SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 200							
COMPACTION OF EARTHWORK Sec. 204, 205 & 208							
Compaction	Field Density Tests ($0.1\ lb/ft^3$ [$1\ kg/m^3$] or 0.1% of optimum density)	KT-13 or KT-51	ACI			a	4 per day per lift when visual determination is not possible.
Backfill	Field Density Tests ($0.1\ lb/ft^3$ [$1\ kg/m^3$] or 0.1% of optimum density)	KT-13 or KT-51	ACI				1 per structure minimum (each side).
Moisture Content	Moisture Tests (0.1 g or 0.01% of mass)	KT-13 or KT-51	ACI			a	4 per day per lift when visual determination is not possible.
Backfill	Moisture Tests (0.1 g or 0.01% of mass)	KT-13 or KT-51	ACI				1 per structure minimum (each side).
Compaction Types AAA, AA, or A	Field Density Tests ($0.1\ lb/ft^3$ [$1\ kg/m^3$] or 0.1% of optimum density)	KT-13 or KT-51	ACI			a b	1000 ft (300 m).
Moisture Content Requirements for MR-0, MR-3, MR-3-3 or MR-5	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			e	
DIVISION 300 (See also Division 1100 regarding aggregates)							
SUBGRADE MODIFICATION Sec. 301, 1110 & 1112							
Aggregates	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	500 TONS (500 Mg) or 500 yd^3 (500 m^3).
	Material Passing the No. 200 (75 µm) Sieve by the Wash Method (0.1% of mass)	KT-3	ACI			a	500 TONS (500 Mg) or 500 yd^3 (500 m^3).
	Clay Lumps and Friable Particles in Aggregate (0.1 g or 0.01% of mass)	KT-7				e	

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CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 300 (continued)							
SUBGRADE MODIFICATION (continued) Sec. 301, 1110 & 1112							
Aggregates (continued)	Shale or Shale-Like Materials in Aggregate (0.1 g or 0.01% of mass)	KT-8				e	
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	ACI			b c	500 TONS (500 Mg) or 500 yd^3 (500 m^3).
	Sticks in Aggregate (0.01% of mass)	KT-35				e	
CALCIUM CHLORIDE Sec. 301, 305 & 1702			VER		Sample first container received on project.		
LIME TREATED SUBGRADE Sec. 302, 2000 & 2400	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			e	
	Sieve Analysis for Acceptance of Lime or Cement Treated Subgrade (1% of mass)	KT-42	ACI			e	
	Percent Solids of Lime Slurry (WPG 0.01 g, Slurry Solids 0.1%)	KT-62					See Appendix B.
HYDRATED LIME AND PEBBLE QUICKLIME Sec. 302, 1103, 2002 & 2003		KT-29	VER	a	1 sample for each 10 loads.		See Standard Specifications.
CEMENT OR FLY ASH TREATED SUBGRADE Sec. 303, 2000, & 2400	Sieve Analysis for Acceptance of Lime or Cement Treated Subgrade (1% of mass)	KT-42	ACI			e	
FLY ASH FOR STABILIZATION AND COLD RECYCLE Sec. 303, 604, & 2005		KT-29	VER	a	2 samples per month per source per district.		See Standard Specifications.
CRUSHED STONE SUBGRADE Sec. 304, 1100, & 2400	Field Density Tests (0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density)	KT-41	ACI			e	
	Relative Density	KT-69					Submit samples to MRC as required.

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CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 300 (continued)							
SUBGRADE MODIFICATION Sec. 301, 1110 & 1112							
CRUSHED STONE FOR BACKFILL Sec. 304, 1107, & 1115	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	500 TONS (500 Mg).
AGGREGATE BASE COURSE Sec. 305 and 1104							
Individual Aggregates	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	VER	e			
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	VER	e			
Binder Material	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	VER	e			
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	VER	e			
Combined Aggregate	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	1000 ft (300 m) each lift. If total aggregate then each 500 TONS (500 Mg).
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	ACI			a c	1000 ft (300 m) each lift. If total aggregate then each 500 TONS (500 Mg).
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			e	
Completed Base	Field Density Tests (0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density)	KT-13 or KT-41	ACI			a	1000 ft (300 m).

