

**TABLE 5.7 - MINIMUM REQUIRED SAMPLES AND TESTS - INDEPENDENT ASSURANCE (IA)**

MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	REMARKS
<b>Borrow / Embankment</b>	108	Proctor	One per 1,250,000 yd <sup>3</sup>	Split samples with project	Compaction audits required
	104	Specific Gravity	One per 1,250,000 yd <sup>3</sup>	Split samples with project	
	102 or 103	Density	One per 50,000 yd <sup>3</sup>		Visual audit of testing procedures
<b>Select Borrow</b>	108	Proctor	One per 1,250,000 yd <sup>3</sup>	Split samples with project	Compaction audits required
	104	Specific Gravity	One per 1,250,000 yd <sup>3</sup>	Split samples with project	
	102 or 103	Density	One per 50,000 yd <sup>3</sup>		Visual audit of testing procedures
	206	Sieve Analysis	One per 50,000 yd <sup>3</sup>	Split samples with project	2-way splits required
<b>Backfill</b>	108	Proctor	One per 250,000 yd <sup>3</sup>	Split samples with project	Compaction audits required
	104	Specific Gravity	One per 250,000 yd <sup>3</sup>	Split Samples with project	
	102 or 103	Density	One per 10,000 yd <sup>3</sup>		Visual audit of testing procedures
	206	Sieve Analysis	One per 10,000 yd <sup>3</sup>	Split samples with project	2-way splits required
<b>Granular Backfill and MSE Backfill</b>	108	Proctor	One per 250,000 yd <sup>3</sup>	Split samples with project	Compaction audits required
	104	Specific Gravity	One per 250,000 yd <sup>3</sup>	Split samples with project	
	102 or 103	Density	One per 10,000 yd <sup>3</sup>		Visual audit of testing procedures
	206	Sieve Analysis	One per 10,000 yd <sup>3</sup>	Split samples with project	2-way splits required
	210/211/212	Atterberg Limits	One per 10,000 yd <sup>3</sup>	Split samples with project	2-way splits required
<b>Slurry Backfill</b>	206	Sieve Analysis	One per 10,000 yd <sup>3</sup>	Split samples with project	2-way splits required
	431 or 432	Air Content by Volumetric or Pressure	One per 2,000 yd <sup>3</sup>	Same location as project control samples	Side by side audit

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<b>Types 1, 2 &amp; 3 Base (For Type 3 See Special Provisions)</b>	108	Proctor	One per 500,000 tons	Split samples with project	Compaction audits required
	104	Specific Gravity	One per 500,000 tons	Split samples with project	
	102 or 103	Density	One per 20,000 tons		Visual audit of testing procedures
	206	Sieve Analysis	One per 20,000 tons		2-way splits required
	210/211/212	Atterberg Limits	One per 20,000 tons	Split samples with project	2-way splits required
	230	Fractured Face	One per 20,000 tons		2-way splits required
<b>Aggregate for Portland Cement Treated Base</b>	206	Sieve Analysis	One per 10,000 tons	Road mixed: From processed material, prior to adding cement Plantmixed: From conveyors, prior to adding cement	2-way splits required
	227	Sand Equivalent	One per 10,000 tons		2-way splits required
<b>Cement Treated Base (Roadmix or Plantmix Method)</b>	108	Proctor	One per 500,000 tons	Split samples with project	Compaction audits required
	104	Specific Gravity	One per 500,000 tons	Split samples with project	
	102 or 103	Density	One per 20,000 tons		Visual audit of testing procedures
<b>Pulverized Base and Surface (Roadbed Modification)</b>	108	Proctor	One per 1,750,000 yd <sup>2</sup>	Split samples with project	Compaction audits required
	104	Specific Gravity	One per 1,750,000 yd <sup>2</sup>	Split samples with project	
	102 or 103	Density	One per 70,000 yd <sup>2</sup>		Visual audit of testing procedures
	206	Sieve Analysis	One per 70,000 yd <sup>2</sup>	Split samples with project	2-way splits required

