

TABLE I

**GUIDE SCHEDULE OF SAMPLING AND TESTING
(Per Contract)
EMBANKMENTS, SUBBASES, AND BASE COURSES**

This is a guide for minimum sampling and testing. When necessary for quality control, additional sampling and testing will be required.

			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	REMARKS
EMBANKMENT	In-place Density (H)	Tex-115-E	As designated by the Engineer	Each 5,000 C.Y. (F)	Same as Project Test	Each 50,000 C.Y. or fraction thereof (B)	Tex-115-E or other approved method
UNTREATED SUBBASE AND BASE COURSES	Gradation (H)	Tex-110-E	During stockpiling oprs. from stockpile, or from windrow (1)	Each 4,000 C.Y. or 6,000 tons	Same as Project Test	One out of 10 Project Tests or fraction thereof (C)	(1) Engineer will select any one of these three locations or any combinations thereof with the provision that at least one of 10 tests will be sampled from the windrow for Gradation, Liquid Limit and Plasticity Index.
	Liquid Limit	Tex-104-E	During stockpiling oprs. from stockpile, or from windrow (1)	Each 4,000 C.Y. or 6,000 tons	Same as Project Test	One out of 20 Project Tests or fraction thereof (C)	
	Plasticity Index	Tex-106-E	During stockpiling oprs. from stockpile, or from windrow (1)	Each 4,000 C.Y. or 6,000 tons	Same as Project Test	One out of 20 Project Tests or fraction thereof (C)	
	Wet Ball Mill	Tex-116-E	During stockpiling oprs. from stockpile, or from windrow	Each 20,000 C.Y. or 25,000 tons			When a stockpile is to be sampled that has not been built in horizontal layers, sampling will be one test for each 4,500 C.Y. or 6,000 tons.
	Triaxial	Tex-117-E	During stockpiling oprs. from stockpile, or from windrow	Each 20,000 C.Y. or 25,000 tons (D)			Triaxial tests are not a field laboratory function. When a stockpile is to be sampled that was not built in horizontal layers, sampling will be one test for each 12,000 C.Y. or 16,000 tons.
	Compaction (H)	Tex-115-E	As designated by the Engineer	Each 3,000 lin. ft. per course per travel-way (A)	Same as Project Test	One out of 10 Project Tests or fraction thereof (C)	Tex-115-E or other approved method
	Thickness (H)		As designated by the Engineer	One depth per 3,000 lin. ft. per travel-way (A) (E)	Same as Project Test	One total depth per travel-way per two miles or fraction thereof (A)(C)	If payment is by the S.Y. frequency shall be as called for in the governing specification.

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			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units	
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	REMARKS	
TREATED SUBBASE AND BASE COURSES	Base Material	As shown above for untreated base (H)		As designated by the Engineer prior to the addition of a stabilizer	As shown above for untreated base	Same as Project Test	As shown above for untreated base	When central mix site or plant is used, windrow sampling may be waived.
	Lime	Compliance with Item 264 (I)	Tex-600-J	During delivery to project	TY A; 1 Per Project (I) TY B ea., 200 tons or fraction thereof TY C; 1 Per Project (I)			On projects requiring less than 50 tons, material from CSTM approved sources may be accepted on the basis of Producer's Certification without sampling.
	Cement	Compliance with the Std. Specifications & Spl. Provisions	AASHTO M 85	Railroad car, truck or cement bins	Each 2,000 bbls. for each type and brand			Each brand and each type to be sampled and tested separately. Sampling will be waived when source is certified by CSTM.
	Asphalt	Compliance with Item 300	Tex-500-C etc.	Sampled, tested and approved by CSTM				
	Fly Ash	Compliance with Dept. Matl. Spec. D9-8900	Tex-733-I	Sampled, tested and approved by CSTM				
	Complete Mixture	Pulverization	Tex-101-E Part III	Roadway; after pulverization	As necessary for control (G)			Where required to control degree of pulverization
		In-place Density (H)	Tex-115-E	As designated by the Engineer	Each 3,000 lin. ft. per course per travel-way (A)	Same as Project Test	One out of 10 Project Tests or fraction thereof (C)	Tex-115-E or other approved method
Thickness (H)			As designated by the Engineer	Each 3,000 lin. ft. per course per travel-way (A) (E)	Same as Project Test	One total depth per travel-way per two miles or fraction thereof (A)(C)	When base is measured by the square yard the frequency will be as called for in the governing specification.	

