

SECTION 501 ASPHALTIC CONCRETE MIXTURES

MATERIAL	REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
	TESTED BY		METHOD		CONTAINER	DISTR.				
FOR PROJECTS, OR SEPARATE LOCATIONS WITHIN A PROJECT, REQUIRING LESS THAN 250 TONS, THE JMF, MATERIALS, AND PLANT AND PAVING OPERATIONS SHALL BE SATISFACTORY TO THE ENGINEER. SEE SUBSECTION 501.12 for further details.										
ADDITIVES	Anti-Stripping	501.02 1002.02(a) Mat. Lab	Prelim. Source Approval	Dist. Lab S 612	1/batch or storage tank	1 pt Friction top can	-----	-----	10 days	(QPL 57)
		501.02 1002.02(a) Mat. Lab	Accept.	Proj. Engr. S 601	1 per/shipment/plant*	1 pt Friction top can	CD 1 & 7	-----	10 days	(QPL 57) *Sample when not accompanied by CD or questionable.
	Hydrated Lime	501.02 1018.03(a) Mat. Lab	Accept.	Proj. Engr. S 102	1/shipment*	-----	CD 1 & 7	-----	10 days	(QPL 34) *Sample only if questionable.
AGGREGATES	Gravel Prior to Crushing	501.02(c)(1) Dist. Lab	Accept.	Proj. Engr. S 101	1/source/plant/size	1 full sample sack	-----	-----	5 days	(QPL 2) Percent passing No. 4 sieve.
	Combined Aggregates (Moisture Content)	503.09(b) Contractor	Quality Control	Contractor S 101	2/day/plant*	1 gal Suitable container	-----	-----	-----	For drum-mixer plants. *Sample prior to starting plant & during operation. May be reduced to 1/plant/day when weather & stockpile conditions warrant, as allowed by DOTD inspector.
	Gravel, Stone & Crushed Slag	501.02 1003.06(a)(1) Dist. Lab	Design/ Accept.	Proj. Engr. S 101	1/source/plant/size	1 full sample sack	-----	-----	5 days	(QPL 2) For Aggregate Properties
	Crushed Shell	501.02 1003.06(a)(7) Dist. Lab	Design/ Accept.	Proj. Engr. S 101	1/stockpile/plant	1 full sample sack	-----	-----	5 days	-----
	Expanded Clay Coarse Aggregate	501.02 1003.06(a)(8) Proj. Engr.	Design/ Accept.	-----	-----	-----	-----	-----	-----	(QPL 2) Visual inspection by Proj. Engr.
	Mineral Filler	501.02(c)(3) 1003.06(a)(6) Dist. Lab	Design/ Accept.	Proj. Engr. S 102	1/500 tons*	1 gal Friction top can	-----	-----	-----	(QPL 10)*Sampling not required for portland cement or hydrated lime when accompanied by CD

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AGGREGATES (Cont'd)	Natural Sand	1003.06(a)(3) Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/source/plant	1 full sample sack	-----	-----	5 days	(QPL 2) Includes sand equivalent testing.
	Reclaimed Asphaltic Pavement (RAP)	501.02(c)(2) 1003.06(a)(5) Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/stockpile	3 full sample sacks	-----	-----	-----	For % AC, % crushed and gradation.
	Sand-Gravel	501.02(c)(1) 1003.06(a)(9)	Accept./ Design	Proj. Engr S 101	1/stockpile/ source/size	1 full sample sack	-----	-----	5 days	(QPL 2) For Type 5 mixes only. Must be separated into two sizes prior to final mixing.
ASPHALT MIX RELEASE AGENT		1018.26 503.04 Proj. Engr.	Accept.*	-----	-----	-----	-----	-----	-----	(QPL 25) *Visual inspection for performance by Proj. Engr.
ASPHALTIC CONCRETE (PLANT)	Anti-Strip Additive, %	501.12(b) 501.12(e) Proj. Engr.	Accept.	Proj. Engr. S 605	1/half lot	*	-----	-----	-----	*Range given on JMF, % Anti-Strip from meter. See QA Manual.
	Asphalt Cement, %	501.12(a) 503.09 Proj. Engr.	Accept.	Proj. Engr. S 612	1/half lot	*	-----	-----	-----	*% AC from meter or scales. See QA Manual.
	Briquettes	501.03(b) Contractor	Marshall Design	Contractor S 203	1 set/JMF	9 briquettes/set	-----	-----	-----	Results submitted with JMF.
			Lottman Design	Contractor S 203	1 set/JMF	6 briquettes/set	-----	-----	-----	Results submitted with JMF.
			Quality Control	S 203	1 set/ 10 lots/ JMF	-----	-----	-----	-----	-----