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NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 300 (continued)							
AGGREGATE SHOULDERS Aggregate, Non-HMA Sec. 305 and 1113							
Individual Aggregates	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	VER	e			
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	VER	e			
Binder Material	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	VER	e			
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	VER	e			
Combined Aggregate	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	1000 ft (300 m) each lift. If total aggregate then each 500 TONS (500 Mg).
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	ACI			a c	1000 ft (300 m) each lift. If total aggregate then each 500 TONS (500 Mg).
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			e	
Completed Shoulder	Field Density Tests ($0.1\ lb/ft^3$ [$1\ kg/m^3$] or 0.1% of optimum density)	KT-13 or KT-41	ACI			b	1000 ft (300 m) or 750 TONS (750 Mg).
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11 or KT-41	ACI			b	
GRANULAR BASE Sec. 307 and 1106							
Individual Aggregates	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	VER	e			
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	VER	e			

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NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 300 (continued)							
GRANULAR BASE (continued) Sec. 307 and 1106							
Binder Material	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	VER	e			
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	VER	e			
Pulverization	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	VER			e	Minimum 1 per day.
Combined Aggregate	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	1000 ft (300 m), 500 TONS (500 Mg) or 500 yd^3 (500 m^3).
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	ACI			a	1000 ft (300 m), 500 TONS (500 Mg) or 500 yd^3 (500 m^3).
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			e	
Completed Work	Field Density Tests (0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density)	KT-13 or KT-41	ACI			a	1000 ft (300 m).
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			a	1000 ft (300 m).
DIVISION 400 (See also Division 1100 regarding aggregates)							
PORTLAND CEMENT CONCRETE STRUCTURES AND MISCELLANEOUS CONSTRUCTION Sec. 401 and 717	Slump (0.25 in [5 mm])	KT-21	ACC			h	As needed to control product, min. 1 set of tests every 50 yd^3 (50 m^3). Select initial sample from first 2 or 3 loads and then on a random basis or as conditions indicate.

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 400 (continued)							
PORTLAND CEMENT CONCRETE STRUCTURES AND MISCELLANEOUS CONSTRUCTION (continued) Sec. 401 and 717	Temperature (1 °F [0.5 °C])	KT-17	ACC				
	Mass (0.1 lb [50 g])	KT-20	ACC				
	Air Content (0.25%)	KT-18, KT-19, or KT-20	ACC				
	Moisture in Aggregate (0.1 g or 0.01% of mass)	KT-24	VER				
	Density of Fresh Concrete ($0.1\ lb/ft^3$ [$1\ kg/m^3$])	KT-36	ACI			a b	1 per 150 yd^2 (150 m^2) for thin overlays and bridge deck wearing surfaces.
	Permeability (0.01%, KT-73; 10 coulomb, AASHTO T 277)	KT-73 or AASHTO T 277	VER		1 per mix design per project.		Acceptance of contractor's mix design by KDOT.
	Cylinders (1 lbf [1 N], 0.1 in [1 mm], 1 psi [0.01 MPa])	KT-22 and KT-76	VER	k	Bridge Deck Only (all classes except thin overlay) Min. of 1 set of 3 per pour or major mix design change. Thin Overlays and Bridge Deck Surfacing Min. of 1 set of 3 per 150 yd^2 (150 m^2) per placement or major mix design change.		

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 400 (continued)							
PORTLAND CEMENT CONCRETE STRUCTURES AND MISCELLANEOUS CONSTRUCTION (continued) Sec. 401 and 717	Cylinders (continued) (1 lbf [1 N], 0.1 in [1 mm], 1 psi [0.01 MPa])	KT-22 and KT-76	VER	k	Drilled Shafts 1 set of 3 per shaft minimum and 1 of 3 set per 100 yd^3 (100 m^3). Other Construction (all classes) Min. of 1 set of 3 per ~~project~~ pour or major mix design change and one set of 3 per 100 yd^3 (100 m^3). Waive the 1 of 3 set minimum for pours of less than 20 yd^3 (20 m^3) that are non-critical elements. (This includes all structural concrete not classified as bridge deck wearing surface - i.e. culverts, wash checks, ditch lining, bridge substructure, hubguards, handrails, etc.)		
LOW-CRACKING HIGH-PERFORMANCE CONCRETE FOR STRUCTURES Special Provision 07-04003	Slump (0.25 in [5 mm])	KT-21	ACC				For each placement: 1 per load, for 1st 3 loads, then 1 per 3 loads thereafter.
	Temperature (1 °F [0.5 °C])	KT-17	ACC				1 per load, measured at the point of discharge, and 1 from each slump sample.