- (A) Travel-way is defined, for sampling & testing only, as total width of a travel facility that is not separated from other parallel travel facilities by a median, ditch, etc.
 (B) Independent Assurance Tests are not required for a contract quantity of less than 25,000 C.Y.
 (C) Independent Assurance Tests are not required for a contract quantity resulting in less than 6 acceptance tests.

- (D) When base material is from a source where the District has a record of satisfactory triaxial results, the frequency of testing may be reduced to one per 30,000 C.Y. or 40,000 tons. If any one test falls below the minimum value required, the frequency of testing will return to that required by this guide.
 (E) Not required where survey grade control documents compliance.
 (F) Or approximately one foot compacted depth per lift as approved and directed by the Engineer

- (G) At the beginning of the project, one test will be made for each 4,000 C.Y. or 6,000 tons until such time as the Engineer is satisfied that acceptable pulverization results are being obtained.
 (H) When a non-exempt federal-aid project test fails but the product is accepted, the reasons for acceptance should be documented on the Letter of Certification of Materials Used.
 (I) For Types A and C lime, sources not on the TxDOT Quality Monitoring Program will be sampled each 200 and 150 tons respectively.

TABLE IA

**ASPHALT STABILIZED BASE
(Plant Mix)**

This is a guide for minimum sampling and testing. When necessary for quality control, additional sampling and testing will be required.

				PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	REMARKS	
AGGREGATE	Gradation (H)	Tex-200-F	During stockpiling oprs. from stockpile, or prior to mixing	Each 4,000 C.Y. or 6,000 tons	Same as Project Test	One out of 10 Project Tests or fraction thereof (A) (D)		
	Liquid Limit	Tex-104-E	During stockpiling oprs. from stockpile, or prior to mixing	Each 4,000 C.Y. or 6,000 tons	Same as Project Test	One out of 20 Project Tests or fraction thereof (A) (D)		
	Plasticity Index	Tex-106-E	During stockpiling oprs. from stockpile, or prior to mixing	Each 4,000 C.Y. or 6,000 tons	Same as Project Test	One out of 20 Project Tests or fraction thereof (A) (D)		
	Wet Ball Mill or L. A. Abrasion	Tex-116-E or 410-A	During stockpiling oprs. from stockpile, or prior to mixing	Each 20,000 C.Y. or 25,000 tons			When L. A. Abrasion is specified, tests are not required if aggregate is on CSTM Quality Monitoring Program. When a stockpile is to be sampled that was not built in horizontal layers, sampling will be one test for each 4,500 C.Y. or 6,000 tons.	
	Sand Equivalent	Tex-203-F	Hot aggregate bins, feeder belt or stockpile	One each 10 days' production				
LIME	Compliance with Item 264 (G)	Tex-600-J	During delivery	TY A; 1 Per Project (G) TY B ea., 200 tons or fraction thereof TY C; 1 Per Project(G)			On projects requiring less than 50 tons, material from CSTM approved sources may be accepted on the basis of Producer's Certification without sampling.	

ASPHALT STABILIZED BASE (Plant Mix)

This is a guide for minimum sampling and testing. When necessary for quality control, additional sampling and testing will be required.

			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	REMARKS
ASPHALT	Compliance with Item 300	Tex-500-C etc.	Sampled, tested and approved by CSTM				
COMPLETE MIXTURE	Laboratory Density and/or Strength	Tex-126-E or Tex-204-F	Plant or road	Each 12,000 C.Y. or 16,000 tons			When shown on the plans
	Percent Asphalt (H)	Tex-126-E, Tex-210-F, Tex-228-F, Tex-229-F (F)	Plant or road	One for each day's production (C)	Same as Project Test	One for each 10 days' production (A)	
	In-Place Density (H)	Tex-207-F	As designated by the Engineer	Each 3,000 lin. ft. per course per travel-way (B)	Same as Project Test	One out of 10 Project Tests or fraction thereof (D)	
	Dimensions (H)		As designated by the Engineer	One depth per 3,000 lin. ft. per travel-way (B) (E)	Same as Project Test	One total depth per travel-way per two miles or fraction thereof (B)	

(A) Not required when CSTM provides inspection at plant.

(B) Travel-way is defined, for sampling and testing only, as total width of a travel facility that is not separated from other parallel travel facilities by a median, ditch, etc.

(C) Not required when plant produces less than 1/2 day due to weather, breakdown, etc.

(D) Independent Assurance Tests are not required for a contract quantity resulting in less than 10 Project Tests.

(E) Not required for level-up courses over existing pavement surfaces.

(F) Test Methods Tex-228-F/229-F must be correlated with Tex-126-E or Tex-210-F every ten days.

