

MINIMUM REQUIRED SAMPLES AND TESTS: INDEPENDENT ASSURANCE (IA)

JANUARY 2018

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

| MATERIAL OR PRODUCT | TEST NO. * | TEST | SAMPLE FREQUENCY** | LOCATION OR TIME OF SAMPLING | REMARKS *** |
|---|-------------|------------------|-----------------------------------|------------------------------|------------------------------------|
| Borrow / Embankment | 108 | Proctor | One per 1,250,000 yd ³ | Split samples with project | Compaction audits required |
| | 104 | Specific Gravity | One per 1,250,000 yd ³ | Split samples with project | |
| | 102 or 103 | Density | One per 50,000 yd ³ | | Visual audit of testing procedures |
| Select Borrow | 108 | Proctor | One per 1,250,000 yd ³ | Split samples with project | Compaction audits required |
| | 104 | Specific Gravity | One per 1,250,000 yd ³ | Split samples with project | |
| | 102 or 103 | Density | One per 50,000 yd ³ | | Visual audit of testing procedures |
| | 206 | Sieve Analysis | One per 50,000 yd ³ | Split samples with project | 2-way splits required |
| Backfill | 108 | Proctor | One per 250,000 yd ³ | Split samples with project | Compaction audits required |
| | 104 | Specific Gravity | One per 250,000 yd ³ | Split Samples with project | |
| | 102 or 103 | Density | One per 10,000 yd ³ | | Visual audit of testing procedures |
| | 206 | Sieve Analysis | One per 10,000 yd ³ | Split samples with project | 2-way splits required |
| Granular Backfill and MSE Backfill | 108 | Proctor | One per 250,000 yd ³ | Split samples with project | Compaction audits required |
| | 104 | Specific Gravity | One per 250,000 yd ³ | Split samples with project | |
| | 102 or 103 | Density | One per 10,000 yd ³ | | Visual audit of testing procedures |
| | 206 | Sieve Analysis | One per 10,000 yd ³ | Split samples with project | 2-way splits required |
| | 210/211/212 | LL/PL/PI | One per 10,000 yd ³ | Split samples with project | 2-way splits required |

* -- Assumes a Nevada test method (Nev. T) unless otherwise noted.

** -- Discuss any changes from the frequencies shown with the Quality Assurance Engineer.

*** -- Visual audits (040-079) may be done in lieu of 2-way splits or side by side audits at a frequency not to exceed 50% of minimum required IA frequencies. (Example: minimum of 5 audits required per contract x 50% = 2.5 = 2 visual audits can be completed for this material on this contract.)

| MATERIAL OR PRODUCT | TEST NO. * | TEST | SAMPLE FREQUENCY** | LOCATION OR TIME OF SAMPLING | REMARKS *** |
|--|-------------|---------------------------------------|-----------------------------------|---|------------------------------------|
| Slurry Backfill | 206 | Sieve Analysis | One per 10,000 yd ³ | Split samples with project | 2-way splits required |
| | 431 or 432 | Air Content by Volumetric or Pressure | One per 2,000 yd ³ | Same location as project control samples | Side by side audit |
| Types 1, 2 & 3 Base (For Type 3 See Special Provisions) | 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 | LL/PL/PI | 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 |
| Aggregate for Portland Cement Treated Base | 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 |
| Cement Treated Base (Roadmix or Plantmix Method) | 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 |
| Pulverized Base and Surface (Roadbed Modification) | 108 | Proctor | One per 1,750,000 yd ² | Split samples with project | Compaction audits required |
| | 104 | Specific Gravity | One per 1,750,000 yd ² | Split samples with project | |
| | 102 or 103 | Density | One per 70,000 yd ² | | Visual audit of testing procedures |
| | 206 | Sieve Analysis | One per 70,000 yd ² | Split samples with project | 2-way splits required |

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|---|-------------|---|---------------------------------|------------------------------|---|
| Shouldering Material | 206 | Sieve Analysis | One per 20,000 tons | Split samples with project | 2-way splits required |
| | 210/211/212 | LL/PL/PI | One per 20,000 tons | Split samples with project | 2-way splits required |
| Aggregate for Plantmix Bituminous Base, Surface, Open-Graded and Permeable Base | 210/211/212 | LL/PL/PI | 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 |
| Permeable Base (Asphalt Treated) | 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 | |
| Plantmix Bituminous Base and Surface | 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 ² | | Visual audit of testing procedure. First audit to be conducted on the first day of paving operations. |
| Plantmix Bituminous Open-Graded Surface | 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 |
| | 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 |
| Cold Recycle | 750 | Density | One per 70,000 yd ² | | Visual audit of testing procedures |
| | 759 | Field Viscosity | One per 20,000 tons | | Visual audit of Saybolt Furol testing procedures |

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|---|-------------|---------------------------------------|--|--|--|
| Surface Treatment Screenings (Chips) | 206 | Sieve Analysis | One per 20,000 tons | Split samples with project | 2-way splits required |
| | 228 | 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 Saybolt Furol testing procedures |
| Micro-Surfacing | 206 | Sieve Analysis | One per 20,000 tons | Split sample with project | 2-way splits required |
| | 210/211/212 | LL/PL/PI | 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 |
| Concrete Aggregates | 206 | Sieve Analysis | Pavement: One per 70,000 yd ² Structure: One per 3,000 yd ³ | Split samples with project | 2-way split required |
| | 227 | Sand Equivalent | Pavement: One per 70,000 yd ² Structure: One per 3,000 yd ³ | Split samples with project | 2-way split required |
| | 228 | Cleanness Value | Pavement: One per 70,000 yd ² Structure: One per 3,000 yd ³ | Split samples with project | 2-way split required |
| Portland Cement Concrete for Structures | 431 or 432 | Air Content by Volumetric or Pressure | One per 1,000 yd ³ | Same location as project control samples | Side by side audit |
| | 438 | Slump | One per 1,000 yd ³ | Same location as project control samples | Side by side audit |
| | 435 | Unit Weight | One per 1,000 yd ³ | Same location as project control samples | Side by side audit |

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|---------------------------------------|------------|---|-------------------------------|--|--|
| Portland Cement Concrete for Pavement | 431 or 432 | Air Content by Volumetric or Pressure | One per 7,500 yd ³ | Same location as project control samples | Side by side audit First audit on first day of operations |
| | 438 | Slump | One per 7,500 yd ³ | 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 ³ | Same location as project control samples | Side by side audit First audit on first day of operations |
| Self-Consolidating Concrete (SCC) | 416 | Air Content and Unit Weight | One per 1,000 yd ³ | 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 ³ | | Visual audit of testing procedures First audit on first day of operations |
| | 418 | J-Ring / Slump Cone | One per 1,000 yd ³ | | Visual Audit of testing procedures First audit on first day of operations |

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