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NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 400 (continued)							
LOW-CRACKING HIGH-PERFORMANCE CONCRETE FOR STRUCTURES (continued) Special Provision 07-04003	Mass (0.1 lb [50 g])	KT-20	ACC				1 per every 6 loads.
	Air Content (0.25%)	KT-18 or KT-19	ACC				For each placement: 1 per load, for 1st 3 loads, then 1 per 6 loads thereafter.
	Cylinders (1 lbf [1 N], 0.1 in [1 mm], 1 psi [0.01 MPa])	KT-22 and KT-76	VER		1 set (2 groups of 5 cylinders) per pour or major mix design change, sampled from at least 2 loads evenly spaced throughout the pour. Minimum of 1 set per 100 yd^3 (100 m^3). Include in each group 3 cylinders cured as per KT-22 and 2 cylinders field cured as follows: Store the field cured cylinders on or adjacent to the structure. Protect the deck concrete and cylinders from the elements in as near a like manner as possible.		
	Density of Fresh Concrete (0.1 lb/ft3 [1 kg/m3])	KT-36	ACI			a b	1 per 100 yd^3 (100 m^3) for thin overlays and bridge deck wearing surfaces.

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NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 500 (See also Division 1100 regarding aggregates)							
PORTLAND CEMENT CONCRETE PAVEMENT Sec. 502 and 503	Mass (0.1 lb [50 g])	KT-20	ACC				**Mass, temperature, slump:** As often as needed to control product. Min. of 1 set of tests per each half day and/or per 4000 yd^2 (4000 m^2). **Air Content**: Refer to SS 2007 401.10 e. For all mainline paving, test the concrete at the beginning of the day's operation and approximately every 2 hours thereafter for air content. For all other slipformed pavement, test for air content at the beginning of a day's operation and approximately every 4 hours thereafter. Test hand placements for air content at least once daily.
	Temperature (1 °F [0.5 °C])	KT-17	ACC				
	Slump (0.25 in [5 mm])	KT-21	ACC				
	Air Content (0.25%)	KT-18, KT-19, or KT-20	ACC		Determine the air loss due to paving operations once in the AM and once in the PM. Determine the difference between the air content from concrete sampled before the paver, and concrete sampled behind the paver.		
	Beams (1 psi [1 kPa])	KT-22 & KT-23	VER	a	1 set of 3 on initial pour. 1 set of 3 per week and/or major mix design change.		1 set of 3 as required for opening to traffic. See SS 502.3i.(3)

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CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 500 (continued)							
PORTLAND CEMENT CONCRETE PAVEMENT (continued) Sec. 502 and 503	Profilograph	KT-46	ACI	e		b	Testing by contractor. Results reviewed by KDOT.
	Moisture in Aggregate (0.1 g or 0.01% of mass)	KT-24	VER	a	Minimum of 1 in AM and 1 in PM during concrete mixing operations.		
	Thickness - Cored by District or Contractor (0.1 in [1 mm])	KT-49	NA				See SS 2007 section 502.3m. Submit cores to MRC.
	Density of Fresh Concrete ($0.1\ lb/ft^3$ [$1\ kg/m^3$])	KT-38	ACI			a b	Initially, 1 complete transverse profile. Thereafter, 5 per day.
	Air Void Analyzer (0.0001 in [0.001 mm])	KT-71					Prequalification of mix required as per SS 2007 sec. 401.10. 1 test at the start of paving and 1 test during the second week of production. Thereafter, at the discretion of the Engineer.
	Permeability (0.01%, KT-73; 10 coulomb, AASHTO T 277)	KT-73 or AASHTO T 277	VER		1 per mix design per project.		Acceptance of contractor's mix design by KDOT.
DIVISION 600 (See also Division 1100 regarding aggregates)							
HMA (Plant Mix) Sec. 603, 604, 611, 614, & 1103							
Individual Aggregates	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACI VER	e		b h i	1 per lot.

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CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 600 (continued)							
HMA (Plant Mix) (continued) Sec. 603, 604, 611, 614, & 1103							
Individual Aggregates (continued)	Clay Lumps and Friable Particles in Aggregate (0.1 g or 0.01% of mass)	KT-7		e			
	Shale or Shale-Like Materials in Aggregate (0.1 g or 0.01% of mass)	KT-8		e			
	Percent Crushed Particles in Crushed Gravel (0.1%)	KT-31	ACI	b h	500 TONS (500 Mg).		
	Sticks in Aggregate (0.01% of mass)	KT-35		e			
	Uncompacted Void Content of Fine Aggregate (0.1%)	KT-50	VER	e			
Mineral Filler Supplement	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	250 TONS (250 Mg).
	Plasticity Tests (0.01 g or 0.1% of mass)	KT-10	ACI VER			c h	250 TONS (250 Mg).
Combined Aggregate	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACI				1 per sublot.
	Sand Equivalent Test (1%)	KT-55	ACI VER			h	1 per sublot. (District tested)
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	VER	a	Minimum of 1 per day.		