(G) For Types A and C lime, sources not on the TxDOT Quality Monitoring Program will be sampled each 200 and 150 tons respectively.

(H) When a non-exempt federal-aid project test fails but the product is accepted, the reasons for acceptance should be documented on the Letter of Certification of Materials Used.

TABLE II
SURFACE TREATMENTS

This is a guide for minimum sampling and testing. When necessary for quality control, additional sampling and testing will be required.

			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	REMARKS
AGGREGATE	Gradation (H)	Tex-200-F (Dry)	At source or at point of delivery	One each 300 C.Y.	Same as project test	One out of 10 project tests or fraction thereof (I)	Independent assurance testing not required when CSTM provides testing
ASPHALT	Compliance with Item 300	Tex-500-C etc.	Sampled, tested and approved by CSTM				

(H) When a non-exempt federal-aid project test fails but the product is accepted, the reasons for acceptance should be documented on the Letter of Certification of Materials Used.

(I) Independent Assurance Tests are not required for a contract quantity resulting in less than 6 Project Tests.

TABLE III

PORTLAND CEMENT CONCRETE; STRUCTURAL & MISCELLANEOUS

This is a guide for minimum sampling and testing. When necessary for quality control, additional sampling and testing will be required.

			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units	
MATERIAL OR PRODUCT		TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING (B)	REMARKS
MINERAL AGGREGATES	COARSE AGGREGATE	Decantation (A) (C) (H)	Tex-406-A	From stockpile at concrete plant	Two, each source			
		Sieve Analysis (A) (C) (H) (L)	Tex-401-A	From stockpile at concrete plant	One, each 500 C.Y. or fraction thereof	Same as Project Test	One each 5,000 C.Y. or fraction thereof	
	FINE AGGREGATE	Sand Equivalent (A) (C) (L)	Tex-203-F	From stockpile at concrete plant	One per week (Each source or combination of sources) (F)	Same as Project Test	One per project (Each source or combination of sources)	
		Organic Impurities (A) (C)	Tex-408-A	From stockpile at concrete plant	Two, each source			
		Sieve Analysis (A) (C) (H) (L)	Tex-401-A	From stockpile at concrete plant	One, each 500 C.Y. or fraction thereof	Same as Project Test	One each 5,000 C.Y. or fraction thereof	
		Fineness Modulus (A) (C) (L)	Tex-402-A	From stockpile at concrete plant	One, each 500 C.Y. or fraction thereof	Same as Project Test	One each 5,000 C.Y. or fraction thereof	

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PORTLAND CEMENT CONCRETE; STRUCTURAL & MISCELLANEOUS

This is a guide for minimum sampling and testing.
When necessary for quality control, additional sampling and testing will be required.

			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING (B)	REMARKS
CEMENT	Compliance with the Std. Specifications & Spl. Provisions (A) (C)	AASHTO M 85	Railroad car, truck or cement bins	Each 1,000 bbls. (For each type and brand)			Each brand and each type to be sampled and tested separately. Sampling will be waived when source is certified by CSTM.
FLY ASH	Compliance with Dept. Matl. Spec. D-9 8900	Tex-733-I	Sampled, tested and approved by CSTM				
WATER	Compliance with the Std. Specifications (A) (C)	AASHTO T-26	At source (If not approved)	One test (Each source)			Municipal supply approved by State Health Department will not require testing.
CONCRETE	Flexural Strength (C) (G) (H) (K)	Tex-448-A	At point of concrete placement	One test (2 beams) for each 60 C.Y. or fraction thereof (E)	Same as Project Test	One each 600 C.Y. or fraction thereof (M)	
	or Compressive Strength (C) (G) (H) (K)	Tex-418-A	At point of concrete placement	One test (2 cylinders) for each 60 C.Y. or fraction thereof (E)	Same as Project Test	One each 600 C.Y. or fraction thereof (M)	Independent Assurance Testing not required where CSTM provides inspection at source.
	Slump (C) (G) (J)	Tex-415-A	At point of concrete placement	One test per set of strength specimens (D)	Same as Project Test	One each 600 C.Y. or fraction thereof (M)	
	Entrained Air (C) (G) (H)	Tex-416-A or Tex-414-A	At point of concrete placement	One per placement (D)	Same as Project Test	One each 600 C.Y. or fraction thereof (M)	Required when used.
	Average Texture Depth	Tex-436-A	After concrete has hardened	One per placement			For bridge decks and top slab of direct traffic culverts.
	Temperature of Slab Concrete		At point of concrete placement	One per truckload			