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MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANTITY	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS	
		TESTED BY		METHOD		CONTAINER	DISTR.				
ASPHALTIC CONCRETE (Plant)	Briquettes	501.03(b) 501.12 Dist. Lab	Design/ Accept.	Proj. Engr. S 203	1 set/ 20 lots/ JMF*	6 briquettes/set	----	----	7 days	Modified Lottman * 1 set per JMF for design to validate contractor's results and 1 set per 20 lots per JMF for acceptance.	
		501.12(b) Proj. Engr.	Accept.	Proj. Engr. S 203 & S 605	4/lot*	Suitable sampling bucket	----	----	1 day	*One briquette for Marshall properties for each subplot.	
		501.12(b) Dist. Lab	Verif.	Proj. Engr. S 203 & S 605	1/half lot	Suitably wrapped	----	----	5 days	Shall be a companion sample of an acceptance sample representing each half lot of plant operation. (Submit the second briquette.)	
		501.12(b) Dist. Lab	I A	Dist. Lab S 203	SEE INDEPENDENT ASSURANCE PROGRAM S 701.						
	Job Mix Formula (JMF)	501.03 Contractor	Design	----	1/mix type/ plant	----	----	----	----	Contractor shall submit to the Dist. Lab Engr. The proposed job mix formula with supporting design data. Approval is required prior to starting work.	
Loose Mixture (Maximum Specific Gravity)	501(12)(b) Proj. Engr	Accept.	Proj. Engr. S203	2/lot*	Suitable sampling bucket	----	----	1 day	*Average of two tests (one from each of two sublots) will be used to determine volumetric and density.		

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MATERIAL		REFERENCE	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
ASPHALTIC CONCRETE (Plant) (Cont'd)	Loose Mixture (Asphalt Coating)	503.02(m) Contractor	Mix Design/ Quality Control	Contractor S 203	1/JMF*	1 gal Friction top can	-----	-----	-----	*Sample only if coating is questionable.
		503.02(m) Proj. Engr.	Accept.	Proj. Engr. S 203	1/JMF*	1 gal Friction top can	-----	-----	1 day	*Sample only if coating is questionable.
	Loose Mixture (Gradation, % AC and % Crushed)	501.03 Contractor	Quality Control	Contractor S 203 & S 605	2/lot	Suitable sampling bucket	-----	-----	-----	-----
		501.12(b) Proj. Engr.	Accept.	Proj. Engr. S 203 & S 605	2/lot*		-----	-----	1 day	*Two loose mix samples randomly spaced throughout lot. Test one sample, if results are outside control limits then test 2 nd sample.
		501.12(b) Dist. Lab	I A	Dist. Lab S 203	-----	-----	-----	-----	7 days	See Independent Assurance Program S 701. Whenever possible, sample at same time acceptance sampling is done.
	Loose Mixture (Moisture Content)	503.09 Contractor	Mix Design/ Quality Control	Contractor S 203	as needed*	1 gal Friction top can	-----	-----	-----	*Additional tests shall be taken to control moisture content in final mixture.
		503.09 Proj. Engr.	Accept.	Proj. Engr. S 203	1/lot	1 gal Friction top can	-----	-----	1 day	-----