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DIVISION 600 (continued)							
HMA (Plant Mix) (continued) Sec. 603, 604, 611, 614, & 1103							
HMA Mixtures (Field Lab)	Density ($0.1\ lb/ft^3$ [$1\ kg/m^3$] or 0.1% of optimum density)	KT-14	VER	a	Minimum of 1 set per day.		
	Voids (0.01%)						
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			a	Minimum of 1 per day.
Asphalt Binder	Binder Sampling	KT-26	VER	e b	1 sample per 3 loads.		1 per project.
HMA Mixtures (District Lab)	Density ($0.1\ lb/ft^3$ [$1\ kg/m^3$] or 0.1% of optimum density)	KT-14	VER	a	Minimum of 1 set per project. (District molded)		
	Voids (0.01%)						
	Stability (1 lbf [1 N])						
	Flow (0.01 in [0.25 mm])						
	Gradation (1%, 0.1% for the No. 200 [75 µm] sieve, of mass)	KT-34					
	Asphalt Content (0.1 g or 0.01%)	KT-57					
BM-Mixes (Field Lab)	Theoretical Maximum Specific Gravity of Asphalt Paving Mixtures (G_{mm} = 0.001)	KT-39	VER		1 per lot with a minimum of 1 per day.		
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			a	Minimum of 1 per day.

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CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 600 (continued)							
HMA (Plant Mix) (continued) Sec. 603, 604, 611, 614, & 1103							
BM-Mixes (District Lab)	Air Voids (V_a = 0.01%; G_{mb} = 0.001)	KT-15 and KT-58	VER	j	Minimum of 1 set per project. (District molded)		
	Theoretical Maximum Specific Gravity of Asphalt Paving Mixtures (G_{mm} = 0.001)	KT-39					
	Gradation (1%, 0.1% for the No. 200 [75 µm] sieve, of mass)	KT-34					
	Asphalt Content (0.1 g or 0.01%)	KT-57					
Federal Aid Projects (Field or District Labs)	Asphalt Content (0.1 g or 0.01%)	KT-57	VER		Minimum of 1 in AM and 1 in PM, or 1 per 1000 TONS (1000 Mg).		
Completed Road Work <u>Field Density Tests</u> (Use Cores, Nuclear Density, or the Optimum Rolling Procedure method on all HMA roadway or shoulder construction)	Field Density - Cores (G_{mb} = 0.001; 0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density) Note: If specified [plan] lift thickness is 1.5" (40 mm) or less, none required.	KT-15	ACI			a b	<u>Shoulders</u> 1 set per shoulder per mile (1.5 km) per lift. <u>Surf. & Base Courses</u> 1 set per lane per mile (1.5 km) per lift. Min. of 1 per day

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DIVISION 600 (continued)							
HMA (Plant Mix) (continued) Sec. 603, 604, 611, 614, & 1103							
Completed Road Work (continued) <u>Field Density Tests</u> (Use Cores, Nuclear Density, or the Optimum Rolling Procedure method on all HMA roadway or shoulder construction)	Field Density - Nuclear Density (0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density) Note: If specified [plan] lift thickness is 1.5" (40 mm) or less, none required.	KT-32	ACI			a b	<u>Shoulders</u> 3 locations per shoulder per mile (1.5 km) per lift. <u>Surf. & Base Courses</u> 3 locations per lane per mile (1.5 km) per lift. Min. of 1 per day
	Field Density - Optimum Rolling Procedure (0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density) Note: If specified [plan] lift thickness is 1.5" (40 mm) or less.	SS 2007 602.4e.(6)	ACI			a b	1 in AM and 1 in PM.
	Profilograph	KT-46	ACI	e		b	Testing by contractor. Results reviewed by KDOT.
Commercial Grade	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2					1 test for each 500 ton lot or fraction thereof. Also see SS 2007 section 611.2d.
SURFACE RECYCLE Section 605	Asphalt Rejuvenating Agent	KT-26	VER		See section 5.7.1.5.2. of this manual.		
	Depth of Recycling (0.01 ft [5 mm])	KT-47	ACI			a	1 per hour of operation.