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PORTLAND CEMENT CONCRETE; STRUCTURAL & MISCELLANEOUS

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MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING (B)	REMARKS
ADMIXTURE	Compliance with the Std. Specifications Item 437	As specified	Sampled, tested and approved by CSTM				Contractor shall furnish AE one copy of invoice for the admixture to be used on the project.
JOINT MATERIAL	Compliance with the Std. Specifications & Spec. Provisions	As specified	Sampled at jobsite if not sampled at source by CSTM; tested by CSTM	One per batch or shipment			
CURING COMPOUND	Compliance with the Std. Specifications & Spec. Provisions	Tex-718-I	Sampled at jobsite if not sampled at source by CSTM; tested by CSTM	One per batch of shipment			
REIN-FORCING STEEL	Compliance with the Std. Specifications & Spec. Provisions	As Specified	Sampled, tested and approved by CSTM				
	Depth of reinforcement		During finishing	One per 50 S.Y.; Min. 4, Max. 20 per placement			Record locations & dimensions for bridge and top slab of direct traffic culverts.

- (A) Coordination of inspection should be utilized to avoid duplication of sampling and testing. These Project Tests may be used for one or more projects being furnished concrete from the same plant during the same period. Also applicable to Independent Assurance Tests.
- (B) Independent Assurance Tests are not necessary when the amount of concrete placed is less than 600 C.Y.
- (C) Miscellaneous concrete is defined as concrete with less critical structural use, such as culverts (except top slabs of direct traffic structures), pipe headwalls, inlets, manholes, riprap, concrete in compaction wings and thrust beams, curb, curb and gutter, and other concrete so designated in the plans. Concrete used in bridges (including foundations), top slabs of direct traffic structures, retaining walls, pump stations, paving and other concrete that may be designated on the plans is not included in this category of miscellaneous concrete.

- (C) Normally, the tests marked (C) will not be required for "miscellaneous concrete" which may be accepted on the basis of strength test (2 cylinders for each 50 C.Y. or 2 beams for each 50 C.Y. with a minimum of one test per project). Where deemed necessary by the Engineer, plant inspection on tests marked (C) and (E) may be required and used to determine specification compliance.
- (D) For Class S, F and H ready mix concrete for bridge slab only, both air and slump will be checked on the first few loads of concrete as necessary to obtain a desired consistency. Thereafter, each third load will be tested for both slump and air content. Slump and air content tests should be performed on the same load from which strength tests specimens are made.
- (E) Not less than one set of beams or cylinders will be required for each day's placement except for miscellaneous concrete.

- (F) Where the fine aggregate is from a source with a history of sand equivalent values greater than 85 or the specified sand equivalent value of +5 more, the frequency of testing may be reduced to one per month during production. If any individual test fails below 85 or the specified sand equivalent value of +5 or more, the test frequency should be one per week during production until the value is 85 or the specified sand equivalent value of +5 more, or higher for four consecutive weeks.
- (G) Sampling shall be in accordance with Test Method Tex-407-A.
- (H) When a non-exempt federal-aid project test fails but the product is accepted, the reasons for acceptance should be documented on the Letter of Certification of Materials Used.
- (I) Not required for extruded or slip form items.
- (J) Not required for extruded curb.

- (L) Test combined aggregate when used.
- (M) When the project site is an extreme distance from the district laboratory, district or independent laboratory personnel may witness making and breaking the beams. The contractor or area engineer personnel should do the 7-day and 28-day breaks on district or independent laboratory equipment.

TABLE IV

PORTLAND CEMENT CONCRETE PAVEMENTS

This is a guide for minimum sampling and testing. When necessary for quality control, additional sampling and testing will be required.

			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units	
MATERIAL OR PRODUCT		TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING (A)	REMARKS
MINERAL AGGREGATES	COARSE AGGREGATE	Decantation	Tex-406-A	From stockpile at concrete plant	Two, each source			
		Sieve Analysis (H)	Tex-401-A	From stockpile at concrete plant	Each 3,000 C.Y.	Same as Project Test	Each 9,000 C.Y. or fraction thereof	Test combined aggregate when used.
	FINE AGGREGATE	Sand Equivalent	Tex-203-F	From stockpile at concrete plant	One each week during production (Each source or combination of sources) (D)	Same as Project Test	One each source or combination of sources	Test combined aggregate when used.
		Organic Impurities	Tex-408-A	From stockpile at concrete plant	Two, each source			
		Sieve Analysis (H)	Tex-401-A	From stockpile at concrete plant	Each 1,500 C.Y.	Same as Project Test	Each 4,500 C.Y. or fraction thereof.	Test combined aggregate when used.
MINERAL FILLER		Sieve Analysis (H)	Tex-401-A	From stockpile at concrete plant	Each 1,500 C.Y.	Same as Project Test	Each 4,500 C.Y. or fraction thereof.	
CEMENT		Compliance with the Std. Specifications & Spl. Provision	AASHTO M 85	Railroad car, truck or cement bins	Each 1,000 bbls. (For each type and brand)			Each brand and each type to be sampled and tested separately. Sampling will be waived when source is certified by CSTM.
FLY ASH		Compliance with Dept. Matl. Spec. D-9 8900	Tex-733-I	Sampled, tested and approved by CSTM				
WATER		Compliance with the Std. Specifications	AASHTO T-26	At source (If not approved)	One test (Each source)			Municipal supply approved by State Health Department will not require testing.

