904-M-073 AGGREGATES

(Revised 10-16-25)

The Standard Specifications are revised as follows:

SECTION 904, BEGIN LINE 207, DELETE AS FOLLOWS:

(a) Classification of Aggregates

Characteristic Classes	AP	AS	A	B	C	D	E	F
Quality Requirements:								
Freeze and Thaw Beam Expansion, % max. (Note 1)	.060							
Los Angeles Abrasion, % max. (Note 2)	40.0	30.0	40.0	40.0	45.0	45.0	50.0	
Freeze and Thaw, AASHTO T 103, Procedure A, % max. (Note 3)	12.0	12.0	12.0	12.0	16.0	16.0	20.0	25.0
Sodium Sulfate Soundness, % max. (Note 3)	12.0	12.0	12.0	12.0	16.0	16.0	20.0	25.0
Brine Freeze and Thaw Soundness, % max. (Note 3)	30	30	30	30	40	40	50	60
Absorption, % max. (Note 4)	5.0	5.0	5.0	5.0	5.0			
Additional Requirements:								
Deleterious, % max.								
Clay Lumps and Friable Particles	1.0	1.0	1.0	1.0	2.0	4.0		
Non-Durable (Note 5)	4.0	2.0	4.0	4.0	6.0	8.0		
Coke					(See Note 6)			
Iron					(See Note 6)			
Chert (Note 7)	3.0	3.0	3.0	5.0	8.0	10.0		
Weight per Cubic Foot for Slag, lb, min.	75.0		75.0	75.0	70.0	70.0	70.0	
Crushed Particles, % min. (Note 8)								
Compacted Aggregates			20.0	20.0	20.0	20.0		

Notes:

1. Freeze and thaw beam expansion shall be tested and re-tested in accordance with ITM 210.

2. Los Angeles abrasion requirements shall not apply to BF.

3. Aggregates may, at the option of the Engineer, be accepted by the Sodium Sulfate Soundness or Brine Freeze and Thaw Soundness requirements.

4. Absorption requirements apply only to aggregates used in PCC and HMA mixtures except they shall not apply to BF. When crushed stone coarse aggregates from Category I sources, in accordance with ITM 203, consist of production from ledges whose absorptions differ by more than two percentage points, the absorption test will be performed every three months on each size of material proposed for use in PCC or HMA mixtures. Materials having absorption values between 5.0 and 6.0 that pass AP testing may be used in PCC. If variations in absorption preclude satisfactory

production of PCC or HMA mixtures, independent stockpiles of materials will be sampled, tested, and approved prior to use.

5. Non-durable particles include: a) soft particles as determined by ITM 206, b) other particles which are structurally weak, such as soft sandstone, shale, limonite concretions, coal, weathered schist, cemented gravel, ocher, shells, and wood, and c) other objectionable material. Determination of non-durable particles shall be made from the total weight (mass) of material retained on the 3/8 in. (9.5 mm) sieve. Scratch Hardness Test shall not apply to crushed stone coarse aggregate.

6. ACBF and SF coarse aggregate shall be free of objectionable amounts of coke, iron, and lime agglomerates.

7. The bulk specific gravity of chert shall be based on the saturated surface dry condition. The amount of chert less than 2.45 bulk specific gravity shall be determined on the total weight (mass) of material retained on the 3/8 in. (9.5 mm) sieve for sizes 2 through 8, ~~43,~~ 53, and 73 and on the total weight (mass) of material retained on the No. 4 (4.75 mm) sieve for sizes 9, 11, 12, and 91.

8. Crushed particle requirements apply to gravel coarse aggregates used in compacted aggregates. 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 275, DELETE 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~~[4]**	**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 - 13.0[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					

(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 from 0 to 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 395, DELETE AS FOLLOWS:

(c) Exceptions to AASHTO T 27 for *Fine and* Coarse Aggregates

The *dry mass* size of test samples for coarse *and fine* aggregate shall be as follows:

Aggregate Size	**Mass of Test Sample**
No. 2	11.3 kg min.
No. 5, 8, ~~43,~~ 53, 73, and 91	6.0 - 8.0 kg
No. 9	4.0 - 6.0 kg
No. 11	*2.0 kg min.*
No. 12 and No. 16	*1.0 kg min.*
No. 23 and No. 24	*300 g min.*
Structure Backfill	
2 in.	11.3 kg min.
1 1/2 in. and 1 in.	6.0 - 8.0 kg
1/2 in.	4.0 - 6.0 kg
No. 4 and No. 30	300 g *min.*