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DIVISION 600 (continued)							
SURFACE RECYCLE (continued) Section 605 Field Density Tests (Use Cores, Nuclear Density Gauge, or the Optimum Rolling Procedure method on all HMA roadway or shoulder construction.)	Field Density - Cores (G_{mb} = 0.001; 0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density) Note: If specified [plan] lift thickness is 1.5" (40 mm) or less, none required.	KT-15	ACI			a	1 set per lane per mile (1.5 km) per lift. Minimum of 1 per day.
	Field Density - Nuclear Density (0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density) Note: If specified [plan] lift thickness is 1.5" (40 mm) or less, none required.	KT-32	ACI			a	3 locations per lane per mile (1.5 km) per lift. Minimum of 1 per day.
	Field Density - Optimum Rolling Procedure (0.1 lb/ft^3 [1 kg/m^3] or 0.1% of optimum density) Note: If specified [plan] lift thickness is 1.5" (40 mm) or less.	SS 2007 602.4 e. (6)	ACI			a	1 in AM and 1 in PM.
COVER MATERIAL FOR ASPHALT SEAL Sec. 608, 609, 610, & 1108	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	250 TONS (250 Mg) or 250 yd^3 (250 m^3).
	Material Passing the No. 200 (75 µm) Sieve by the Wash Method (0.1% of mass)	KT-3	ACI			a	250 TONS (250 Mg) or 250 yd^3 (250 m^3).
	Clay Lumps and Friable Particles in Aggregate (0.1 g or 0.01% of mass)	KT-7				e	
	Shale or Shale-Like Materials in Aggregate (0.1 g or 0.01% of mass)	KT-8				e	

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 600 (continued)							
COVER MATERIAL FOR ASPHALT SEAL (continued) Sec. 608, 609, 610, & 1108	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI			e	
	Sticks in Aggregate (0.01% of mass)	KT-35				e	
DIVISION 700 (See also Division 1100 regarding aggregates)							
REINFORCING STEEL BARS Sec. 711, 1601 & 1602			VER		1 per month per plant.		
PAINT Sec. 712, 1800		KT-28	VER		1 per source per project.		See Standard Specifications.
POST-TENSIONING (Haunched Slab Bridges) Sec. 716	Cylinders for grout (1 lbf [1 N], 0.1 in [1 mm], 1 psi [0.01 MPa])	KT-22	VER				3 cylinders per truck load.
	Infrared Spectroscopy		VER		Sample 1 quart and send to MRC.		
SLIPFORMING CONCRETE BARRIER FOR BRIDGES Sec. 720							
Combined Aggregate	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACI				1 per bridge.
Concrete	Air Content (0.25%)	KT-19	ACC				As needed to control product, minimum 1 set of tests every 50 yd^3 (50 m^3).
	Slump (0.25 in [5 mm])	KT-21	ACC				As needed to control product.

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 700 (continued)							
MULTI-LAYER POLYMER CONCRETE OVERLAY Sec. 729 and 1705							
Polymer Binder	Infrared Spectroscopy		VER		Sample 1/2 pint of each lot of each component and send to MRC 1 week prior to placement.		
Aggregate	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI				
Prepared Bridge Deck Surface	Moisture in Deck	ASTM D 4263					Prior to application of overlay.
Overlayed Bridge Deck	Surface Preparation and Adhesion (10 lbf [10 N] or 10 psi [0.1 MPa])	KT-70					Test by contractor, KDOT to witness. Once every span or every 300 yd^2 (300 m^2) of prepared deck surface, whichever is smaller.
DIVISION 800 (See also Division 1100 regarding aggregates)							
STONE FOR RIPRAP WASH CHECKS & OTHER MISC. USES Sec. 815, 816, 829, & 1114	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	500 TONS (500 Mg) or 500 yd^3 (500 m^3). Tests to be done at production site.
UNDERDRAIN AGGREGATE Sec. 822 and 1107	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	250 TONS (250 Mg).
	Material Passing the No. 200 (75 µm) Sieve by the Wash Method (0.1% of mass)	KT-3	ACC				