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MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING (A)	REMARKS
CONCRETE	Strength (B) (H)	Tex-448-A or Tex-418-A	At point of concrete placement	One test (2 beams) for each 3,000 S.Y.		One each 30,000 S.Y. or fraction thereof (F)	Minimum of one per day
	Slump (B) (C)	Tex-415-A	At time and location strength specimens are made	One test per set of strength specimens		Witness one test	
	Entrained Air (B) (H)	Tex-416-A or Tex-414-A	At time and location strength specimens are made	One test per set of strength specimens		One each 30,000 S.Y. or fraction thereof (F)	When entrained air is required by specifications.
	Average Texture Depth (E)	Tex-436-A	After concrete has hardened	Three for each day's production			Number of tests may be reduced to one each day after a satisfactory finishing procedure has been established and approved by the Engineer.
	Thickness (H)	Tex-424-A	After 14 days' placement or as called for in the specification	One core per 1,000 lin. ft. per traffic lane when payment is by the S.Y. or one core per 2,000 lin. Ft. per traffic lane when payment is by the C.Y.			Contractor will core if called for in the governing specification.

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			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OF TIME OF SAMPLING	FREQUENCY OF SAMPLING (A)	REMARKS
ADMIXTURE	Compliance with Specification Item 437	As specified	Sampled, tested and approved by CSTM				Contractor shall furnish area engineer one copy of invoice for the admixture to be used on the project.
JOINT MATERIAL	Compliance with the Std. Specifications & Spl. Provisions	As specified	Sampled at job site if not sampled at source by CSTM; tested by CSTM	One per batch or shipment			
CURING COMPOUND	Compliance with the Std. Specifications & Spl. Provision	Tex-718-I	Sampled at job site if not sampled at source by CSTM; tested by CSTM	One per batch or shipment			
REINFORCING STEEL	Compliance with the Std. Specifications & Spl. Provisions	As Specified	Sampled, tested and approved by CSTM				

- (A) No Independent Assurance Tests will be required if the contract quantity is less than 600 C.Y. or equivalent sq. yards.
- (B) Sampling shall be in accordance with Test Method Tex-407-A.
- (C) Not required for slip-formed pavement.
- (D) Or one per approved stockpile.
- (E) Not required when a carpet drag and transverse metal tine finish device is called for in the Specifications.

- (F) When the project site is an extreme distance from District laboratory, District or Independent laboratory personnel may witness making and breaking the beams. The contractor or engineer personnel may strip the specimen from the forms and place the specimen for curing.
- (H) When a non-exempt federal-aid project test fails but the product is accepted, the reasons for acceptance should be documented on the letter of certification of materials used.

TABLE V

ASPHALTIC CONCRETE PAVEMENTS

This is a guide for minimum sampling and testing. When necessary for quality control, additional sampling and testing will be required.

			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING (E)	REMARKS
COARSE AGGREGATE	Gradation (H) (J)	Tex-200-F (Dry)	During delivery to plant or from stockpile	Each 3,000 tons or fraction thereof (D) (G)	Same as project test	Each 60,000 tons or fraction thereof (A) (D)	
	Deleterious Material and Decantation	Tex-217-F	As designated by district engineer or as specified	Each 12,000 tons or fraction thereof (D)	Same as Project Test	(A) (D)	When the fine aggregate in a coarse aggregate stockpile exceeds 15%, it shall be tested for Linear Shrinkage.
FINE AGGREGATE	Gradation (H) (J)	Tex-200-F (Dry)	During delivery to plant or from stockpile	Each 6,000 tons or fraction thereof (D) (G)	Same as Project Test	Each 60,000 tons or each fraction thereof (A) (D)	
	Linear Shrinkage (J)	Tex-107-E	Stockpile	1 per 6,000 Tons or fraction thereof			Required only when 15 percent or more passes the No. 10 sieve.
MINERAL FILLER	Gradation (H)	Tex-200-F (DRY)	During delivery to plant or from stockpile	Each 6,000 tons or fraction thereof	Same as Project Test	Each 60,000 tons or each fraction thereof (A)	
COMBINED AGGREGATES	Gradation (H)	Tex-200-F (Dry)	Hot aggregate bins	Three for each day's production	Same as Project Test	One for each ten days' production (A) (D)	Applies to weigh batch plants only. Reduce the required number of tests proportionately when plant produces fractional part of day.
	Sand Equivalent	Tex-203-F	Stockpiles, hot aggregate bins, or feeder belt	One per 10 days of production			Sample prior to addition of additives to materials, i.e., lime, mineral filler, etc.
ASPHALT, OILS & EMULSIONS	Compliance with Item 300	Tex-500-C, etc.	Sampled, tested and approved by CSTM				