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MATERIAL		REF.	PURP.	SAMPLED BY	MIN. FREQ.	MIN. QUANT.	CERT.	SMALL QUANTITY	TYPICAL HANDLING TIME	REMARKS
		TESTED BY		METHOD		CONTAINER	DISTR.			
ASPHALTIC CONCRETE (Plant) (Cont'd)	Loose Mixture (Recovered Asphalt)	503.02(a) Mat. Lab	Accept.	Proj. Engr. S 203	1/plant*	1 gal Friction top can	----	----	14 days	Plant Certification. *Additional samples will be taken if plant process is questionable.
	Loose Mixture* (Temperature)	503.09 Contractor	Quality Control	Contractor S 605	5/lot	----	----	----	----	*Temperature of mixture at discharge chute.
		503.09 Proj. Engr.	Accept.	Proj. Engr. S 605	5/lot	----	----	----	1 day	*Temperature of mixture in truck at plant.
ASPHALTIC CONCRETE (In-Place)	Density	501.12(c)(4) Proj. Engr.	Accept.	Proj. Engr. S 203 & S 605	5/lot/ mix use/ project*	4 in. or 6 in. diameter core	----	----	1 day	Send all 5 cores to Dist. Lab. *One from each roadway subplot. See QA manual for shipment of cores.
		501.12(b) Dist. Lab	Verif.	Proj. Engr. S 203 & S 605	2/lot/* project	4 in. or 6 in. diameter core	----	----	5 days	*Test 2 of the 5 cores received. 250 tons of mix per location
		501.12(b) Dist. Lab	I A	Dist. Lab S 203	SEE INDEPENDENT ASSURANCE PROGRAM S 701.					
	Longitudinal Surface Tolerance	501.10 Contractor	Quality Control	Contractor TR 641 S 605	Each lot/ project	Entire length *	----	----	----	----
501.10 Contractor		Quality Control	Contractor S 605	5/lot/ project	----	----	----	----	----	Applies to WC on shoulders, turnouts, crossovers, and roadway section less than 100 ft. Use an approved 10 ft metal static straightedge.
501.12(b) Dist. Lab or Proj. Engr.		Accept.	Dist. Lab/ Proj. Engr. TR 641 S 605	Each lot/ paving strip	Entire length *	----	----	2 days	* Both wheelpaths for interstate & new multilift construction. Inside wheelpath for all other construction. Applies to final roadway or airport wearing course surface.	

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		TESTED BY		METHOD		CONTAINER	DISTR			
ASPHALTIC CONCRETE (In-Place) (Cont'd)	Longitudinal Surface Tolerance (cont'd)	501.10(a)(2) Proj. Engr.	Accept.	Proj. Engr. S 605	1/300 ft	Entire length	----	-----	1 day	Applies to final wearing on shoulders. Contractor shall furnish an approved 10-ft metal static straightedge.
	Loose Mixture* (Temperature)	501.07 Proj. Engr.	Accept.	Proj. Engr. S 605	2/half lot	-----	----	-----	1 day	*Temperature of mixture at time of placement.
	Transverse Surface Tolerance, Cross Slope and Grade	501.10 Contractor	Quality Control	Contractor S 605	*	-----	----	-----	-----	*As needed to control project within specification requirements.
		501.10 Proj. Engr.	Accept.	Proj. Engr. S 605	*	-----	----	-----	1 day	*Test at selected locations for conformance to specifications.
	Thickness & Width	501.11 Dist. Lab	Accept.	Dist. Lab TR 602	*	-----	----	300 lin ft per location	3 days	Applies to mixtures specified for payment on a cubic yard or square yard basis. *See DOTD TR 602.

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		TESTED BY		METHOD		CONTAINER	DISTR.			
ASPHALTIC MATERIAL	Asphalt Cement	1002.01 Mat. Lab	Prelim. Source Approval	Refinery S 201	1/supplier tank	1 qt Friction top can	CA 7	-----	5 days	(QPL 41) Non Self Certified Must have tank approved by mat. Lab prior to shipping whenever asphalt cement is added or modified. DOTD results used for approval.
		1002.01 Refinery	Prelim. Source Approval	Refinery S 201	1/supplier tank	1 qt Friction top can	CA 7	-----	2 hrs during working hours	(QPL 41) Self Certified Supplier, shall sample and test each tank in accordance with quality control plan whenever asphalt cement is added or modified and supply CA to Mat. Lab along with 1 qt sample for verification testing. Supplier results used for approval.
		1002.01 Proj. Engr	Accept.	-----	-----	-----	CD 8 & 9	-----	-----	(QPL 41) 1 CD to accompany each transport.
		1002.01 Dist. Lab	Verif.	Proj. Engr. S 201	1/plant working tank/day of production	1 qt Friction top cans	-----	-----	5 days	(QPL 41) Test original binder DSR, including phase angle. If sample does not meet criteria, the plant will be investigated, and the Dist. Lab will notify the Proj. Engr., the HMA Producer, and the Mat. Lab. Rotational viscosity to be tested 1/working tank/week for information. A record of results will be kept on file.
		1002.01 Mat. Lab	Verif.	Proj. Engr. S 201	1/working tank	1 qt Friction top can	-----	-----	10 days	Sample after 72 hour shut down period.
		1002.01 Mat. Lab	Verif.	Proj. Engr. S 201	1 transport/project/grade	1 qt Friction top can	-----	-----	10 days	(QPL 41) Send directly to Materials Lab for comparison to refinery sample.
	Curing Membrane	SEE SECTION 506 OF THIS MANUAL.								
	Prime Coat	SEE SECTION 505 OF THIS MANUAL.								
	Tack Coat	SEE SECTION 504 OF THIS MANUAL.								

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