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 800 (continued)							
UNDERDRAIN AGGREGATE (continued) Sec. 822 and 1107	Clay Lumps and Friable Particles in Aggregate (0.1 g or 0.01% of mass)	KT-7				e	
	Shale or Shale-Like Materials in Aggregate (0.1 g or 0.01% of mass)	KT-8				e	
	Sticks in Aggregate (0.01% of mass)	KT-35				e	
DIVISION 1100							
INDIVIDUAL AGGREGATE QUALITY (Applies to all aggregates)			OFQ VER		Aggregate quality only - One sample per source per year per district.		Prior approval required.
PAVEMENT (Class I Aggregates)			QPS		See 5.6.5.3.4.2 of this manual.		
AGGREGATE FOR CONCRETE Sec. 1102	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACI VER	e	As needed to control aggregate used in accepted stockpiles.	a	250 TONS (250 Mg).
	Material Passing the No. 200 (75 µm) Sieve by the Wash Method (0.1% of mass)	KT-3	ACI VER	e	As needed to control aggregate used in accepted stockpiles.	a	250 TONS (250 Mg).
	Unit Weight – lightweight aggregates only (0.1 lb [50 g] or 0.1% of mass)	KT-5	ACI			e	
	Clay Lumps and Friable Particles in Aggregate (0.1 g or 0.01% of mass)	KT-7				e	
	Shale or Shale-Like Materials in Aggregate (0.1 g or 0.01% of mass)	KT-8				e	
	Sticks in Aggregate (0.01% of mass)	KT-35				e	

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 1100 (continued)							
AGGREGATE FOR CONCRETE (continued) Sec. 1102	Coal	AASHTO T 113				e	
	Organic Impurities	AASHTO T 21				e	
AGGREGATE FOR STRUCTURE AND PIPE BACKFILL Sec. 204, 817, 1107	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	500 TONS (500 Mg).
	Material Passing the No. 200 (75 µm) Sieve by the Wash Method (0.1% of mass)	KT-3	ACC				
	Clay Lumps and Friable Particles in Aggregate (0.1 g or 0.01% of mass)	KT-7				e	
	Shale or Shale-Like Materials in Aggregate (0.1 g or 0.01% of mass)	KT-8				e	
	Sticks in Aggregate (0.01% of mass)	KT-35				e	
BACKFILL FOR MSE WALLS Sec. 1107	Sampling Aggregates	KT-1					Send representative samples to the MRC (Attn: Geot. Eng.) for acceptance prior to placement of material on project.
	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACI				Crushed Stone – 1000 TONS (1000 Mg). Sand/Gravel – 500 TONS (500 Mg).

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 1100 (continued)							
SURFACE OR RESURFACING AGGREGATE Sec. 1111 & 1112	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACC			a	500 TONS (500 Mg).
	Material Passing the No. 200 (75 µm) Sieve by the Wash Method (0.1% of mass)	KT-3	ACI			a	500 TONS (500 Mg).
	Clay Lumps and Friable Particles in Aggregate (0.1 g or 0.01% of mass)	KT-7				e	
	Moisture Tests (0.1 g or 0.01% of mass)	KT-11	ACI				
	Sticks in Aggregate (0.01% of mass)	KT-35				e	
DRAINABLE BASE Special Provisions	Sieve Analysis of Aggregate (1%, 0.1% for No. 200 [75 µm] sieve, of mass)	KT-2	ACI			a	Minimum of 1 in AM and 1 in PM, or 1 per 500 TONS (500 Mg).
DIVISION 1200							
PERFORMANCE GRADED ASPHALT BINDER, CUTBACK ASPHALT, EMULSIFIED ASPHALT, AND REJUVENATING AGENTS Sec. 1201, 1202, 1203, 1204, & 1205		KT-26	VER	a	See section 5.7.1.4. and 5.7.1.5.2 of this manual, and the Standard Specifications.		
DIVISION 1400							
LIQUID MEMBRANE FORMING COMPOUND Sec. 1405	Infrared Spectroscopy		VER		2 per product per year per district.		

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 1500							
MATERIALS FOR FILLING AND SEALING JOINTS IN PIPE Sec. 1505	Sampling Joint Compound Material	KT-27					Each lot.
SAND FOR BRIDGE JOINT GAP REPAIR SYSTEM	Sieve Analysis of Aggregate (1% of mass)	KT-2					Test prior to use.
DIVISION 1600							
REINFORCING STEEL BARS Sec. 1601 & 1602			VER		1 per month per plant.		
WIRE FABRIC Sec. 1603			VER		1 plant per district per year.		
DIVISION 2000							
PORTLAND CEMENT, BLENDED HYDRAULIC CEMENT, FLY ASH FOR USE IN CONCRETE Sec. 2001, 2004, & 2005		KT-29	VER		Cement: See section 5.7.9 of Part V, and the Standard Specifications. Fly Ash: Minimum of 1 semi-annual sample per source per concrete project.		See section 5.7.9 of this manual, and Standard Specifications.
DIVISION 2200							
PAVEMENT STRIPING							
Cold Plastic Sec. 2207			VER ACC		Except for symbols, 1 on each lot.		
Patterned Cold Plastic Sec. 2208			VER ACC		Except for symbols, 1 on each lot.		
High Durability Sec. 2209			VER ACC		Except for symbols, 1 on each lot.		