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ASPHALTIC CONCRETE PAVEMENTS

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			PROJECT TESTS		INDEPENDENT ASSURANCE TESTS		English Units	
MATERIAL OR PRODUCT	TEST FOR	TEST NUMBER	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING	LOCATION OR TIME OF SAMPLING	FREQUENCY OF SAMPLING (E)	REMARKS	
COMPLETE MIXTURE	Laboratory Density	Tex-207-F	Plant or road	One for each day's production (K)	Same as Project Test	One for each 10 days' production or fraction thereof (A)		
	Stability	Tex-208-F	Plant or road	One for each day's production (K)	Same as Project Test	One for each 10 days' production or fraction thereof (A)		
	HOT MIX ACP & HOT MIX-COLD LAID ACP	Percent Asphalt and/or Gradation (H)	Tex-210-F, Tex-228-F, Tex-229-F, Tex-236-F (I)	Plant or road	One for each day's production (F) (I) (K)	Same as Project Test	One for each 10 days' production or fraction thereof (A)	
		In Place Density (H)	Tex-207-F	Per course	One for each day's production (K)	Same as Project Test	One for each 10 days' production or fraction thereof	When required
		Moisture Content	Tex-212-F	Plant or road	One for each day's production (K)			
		Hydrocarbon Volatile Content	Tex-213-F	Plant or road	One for each day's production (K)	Same as Project Test	One for each 10 days' production or fraction thereof (A)	Required for Hot-Mix-Cold Laid ACP only
		LIMESTONE ROCK ASPHALT	Compliance with Item 330 or 332	As specified	Sampled, tested and approved by CSTM			
		(LRA) PAVEMENT	Moisture Content	Tex-212-F	When weighing for payment	Each 200 tons or fraction thereof per day		
		Dimensions (H)		Completed pavement	As necessary for control		One total depth per travel-way per 2 miles or fraction thereof (B) (C)	

(A) Not required when CSTM provides inspection at plant.

(B) Travel-way is defined, for sampling and testing only, as total width of a travel facility that is not separated from other parallel travel facilities by a median, ditch, etc.

(C) Not required for level-ups and overlays.

(D) When synthetic aggregate is used in lieu of natural aggregate, reduce the quantity under "Frequency of Sampling" by 50%.

(E) Independent Assurance Tests are not required for a contract quantity of less than 3,000 tons.

(F) When producing from drum mixer, modified weigh batch, or specialized recycling plants, one test per 1,000 tons or fraction thereof not to exceed three (3) per day.

(G) When production is by weigh batch plant, frequency shall be 6,000 tons or fraction thereof.

(H) When a non-exempt federal-aid project test fails but the product is accepted, the reasons for acceptance should be documented on the Letter of Certification of Materials Used.

(I) Test Methods Tex-228-F/229-F must be correlated with Tex-210-F every five days.

(J) Test each aggregate.

(K) Not required when production falls below 200 tons per day.

TABLE VI

QC/QA ASPHALTIC CONCRETE PAVEMENT (Items 3063, 3007)

This is a guide for minimum sampling and testing for department-performed tests.

