90 to 100	...	30 to 65	5 to 25	0 to 10	0 to 5	...	...
7	12.5 to 4.75-mm (½-in. to No. 4)	...	...	...	...	...	...	...	100	90 to 100	40 to 70	0 to 15	0 to 5	...	...	...
78	12.5 to 2.36-mm (½-in. to No. 8)	...	...	...	...	...	...	...	100	90 to 100	40 to 75	5 to 25	0 to 10	0 to 5	...	...
8	9.5 to 2.36-mm (⅜-in. to No. 8)	...	...	...	...	...	...	...	...	100	85 to 100	10 to 30	0 to 10	0 to 5	...	...
89	9.5 to 1.18-mm (⅜-in. to No. 16)	...	...	...	...	...	...	...	...	100	90 to 100	20 to 55	5 to 30	0 to 10	0 to 5	...
9	4.75 to 1.18-mm (No. 4 to No. 16)	...	...	...	...	...	...	...	...	...	100	85 to 100	10 to 40	0 to 10	0 to 5	...
10	4.75-mm (No. 4 to 0[A])	...	...	...	...	...	...	...	...	...	100	85 to 100	...	...	...	10 to 30

[A] Screenings.

8. Keywords

8.1 aggregate standard size; coarse aggregate; screenings