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CONSTRUCTION OR MATERIAL TYPE 2007 Std. Spec. (SS 2007)	TESTS REQUIRED (RECORDED TO)	TEST METHOD	CMS	CODE	VERIFICATION SAMPLES & TESTS (Note f)	CODE	ACCEPTANCE SAMPLES & TESTS
DIVISION 2200 (continued)							
PAVEMENT STRIPING (continued)							
Thermoplastic Sec. 2211	Field Sampling of Thermoplastic Pavement Marking Material	KT-30	VER ACC		1 from 1 lot per color per project. 2 for each type of bead.		
Preformed Thermoplastic Sec. 2212			VER ACC		Except for symbols, 1 on each lot.		
Sprayed Thermoplastic Sec. 2213	Field Sampling of Thermoplastic Pavement Marking Material	KT-30	VER ACC		1 from 1 lot per color per project. 2 for each type of bead.		
Epoxy Sec. 2214			VER ACC		1/2 pint per each component lot per color per project. 2 for each type of bead DO NOT MIX!		
Traffic Line Paint Sec. 2215			VER ACC		2 samples per color per project. 2 for each type of bead		

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

CODE	INSTRUCTION
a	Normal operation. Minimum frequency for exceptional conditions may be reduced by the District Materials Engineer on a project basis. Written justification shall be made to the Chief of the Bureau of Materials & Research and placed in the project documents. (Multi-Level Frequency Chart [This appendix, page 25] or other.)
b	Applicable only when specifications contain those requirements.
c	If, for a given project, no Plastic Index results of ten (10) consecutive tests are closer than 1 Plastic Index to the specifications limit, the specified testing frequency may be reduced by fifty percent (50%). When operating at a reduced testing frequency, should any two (2) consecutive Plastic Index results exceed the test limit results required for reduced testing frequency, testing shall be resumed at the original specified frequency. The original specified testing frequency shall be resumed should any one test result exceed the specification limits. Following a return to the original specified testing frequency, the reduced frequency may be resumed provided the original criteria for reduced frequency is met.
d	"Type Insp" must = "ACC" when assignment of a pay quantity is being made. "ACI" when recording test values for additional acceptance information.
e	Engineer's discretion. Frequency of tests shall be agreed upon by the Field Engineer and the District Materials Engineer. Frequency will be governed by field conditions. Written documentation of the agreed upon testing frequency shall be included in the project records.
f	Verification sampling and testing are conducted by Department personnel to monitor reliability of certified test results or certifications of specification conformity or to check adequacy of mix design.
g	For determining moisture content of a material KT-43, "Moisture Content of Asphalt Mixtures or Mineral Aggregates – Microwave Oven Method", can be used in conjunction with KT-2, KT-3, KT-4, KT-8, KT-12, KT-13, KT-14, KT-34, and KT-48.
h	Initial frequency. Frequency may be reduced on a project basis, by authority of the District Materials Engineer, upon continued satisfactory and uniform production. Authorization for reductions in testing frequency shall be documented in the project records.
i	On those mix designations which contain a natural sand requirement and/or an uncrushed minus #200 (75 µm) mineral filler requirement, individual aggregates and mineral filler supplements shall be sampled from the cold feed and tested.
j	The District Laboratory will perform additional testing, as needed, to determine the recommended asphalt content for the asphalt mix.
k	Standard 28 day compressive strength.