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<b>Shouldering Material</b>	206	Sieve Analysis	One per 20,000 tons	Split samples with project	2-way splits required
	210/211/212	Atterberg Limits	One per 20,000 tons	Split samples with project	2-way splits required
<b>Aggregate for Plantmix Bituminous Base, Surface, Open-Graded and Permeable Base</b>	210/211/212	Atterberg Limits	One per project per stockpile		2-way splits required P.I. tests to be performed prior to marination
	230	Fractured Face	One per project per stockpile		2-way splits required
	111	Absorption of Coarse Aggregate	One per project per stockpile		2-way splits required
<b>Permeable Base (Asphalt Treated)</b>	206	Sieve Analysis	One per 20,000 tons	Split samples with project	2-way split required
	761	Bitumen Ratio	One per 20,000 tons	Split samples with project	
<b>Plantmix Bituminous Base and Surface</b>	206	Sieve Analysis	One per 10,000 tons	Split samples with project	2-way split required. First audit and split to be conducted on the first day of operations
	325	Theoretical Maximum Specific Gravity (Rice)	One per 10,000 tons		
	761	Bitumen Ratio	One per 10,000 tons		2-way splits required. First audit and split to be conducted on the first day of operations
	335 or 750	Density	One per 100,000 yd <sup>2</sup>		Visual audit of testing procedure. First audit to be conducted on the first day of paving operations.
<b>Plantmix Bituminous Open-Graded Surface</b>	206	Sieve Analysis	One per 10,000 tons	Split samples with project	2-way split required. First audit and split to be conducted on the first day of operations
	325	Theoretical Maximum Specific Gravity (RICE)	One per 10,000 tons		

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<b>Plantmix Bituminous Open-Graded Surface Cont.</b>	761	Bitumen Ratio	One per 10,000 tons	Split samples with project	2-way split required. First audit and split to be conducted on the first day of operations
<b>Cold Recycle</b>	750	Density	One per 70,000 yd <sup>2</sup>		Visual audit of testing procedures
	759	Field Viscosity	One per 20,000 tons		Visual audit of <b>Saybolt Furol</b> testing procedures
<b>Surface Treatment Screenings (Chips)</b>	206	Sieve Analysis	One per 20,000 tons	Split samples with project	2-way splits required
	228 (CA T227)	Cleanness Value	One per 20,000 tons	Split samples with project	2-way splits required
	230	Fractured Face	One per 20,000 tons	Split samples with project	2-way splits required
	759	Field Viscosity	One per 20,000 tons		Visual audit of <b>Saybolt Furol</b> testing procedures
<b>Micro-Surfacing</b>	206	Sieve Analysis	One per 20,000 tons	Split sample with project	2-way splits required
	210/211/212	Atterberg Limits	One per 20,000 tons	Split sample with project	2-way splits required
	227	Sand Equivalent	One per 20,000 tons	Split sample with project	2-way splits required
	230	Fractured Face	One per 20,000 tons	Split sample with project	2-way splits required
<b>Concrete Aggregates</b>	206	Sieve Analysis	Pavement: One per 70,000 yd <sup>2</sup> Structure: One per 3,000 yd <sup>3</sup>	Split samples with project	2-way split required
	227	Sand Equivalent	Pavement: One per 70,000 yd <sup>2</sup> Structure: One per 3,000 yd <sup>3</sup>	Split samples with project	2-way split required
	228 (CA T227)	Cleanness Value	Pavement: One per 70,000 yd <sup>2</sup> Structure: One per 3,000 yd <sup>3</sup>	Split samples with project	2-way split required

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MATERIAL OR PRODUCT	NEV. TEST NO.	TEST	SAMPLE FREQUENCY	LOCATION OR TIME OF SAMPLING	REMARKS
<b>Portland Cement Concrete for Structures</b>	431 or 432	Air Content by Volumetric or Pressure	One per 1,000 yd <sup>3</sup>	Same location as project control samples	Side by side audit
	438	Slump	One per 1,000 yd <sup>3</sup>	Same location as project control samples	Side by side audit
	435	Unit Weight	One per 1,000 yd <sup>3</sup>	Same location as project control samples	Side by side audit
<b>Portland Cement Concrete for Pavement</b>	431 or 432	Air Content by Volumetric or Pressure	One per 7,500 yd <sup>3</sup>	Same location as project control samples	Side by side audit First audit on first day of operations
	438	Slump	One per 7,500 yd <sup>3</sup>	Same location as project control samples	Side by side audit First audit on first day of operations
	435	Unit Weight	One per 7,500 yd <sup>3</sup>	Same location as project control samples	Side by side audit First audit on first day of operations
<b>Self Consolidating Concrete (SCC)</b>	416	Air Content and Unit Weight	One per 1,000 yd <sup>3</sup>	Same location as project control samples	Side by side audit First audit on first day of operations
	417	Slump Flow / VSI (Visual Stability Index)	One per 1,000 yd <sup>3</sup>		Visual audit of testing procedures First audit on first day of operations
	418	J-Ring / Slump Cone	One per 1,000 yd <sup>3</sup>		Visual Audit of testing procedures First audit on first day of operations

**Note 1:** When utilizing coldmillings, follow the frequency for which the material is being used for, and refer to the Contract Special Provisions for additional specifications.

**Note 2:** Visual audits (040-079) may be done in lieu of 2-way splits or side by side audits at a frequency not to exceed 10% of minimum required IA frequencies. (Example: minimum of 5 audits required per contract x 10% = .5 = 1 visual audit can be completed for this material on this contract.)