

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.										
ADDITIVES	Anti-Stripping	501.02 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 Mat. Lab	Accept.	Proj. Engr. S 601	1 per/shipment/plant*	1 pt Friction top can	CD 1 & 7	250 tons per location	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	250 tons per location	10 days	(QPL 34) *Sample only if questionable.
AGGREGATES	Aggregates Prior to Crushing	501.02(c)(5) 1003.06(a)(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 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.
	Crushed Gravel	501.02 Dist. Lab	Accept.	Proj. Engr. S 101	1/source/plant/size	1 full sample sack	----	-----	5 days	(QPL 2) For % crushed.
	Crushed Shell	501.02 Dist. Lab	Accept.	Proj. Engr. S 101	1/stockpile/plant	1 full sample sack	-----	----	5 days	-----
	Expanded Clay	501.02 Proj. Engr.	Accept.	----	-----	----	----	----	----	(QPL 2) Visual inspection by Proj. Engr.

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AGGREGATES (Cont'd)	Hot Bins or Cold Feed	1003.06 Dist. Lab	Design	Proj. Engr. S 101	*	1 full sample sack	----	----	5 days	For specific gravity. *Frequency to be determined by the Dist. Lab.
	Mineral Filler	501.02(c)(3) Dist. Lab	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.
	Natural Coarse Sand	1003.06(a)(2) Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/source/plant	1 full sample sack	----	----	5 days	(QPL 2) Includes sand equivalent testing on natural sands composite from JMF.
	Natural Fine Sand	1003.06(a)(3) Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/source/plant	1 full sample sack	----	----	----	Includes Sand Equivalent testing on natural sand composite from JMF.
	Reclaimed Asphaltic Pavement (RAP)	501.02(c)(2) Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/stockpile	3 full sample sacks	----	----	----	For % AC, % crushed and gradation.
	Recycled PCC	501.02(c)(1) Dist. Lab	Accept./ Design	Proj. Engr S 101	1/stockpile/ source/size	1 full sample sack	----	----	5 days	Must be approved and placed in dedicated stockpile.
		501.02(c)(1) Mat. Lab	Prelim. Source Approval	Dist. Lab S 801	1/stockpile/ source/plant*	6 full sample sacks	----	----	8 weeks	*See S 801 for maximum stockpile quantities.
	Sand-Gravel	1003.06(a)(8) Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/source/plant	1 full sample sack	----	----	5 days	(QPL 2)
	Screenings	501.02(c)(4) Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/stockpile	1 full sample sack	----	----	5 days	(QPL 2)
	Slag	501.02 Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/stockpile/ size	1 full sample sack	----	----	5 days	(QPL 2)
Stone	501.02 Dist. Lab	Accept./ Design	Proj. Engr. S 101	1/stockpile/ size	1 full sample sack	----	----	5 days	(QPL 2)	

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		TESTED BY		METHOD		CONTAINER	DISTR.				
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, % AS from meter. See QA Manual.	
	Asphalt Cement, %	501.12(a) 503.09 Proj. Engr.	Accept.	Proj. Engr. S 605	1/half lot	*	----	----	----	* % AC from meter or scales. See QA Manual.	
	Briquettes	501.03 Contractor	Design	Contractor TR 303 TR 322	1 set/JMF	9 briquettes/ set 6 briquettes/ set*	----	----	----	----	(Marshall Method and Modified Lottman) *9 briquettes for DOTD TR 303, 6 briquettes for DOTD TR 322. Results submitted with JMF.
				Quality Control	TR 322	1 set/ 10 lots/ JMF	----	----	----	----	----
		501.12 Dist. Lab	Design/ Accept.	Proj. Engr. TR 322	1 set/ 20 lots/ JMF*	6 briquettes/set	----	----	7 days	(Marshall Method and 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	----	----	----	----	7 days	See Independent Assurance Program S 701.	