SAMPLING AND TESTING FREQUENCY CHART
NON QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

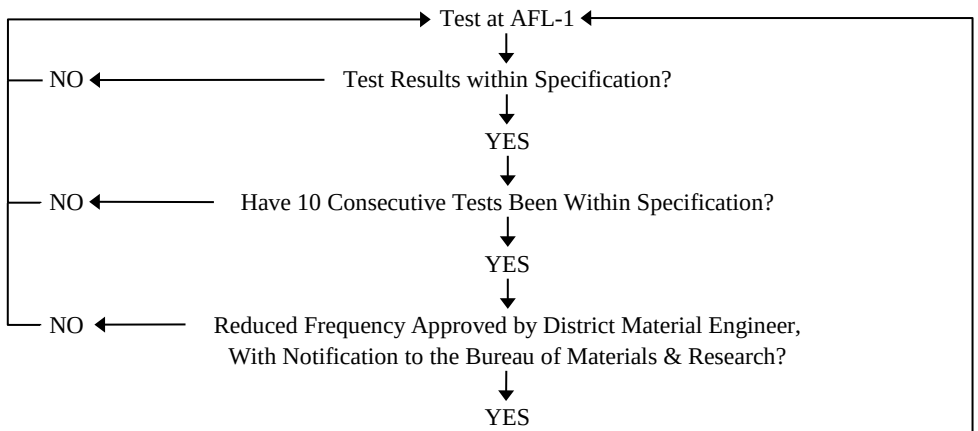
GENERAL NOTES

- All sampling and testing frequencies listed are minimums. Additional or other tests will be conducted, as required, to control the work.
- Frequencies are based on two lane roadways. For four or more lane roadway construction, double the frequencies shown per unit length.
- All aggregate acceptance tests are to be conducted at the point of usage except for Stone for Riprap, Wash Checks, and Other Miscellaneous Uses in Division 800.
- For the Construction Management System (CMS), Acceptance Sampling and Tests have been divided into two sections. Items called "ACC" will be Acceptance Tests and will have a quantity assigned. Items called "ACI" will be Acceptance Information Tests and they will normally have a quantity assigned, but not for payment. "ACC" tests make the assignment of tested materials to the contract or mix plant.
- For a better explanation of metric (SI) units, see section 5.9, "Sampling and Test Methods Forward", of this manual.

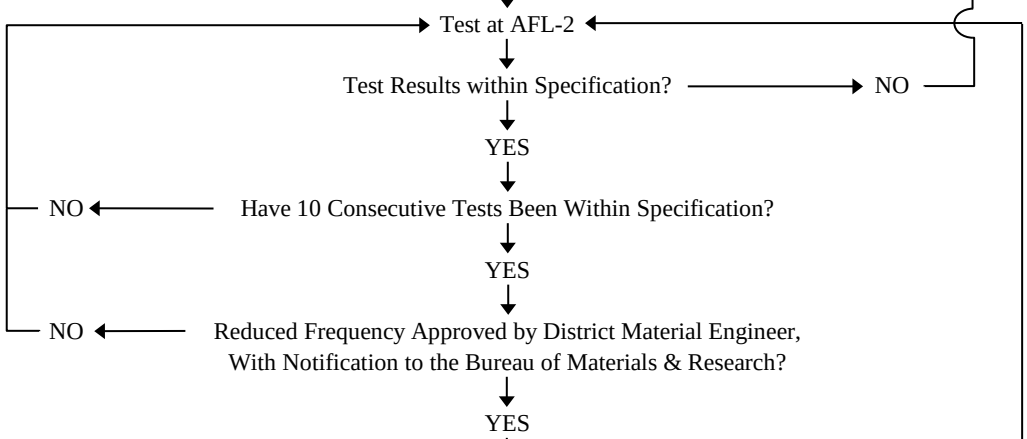
SAMPLING AND TESTING FREQUENCY CHART
<u>NON</u> QUALITY CONTROL/QUALITY ASSURANCE SPECIFICATIONS

MULTI-LEVEL SAMPLING FREQUENCY CHART

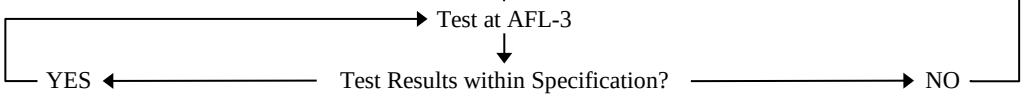
ACCEPTANCE FREQUENCY LEVEL 1 (AFL-1)



ACCEPTANCE FREQUENCY LEVEL 2 (AFL-2)



ACCEPTANCE FREQUENCY LEVEL 3 (AFL-3)



Lot size Definitions –
Acceptance Frequency Level 1 (AFL-1) – Maximum Lot Size as Specified in Sampling and Testing Frequency Chart (This appendix, pages 1 through 22).
Acceptance Frequency Level 2 (AFL-2) – Two times AFL-1.
Acceptance Frequency Level 3 (AFL-3) – Four times AFL-1.

Note: AFL-2 and AFL-3 must be approved by the Bureau of Materials & Research. See Code “a” on page 23 of this appendix.