

904-M-059 AGGREGATES

(Revised 11-18-22)

The Standard Specifications are revised as follows:

SECTION 904, BEGIN LINE 152, DELETE AND INSERT AS FOLLOWS:

(f) Mineral Filler for SMA

Mineral filler shall consist of dust produced by crushing stone, portland cement, or other inert mineral matter having similar characteristics. Mineral filler shall be in accordance with the gradation requirements of 904.02(h) for size No. 16 or as approved by the Engineer. Mineral filler shall be in accordance with ITM 203 or from an ACBF slag source. The sieve analysis of mineral filler shall be conducted in accordance with AASHTO T 37 except as noted in 904.067. Mineral filler shall be non-plastic in accordance with AASHTO T 90.

SECTION 904, BEGIN LINE 276, DELETE AND INSERT AS FOLLOWS:

(e) Sizes of Coarse Aggregates

Sieve Sizes	Coarse Aggregate Sizes (Percent Passing)											
	Coarse Graded										Dense Graded	
	2	5	8	9	11, SC 11 ⁽⁵⁾	12, SC 12 ⁽⁵⁾	SC 16 ⁽⁵⁾	43 ⁽¹⁾	91	93PG ⁽⁶⁾	53 ⁽¹⁾	73 ⁽¹⁾
4 in. (100 mm)												
3 1/2 in. (90 mm)												
2 1/2 in. (63 mm)	100											
2 in. (50 mm)	80 - 100											
1 1/2 in. (37.5 mm)		100						100			100	
1 in. (25 mm)	0 - 25	85 - 98	100					70 - 90	100		80 - 100	100
3/4 in. (19 mm)	0 - 10	60 - 85	75 - 95	100				50 - 70			70 - 90	90 - 100
1/2 in. (12.5 mm)	0 - 7	30 - 60	40 - 70	60 - 85	100	100	100	35 - 50		98 - 100	55 - 80	60 - 90
3/8 in. (9.5 mm)		15 - 45	20 - 50	30 - 60	75 - 95	95 - 100	94 - 100			75 - 100		
No. 4 (4.75 mm)		0 - 15	0 - 15	0 - 15	10 - 30	50 - 80	15 - 45	20 - 40		10 - 60	35 - 60	35 - 60
No. 8 (2.36 mm)		0 - 10	0 - 10	0 - 10	0 - 10	0 - 35		15 - 35		0 - 15	25 - 50	
No. 16 (1.18 mm)							0 - 4					
No. 30 (600 µm)						0 - 4		5 - 20		0 - 5	12 - 30	12 - 30
No. 200 (75 µm) ⁽²⁾								0 - 6.0			5.0 - 10/3.0 ⁽⁴⁾	5.0 - 12.0
Decant (PCC) ⁽³⁾		0 - 1.5	0 - 1.5	0 - 1.5	0 - 1.5	0 - 1.5			0 - 1.5			
Decant (Non-PCC)	0 - 2.5	0 - 2.5	0 - 3.0	0 - 2.5	0 - 2.5	0 - 2.0			0 - 2.5	0 - 2.0		
Decant (SC)					0 - 1.5	0 - 1.5	0 - 1.5					

Notes: (1) The liquid limit shall not exceed 25 (35 if slag) and the plasticity index shall not exceed 5. The liquid limit shall be determined in accordance with AASHTO T 89 and the plasticity index in accordance with AASHTO T 90.

(2) Includes the total amount passing the No. 200 (75 µm) sieve as determined by AASHTO T 11 and AASHTO T 27.

(3) Decant may be 0 - 2.5 for stone and slag.

(4) When slag is used for separation layers as defined in 302.01, the total amount passing the No. 200 (75 µm) sieve shall be 10.0 to 12.0.

(5) Seal coat (SC) aggregates shall be 85% one face and 80% two face crushed. The Flakiness Index in accordance with ITM 224 shall be a maximum of 25%.

(6) Pea gravel shall be generally uncrushed gravel, with a maximum of 20% crushed particles, and shall meet the gradation requirements of 93PG. Determination of crushed particles shall be made from the weight (mass) of material retained on the No. 4 (4.75 mm) sieve in accordance with ASTM D5821.

SECTION 904, BEGIN LINE 280, DELETE AND INSERT AS FOLLOWS:

(f) Sampling and Testing

Sampling and testing will be in accordance with the following AASHTO, ASTM, and ITMs.

Amount of Material finer	
than No. 200 (75 μ m) Sieve*	AASHTO T 11
Brine Freeze and Thaw Soundness	ITM 209
Clay Lumps and Friable Particles	AASHTO T 112
Control Procedures for Classification of Aggregates.....	ITM 203
Crushed Particles.....	ASTM D5821
Dolomite Aggregates	ITM 205
Flat and Elongated Particles.....	ASTM D4791
Freeze and Thaw Beam Expansion.....	ITM 210
Lightweight Pieces in Aggregates*	AASHTO T 113
Los Angeles Abrasion.....	AASHTO T 96
Micro-Deval Abrasion	AASHTO T 327
Polished Resistant Aggregates	ITM 214
Sampling Aggregates*	AASHTO T 2
Sampling Stockpiled Aggregates	ITM 207
Scratch Hardness.....	ITM 206
Sieve Analysis*	AASHTO T 27
Soundness*	AASHTO T 103, AASHTO T 104
Specific Gravity and Absorption*	AASHTO T 85
Unit Weight and Voids in Aggregates	AASHTO T 19

*Except as noted in 904.06904.07

SECTION 904, BEGIN LINE 342, INSERT AS FOLLOWS:

(f) Sizes of Riprap

Gradation Requirements					
Percent Smaller					
Size, in.	Revetment	Class 1	Class 2	Uniform A	Uniform B
30			100		
24		100	85 - 100		
18	100	85 - 100	60 - 80		
12	90 - 100	35 - 50	20 - 40		
8				100	
6	20 - 40	10 - 30	0 - 20	35 - 80	95 - 100
3	0 - 10	0 - 10	0 - 10		35 - 80
1				0 - 20	0 - 20
Depth of Riprap, min.	18 in.	24 in.	30 in.		

The maximum dimension of individual pieces shall not be greater than three times the minimum dimension *and no dimension shall exceed the maximum size listed for the respective size of riprap*. The riprap will be visually inspected for size, shape, and

consistency.

SECTION 904, AFTER LINE 358, DELETE AND INSERT AS FOLLOWS:

904.06 B Borrow

The material used for special filling shall be of acceptable quality, free from large or frozen lumps, wood, or other extraneous matter and shall be known as B borrow. It shall consist of suitable sand, gravel, or crushed stone ACBF, GBF, or other approved material. The material shall contain no more than 10% passing the No. 200 (75 μ m) sieve and shall be otherwise suitably graded. The ratio of the fraction passing the No. 200 (75 μ m) sieve to the fraction retained on the No. 30 (600 μ m) sieve shall not exceed one-fifth. The use of an essentially one-size material will not be allowed unless approved. B borrow containing greater than 3% by dry weight organic material will not allowed.

Sieve analysis and organic material will be performed in accordance with AASHTO T 11 and AASHTO T 267.

904.067 Exceptions to AASHTO Standard Methods

(a) Exceptions to AASHTO T 2

Stockpile sampling shall be in accordance with ITM 207, unless otherwise approved.