MATERIAL	TEST FOR	TEST NUMBER	MONITOR OR VERIFICATION TESTS		INDEPENDENT ASSURANCE TESTS (A)		English Units
			LOCATION	FREQUENCY	LOCATION	FREQUENCY	REMARKS
COARSE AGGREGATE	L. A. Abrasion	Tex-410-A	Stockpile	1 per 25,000 tons or fraction thereof			Required only when source is not on TxDOT QM Program.
	Magnesium Soundness	Tex-411-A	Stockpile	1 per 25,000 tons or fraction thereof			Required only when source is not on TxDOT QM Program.
	Pressure Slake	Tex-431-A	Stockpile	1 per 10,000 tons or fraction thereof			Same as above. Required only for lightweight aggregate
	Polish Value	Tex-438-A	Stockpile	1 per 25,000 tons or fraction thereof			Same as above. Required only for lightweight aggregate
	Unit Weight	Tex-404-A	Stockpile	1 per 10,000 tons or fraction thereof			Test lightweight aggregate only.
	Crushed Face Count	Tex-460-A	Stockpile	1 per 25,000 tons or fraction thereof			Test gravel only.
	Linear Shrinkage	Tex-107-E	Stockpile	1 per 10,000 tons or fraction thereof			Required only when 15 percent or more passes the No. 10 sieve.
	Deleterious Material and Decantation	Tex-217-F	Stockpile	1 per 10,000 tons or fraction thereof			
FINE AGGREGATE	Linear Shrinkage	Tex-107-E	Stockpile	1 per 2,500 tons or fraction thereof	Stockpile	One per project	
COMBINED AGGREGATE	Sand Equivalent	Tex-203-F	Stockpiles, hot bins or feeder belts	1 per 10 days production			Sample prior to addition of additives, e.g., lime, filler
	Gradation	Tex-229-F	Combined Cold Feed belt	1 per 12 quality assurance tests	Combined Cold Feed belt	1 per 10 verification or fraction thereof	
COMPLETE MIXTURE	Percent Asphalt	Tex-228-F or Tex-236-F	Split from QA test sample	1 per 12 quality assurance tests	Truck	1 per 10 verification or fraction thereof	
	Voids in Mineral Aggregates (VMA)	Tex-207-F	Design	1 per design			
	Moisture Susceptibility (B)	Tex-531-C	Design	1 per design			If determined to be needed by the Engineer
	Gradation	Tex-210-F or Tex-236-F	Split from QA test sample	1 per 12 quality assurance tests	Truck	1 per 10 verification or fraction thereof	Required only when combined cold feed gradation is not performed.

(Continued...)

QC/QA ASPHALTIC CONCRETE PAVEMENT (Items 3063, 3007)

This is a guide for minimum sampling and testing for department-performed tests.

			MONITOR OR VERIFICATION TESTS		INDEPENDENT ASSURANCE TESTS (A)		English Units
MATERIAL	TEST FOR	TEST NUMBER	LOCATION	FREQUENCY	LOCATION	FREQUENCY	REMARKS
COMPLETE MIXTURE (cont.)	Maximum Theoretical Gravity	Tex-227-F	Split from QA test sample	1 per 12 quality assurance tests		1 per 10 verification or fraction thereof	Randomly selected within the lot.
	Lab Molded Density	Tex-207-F	Split from QA test sample	1 per 12 quality assurance tests	Truck	1 per 10 verification or fraction thereof	
	Hveem Stability	Tex-208-F	Lab molded density from QA test	1 per 12 quality assurance tests			Each set of 3 lab molded specimens per lot are verification tested for stability.
ROADWAY	Air Voids	Tex-207-F	Selected from QA test	2 cores per 24 QA tests		1 per 10 verification or fraction thereof (C)	Two cores taken per subplot and averaged.
	Profile Index	Tex-1000-S	Review Chart from QA tests	Each day			

(A) Not required when CSTM provides inspection at plant, or when contract quantities are less than 3,000 tons.

(B) Production verification using Tex-530-C is required when anti-stripping additives are used unless otherwise shown in the plans. The Engineer will determine the location and frequency of testing and will perform the test.

(C) Independent Assurance Test may consist of witnessing the verification testing.

(Continued...)

QC/QA ASPHALTIC CONCRETE PAVEMENT (Item 3116, 3146)

This is a guide for minimum sampling and testing for department-performed tests.

