

AGGREGATE GRADATION TABLE – ENGLISH

Grad. No.	Section No.	Std. Sieve Size	1½"	1"	¾"	½"	3/8"	#4	#8	#30	#50	#100	#200	*Notes	
															Intended Use
1	4110,4125, 4133	PCC FA Cover Agg.					100	90-100	70-100	10-60			0-1.5	1	
3	4115 (57, 2-8)	PCC CA	100	95-100		25-60		0-10	0-5				0-1.5	2,11	
4	4115 (2-8)	PCC CA	100	50-100	30-100	20-75	5-55	0-10	0-5				0-1.5	11	
5	4115 (67, 2-8)	PCC CA		100	90-100		20-55	0-10	0-5				0-1.5	11	
6	4115.05 (Repair & Overlay)	PCC CA			100	97-100	40-90	0-30					0-1.5	11	
7	4117 (Class V)	PCC FA & CA	100					80-92	60-75	20-40					
8	4117.03 (Class V)	Fine Limestone					100	90-100					0-30		
10	4120.02, 4120.03 (C Gravel)	Granular Surface			100			50-80	25-60					3, 12	
11	4120.02, 4120.04, 4120.05, 4120.07 (A, B, Cr. St.)	Granular Surface & Shoulder		100	95-100	70-90		30-55	15-40				6-16	4, 5, 12	
12a	4121 (Cr. St.)	Granular Subbase	100			40-80			5-25				0-6	6, 12	
12b	4121 (Cr. Gravel)	Granular Subbase	100			50-80			10-30		5-15		3-7	7, 12	
13	4122.02 (Cr. St.)	Macadam St. Base	3" nominal maximum size – screened over ¾" or 1" screen											12	
14	4123	Modified Subbase	100		70-90				10-40				3-10	5, 7, 12	
19	4125 (1/2" Cr. Gr. or Cr. St.)	Cover Aggregate			100	97-100	40-90	0-30	0-15				0-2	12	
20	4125 (1/2" Scr. Gr.)	Cover Aggregate			100	95-100	40-80	0-15	0-7				0-1.5	12	
21	4125 (3/8")	Cover Aggregate				100	90-100	10-55	0-20	0-7			0-1.5	12	
22	4124.02	Fine Slurry Mixture					100	85-100	40-95	20-60	14-35	10-25	5-25	10, 12	
23	4124.02 (Cr. St.)	Coarse Slurry Mixture					100	70-90	40-70	19-42			5-15	12	
29	4131	Porous Backfill			100	95-100	50-100	0-50	0-8					12	
30	4132.02 (Cr. St.)	Special Backfill	100						10-40				0-10	5, 12	
31	4132.03 (Gravel)	Special Backfill		100	90-100	75-100			30-55				3-7	12	
32	4133 (Sand/Gr./Cr. St.)	Granular Backfill	100% passing the 3" screen							10-100				0-10	8, 9, 12
35	4133.05 (Natural Sand/Gr.)	Floodable Backfill	100						20-90				0-4	12	
36	4133.05 (Natural Sand)	Floodable Backfill							100				0-2	12	

Notes: (Gradations Nos. 2, 9, 15, 16, 17, 18, 24, 25, 26, 27, 28, 33 and 34 have been deleted.)

*For numbered notes, see page 2.

1. For [Section 4110](#), when the fine aggregate is sieved through the following numbered sieves - 4, 8, 16, 30, 50, and 100 - not more than 40% shall pass one sieve and be retained on the sieve with the next higher number.
2. When used in precast and prestressed concrete bridge beams, 100% shall pass the 1" sieve.
3. When compaction of material is a specification requirement, the minimum percent passing the No. 200 sieve is 6%.
4. See specifications for combination of gravel and limestone.
5. Unwashed air-dried samples of crushed composite material shall be tested for gradation compliance except that no gradation determination will be made for material passing the No. 200 sieve.
6. The gradation requirement for the No. 8 sieve shall be 5% to 20% when recycled material is supplied.
7. For [Section 4121](#) gravel, one fractured face on 30% or more of the particles retained on the 3/8-inch sieve. For [Section 4123](#) gravel, one fractured face on 75% or more of the particles retained on the 3/8-inch sieve.
8. Crushed stone shall have 100% passing the 1.5" sieve.
9. When granular backfill is used in floodable applications, use gradation 35 or 36. When granular backfill is used under flowable mortar, one of the following alternative materials shall be used: natural sand compliant with [Section 4110](#), except the % passing the No. 200 sieve shall not exceed 4%; gravel, crushed stone, or crushed concrete meeting the gradation requirements of [Section 4121](#).
10. Gradation limitations for the 30, 50 and 100 sieves shall not apply when slurry mixture is applied by hand lutes, such as for slurry leveling.
11. Maximum of 2.5% passing the No. 200 sieve allowed if generated from the parent material when documented production is 1% or less as determined by the Office of Materials.
12. When Producer gradation test results are used for acceptance, test results representing at least 90% of the material being produced shall be within the gradation limits and the average of all gradation results shall be within the gradations limits. Stockpiled material not meeting the criteria may, at the District Materials Engineer's discretion, be resampled using [Materials I.M. 301](#) procedures. One hundred percent of the stockpile quality control and verification test results shall be within the gradation limits.

HMA Gyratory gradation requirements are listed in [IM 510, Appendix A](#).