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		TESTED BY		METHOD		CONTAINER	DISTR.			
ASPHALTIC CONCRETE (Plant) (Cont'd)	Job Mix Formula (JMF)	501.03 Contractor	Design	----	1/mix type/plant	----	----	----	----	Contractor shall submit to the Proj. Engr. the proposed job mix formula with supporting design data. Approval by the Dist. Lab Engr. is required prior to starting work.
		501.12 Dist. Lab	Proposal Accept.	----	1/mix type/plant	----	----	1 day	Dist. Lab to evaluate all data submitted with JMF and complete sample testing. After approval of proposal, contractor may start production.	
	Loose Mixture (Asphalt Coating)	503.02(m) Contractor	Mix Design/Quality Control	Contractor S 203 AASHTO T 195	1/JMF*	1 gal Friction top can	-----	----	----	*Additional tests shall be taken to control asphalt coating of aggregates in mixture.
		503.02(m) Proj. Engr.	Accept.	Proj. Engr. S 203 AASHTO T 195	1/JMF*	1 gal Friction top can	-----	----	1 day	*Additional tests shall be taken if asphalt coating is questionable.
	Loose Mixture (Gradation, % AC and % Crushed)	501.03 Contractor	Quality Control	Contractor S 203 & S 605	1/half lot*	Suitable sampling bucket	----	-----	-----	*Results plotted on control charts. A third sample may be taken if either or both do not meet specifications.
		501.12(b) Dist. Lab	Accept.	Proj. Engr. S 203 & S 605	3/lot*	1 gal Friction top can	----	----	7 days	*One loose mix sample obtained from three sublots for acceptance by DOTD.
		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 TR 319	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 TR 319	as needed*	1 gal Friction top can	----	----	1 day	*Additional tests shall be taken to control moisture content in final mixture.

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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 (Abson Recovery)	503.02(a) Mat. Lab	Plant Certification	Proj. Engr. S 203 AASHTO T 170	1/plant*	1 gal Friction top can	----	----	14 days	*Additional samples will be taken if plant process is questionable.
		501.03(c) 503.02(a) Mat. Lab	Accept.	Proj. Engr. S 203 AASHTO T 170	1/JMF*	1 gal Friction top can	----	----	14 days	*Applies to each JMF with more than 20% reclaimed asphaltic pavement (RAP).
	Loose Mixture* (Temperature)	503.09 Contractor	Quality Control	Contractor S 605	10/lot	----	----	----	----	*Temperature of mixture in truck at plant.
		503.09 Proj. Engr.	Accept.	Proj. Engr. S 605	4/lot**	----	----	----	1 day	*Temperature of mixture in truck at plant. **One for each subplot.
ASPHALTIC CONCRETE (In-Place)	Density	501.12(b) Proj. Engr.	Accept.	Proj. Engr. S 203 & S 605	5/lot/ project*	4 in. diameter core	----	----	1 day	*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. diameter core	----	----	5 days	All 5 acceptance samples, suitably wrapped, shall be sent to Dist. Lab.
		501.12(b) Dist. Lab	I A	Dist. Lab S 203	----	----	----	----	5 days	See Independent Assurance Program S 701.
Longitudinal Surface Tolerance	501.10 Contractor	Quality Control	Contractor TR 641 S 605	Each lot/ project	Entire length/ one path	----	----	----	Contractor must furnish an approved 25-ft profilograph. Applies to roadway and airports WC & BC and parking area WC.	
		Quality Control	Contractor S 605	5/lot/ project	----	----	----	Applies to WC on shoulders (less than 10 ft wide), turnouts, crossovers, and roadway section less than 100 ft. Use an approved 10-ft metal static straightedge.		
	501.12(b) Dist. Lab	Accept.	Dist. Lab TR 641 S 605	Each lot/ paving strip	Entire length/ one path	----	----	2 days	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	Each lot/ project 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 in paver hopper.
	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	501.11(a) Proj. Engr.	Verif.	Proj. Engr. S 203 & S 605	5/lot/ project	4 in. diameter core	----	----	1 day	The thickness of the lot will be the average of the 5 thicknesses of roadway density samples for the lot.
	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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ASPHALTIC MATERIAL	Asphalt Cement	1002.01 Mat. Lab	Prelim. Source Approval	Refinery S 201	1/storage 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.
		1002.01 Refinery	Prelim. Source Approval	Refinery S 201	1/supplier tank whenever asphalt is added to tank or modified*	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 to modified and supply CA to Mat. Lab along with 1 qt sample for verification testing.
		1002.01 Dist. Lab Mat. Lab for failing or nonverifying material	Accept.	Proj. Engr./ S 201	1/plant working tank/day of production	2 - 1 qt Friction top cans	CD 8 & 9	----	5 days/10 days for failing or nonverif. material	(QPL 41) Dist. Lab to notify Proj. Engr., HMA Producer and Supplier and send 1 qt to Mat. Lab for failing or nonverifying material. A CD is required for all material added to storage tank or working tank.
		1002.01 Mat. Lab	Accept.	Proj. Engr./ Dist. Lab Engr.* S 201	1/grade/source/month	1 qt Friction top can	----	----	10 days	(QPL 41) *One sample of each grade from each source shall be selected at random by the Dist. Lab from the acceptance samples submitted by Proj. Engrs.
	Curing Membrane	SEE SECTION 506 OF THIS MANUAL.								
	Prime Coat	SEE SECTION 505 OF THIS MANUAL.								
	Tack Coat	SEE SECTION 504 OF THIS MANUAL.								