MATERIAL	TEST FOR	TEST NUMBER	QUALITY ASSURANCE TESTS		INDEPENDENT ASSURANCE TESTS (A)		English Units
			LOCATION	FREQUENCY	LOCATION	FREQUENCY	REMARKS
COARSE AGGREGATE	L. A. Abrasion	Tex-410-A	Stockpile (H)	1 per 25,000 Tons or fraction thereof			Required only when source is not on TxDOT QM Program.
	Magnesium Soundness	Tex-411-A	Stockpile(H)	1 per 25,000 Tons or fraction thereof			
	Pressure Slake	Tex-431-A	Stockpile (H)	1 per 10,000 Tons or fraction thereof			Same as above. Required only for lightweight aggregate.
	Polish Value	Tex-438-A	Stockpile (H)	1 per 25,000 Tons or fraction thereof			Same as above. Required only for lightweight aggregate.
	Unit Weight	Tex-404-A	Stockpile (H)	1 per 10,000 Tons or fraction thereof			Test lightweight aggregate only.
	Crushed Face Count	Tex-460-A	Stockpile (H)	1 per 25,000 Tons or fraction thereof			Test gravel only. Each Source.
	Linear Shrinkage	Tex-107-E	Stockpile (H)	1 per 10,000 Tons or fraction thereof			Required only when 15 percent or more passes the No. 10 sieve.
	Deleterious Material and Decantation	Tex-217-F	Stockpile (H)	1 per 10,000 Mg or fraction thereof			
FINE AGGREGATE	Linear Shrinkage	Tex-107-E	Stockpile	1 per 2,500 Mg or fraction thereof	Stockpile	One per project	
COMBINED AGGREGATE	Sand Equivalent	Tex-203-F	Stockpiles, hot bins or feeder belts	1 per 10 days production	Same as QA tests	One per project	Sample prior to addition of additives, e.g., lime, filler.
	Gradation (D)	Tex-229-F	Combined Cold Feed belt	Minimum of 1 per 12 Sublots	Combined Cold Feed belt	1 per 10 Lots	
ASPHALT	Compliance with Item 300 (G)	Tex-500-C series	Sampled, Tested and Approved by CSTM				
COMPLETE MIXTURE	Percent Asphalt	Tex-228-F or Tex 236-F	Engineer Truck Sample	Minimum of 1 per 4 Sublots	Truck	1 per 10 Lots	Contractor sample may be tested for compliance with operational controls.
	Voids in Mineral Aggregates (VMA)	Tex-207-F	Design	1 per design			
	Moisture Susceptibility (B)	Tex-531-C	Design	1 per design			If determined to be needed by the Engineer.

(Continued...)

QC/QA ASPHALTIC CONCRETE PAVEMENT (Item 3116, 3146) (Continued)

THIS IS A GUIDE FOR MINIMUM SAMPLING AND TESTING FOR DEPARTMENT-PERFORMED TESTS.

THIS IS A GUIDE FOR MINIMUM SAMPLING AND TESTING FOR DEPARTMENT-PERFORMED TESTS.			QUALITY ASSURANCE TESTS		INDEPENDENT ASSURANCE TESTS (A)		English Units
MATERIAL	TEST FOR	TEST NUMBER	LOCATION	FREQUENCY	LOCATION	FREQUENCY	REMARKS
COMPLETE MIXTURE (cont.)	Gradation (I) (F)	Tex-210-F or Tex-236-F	Engineer Truck Sample	Minimum 1 per 12 Sublots (I)	Truck	1 per 10 Lots	Minimum. Required only when combined cold feed gradation is not performed.
	Maximum Theoretical Gravity	Tex-227-F	Engineer/Contractor Truck Sample	1 per Sublot		1 per 10 Lots	Randomly selected within the lot.
	Lab Molded Density	Tex-207-F	Engineer/Contractor Truck Sample	1 per Sublot	Truck	1 per 10 Lots (E)	Use contractor split only for sublots not sampled by the Engineer
	Hveem Stability	Tex-208-F	Lab Density Molds	1 per Lot			Each set of 3 lab molded specimens per lot are tested for stability.
	Creep	Tex-231-F	Lab Density Molds	1 per Design			CMHB mixtures only
ROADWAY	Air Voids	Tex-207-F	Contractor Random Sample	2 cores per Sublot		1 per 10 Lots (C)	Two cores taken per sublot and averaged.
	Profile Index	Tex-1000-S	Review Chart from QC Tests	Each day			Only required when called for in plans.

- (A) Not required when CSTM provides inspection at plant, or when contract quantities are less than 3,000 Tons.
- (B) If production verification using Tex-530-C is required, the Engineer will determine the location and frequency of testing and will perform the test.
- (C) Independent Assurance Test may consist of witnessing the quality assurance test.
- (D) Correlation factors must be verified by the contractor and approved by the Engineer every 5 days.
- (E) The Independent Assurance test should be performed as early in the project as possible so that any inaccuracies due to equipment or technique can be detected as soon as possible.
- (F) Aggregate may be obtained using extraction or ignition oven.
- (G) Or as called for in the Specifications.
- (H) Sampling may be performed at the plant or quarry or both. Aggregate properties may be re-tested at any time during the project.
- (I) Correlation is to be verified by the contractor and approved by the engineer once every 5 production days.