

ARKANSAS DEPARTMENT OF TRANSPORTATION
EQUIPMENT AND PROCUREMENT OFFICE
LITTLE ROCK, ARKANSAS

May 9, 2019

NOTICE TO BIDDERS

ADDENDUM

Bid Number: H-20-208H

Asphalt Concrete Cold Plant & Hot Mix Materials

Opening Date: June 4, 2019

Bid Invitation:

Division 400 of the Standard Specifications for Highway Construction Edition of 2014 has been revised. Please replace original specifications attached to the Bid Invitation with the new correct specifications attached with this Addendum.

ALL OTHER SPECIFICATIONS SHALL REMAIN THE SAME.

for 
Danny Keene
Division Head
Equipment and Procurement

ARKANSAS DEPARTMENT OF TRANSPORTATION**SPECIAL PROVISION****JOB NO. 040774****RESTRICTIONS ON THE USE OF RECYCLED ASPHALT PAVEMENT MATERIAL**

Division 400 of the Standard Specifications for Highway Construction, Edition of 2014, is hereby amended as follows:

The following is added as the last bullet following the first paragraph of **Subsection 404.01(b), Design Requirements**:

- Recycled asphalt pavement materials will not be permitted in any mixes using PG 76-22 asphalt binder.

The second paragraph of **Subsection 416.01, Description**, is hereby deleted, and the following is substituted therefor:

Unless otherwise provided, these provisions allow the Contractor to utilize recycling of reclaimed asphalt pavement material in any type mixture specified in Sections 405, 406, 407, and 417 except for those mixes using PG 76-22 asphalt binder. The recycled mixture shall meet all of the requirements of the mixture type specified on the plans.

**ARKANSAS DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
PERCENT AIR VOIDS FOR ACHM MIX DESIGNS**

Division 400 of the Standard Specifications for Highway Construction, Edition of 2014, is hereby amended as follows:

The fourth sentence of Paragraph 1 of **Subsection 404.01(b), Design Requirements**, is hereby deleted and the following substituted therefor:

The optimum asphalt content is the asphalt binder content at 4% Air Voids (AV).

The first bullet of Paragraph 1 is hereby deleted and the following substituted therefor:

- PG 64-22 and PG 70-22 mixes will be designed using 4% air voids;

The second sentence of Paragraph 2 of **Subsection 404.04, Quality Control of Asphalt Mixtures**, is hereby deleted and the following substituted therefor:

Adjustments to the accepted mix design to conform to actual production values without re-design of the mixture shall be based on production of the mixture at a target value of 4.0% Air Voids (AV) in specimens and an asphalt binder content not less than that specified in the accepted mix design.

Table 405-1 of **Subsection 405.03 Materials** is hereby deleted and the following substituted therefor:

Table 405-1		
Design Requirements for Asphalt Concrete Hot Mix Base Course		
(1-1/2" [37.5 mm])		
Sieve (mm)	Control Points	
	Percent Passing (%)	
2" (50.0)	100	
1½" (37.5)	90 - 100	
1" (25.0)	90 max.	
No. 4 (4.75)	-	
No. 8 (2.36)	15 - 41	
No. 16 (1.18)	-	
No. 30 (0.60)	-	
No. 50 (0.30)	-	
No. 200 (0.075)	0 - 6	
Asphalt Binder Content	Design Value	
% Air Voids	4.0	
% VMA	11.5 - 13.0	
Minimum Water Sensitivity Ratio	80.0	
% Anti-strip	As Required	
Fines to Asphalt Ratio*	0.6 - 1.6	
Wheel Tracking Test	<u>Design Gyration</u>	
(8000 cycles, 100 psi, 64°C)	75 & 115	<u>Maximum Rut</u>
	160	0.315 in. (8.000 mm)
	205	0.197 in. (5.000 mm)
		0.197 in. (5.000 mm)

*Fines to asphalt ratio shall be defined as the percent materials passing the No. 200 (0.075 mm) sieve (expressed as a percent of total aggregate weight) divided by the effective asphalt binder content.

**ARKANSAS DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
PERCENT AIR VOIDS FOR ACHM MIX DESIGNS**

Table 406-1 of **Subsection 406.04, Construction Requirements and Acceptance**, is hereby deleted and the following substituted therefor:

Table 406-1		
Design Requirements for Asphalt Concrete Hot Mix Binder Course (1" [25 mm])		
	Control Points	
Sieve (mm)	Percent Passing (%)	
1½" (37.5)	100	
1" (25.0)	90 - 100	
¾" (19.0)	90 max.	
No. 4 (4.75)	-	
No. 8 (2.36)	19 - 45	
No. 16 (1.18)	-	
No. 30 (0.60)	-	
No. 50 (0.30)	-	
No. 200 (0.075)	1 - 7	
Asphalt Binder Content	Design Value	
% Air Voids	4.0	
% VMA	12.5 - 14.0	
Minimum Water Sensitivity Ratio	80	
% Anti-strip	As Required	
Fines to Asphalt Ratio*	0.6 - 1.6	
Wheel Tracking Test (8000 cycles, 100 psi, 64°C)	<u>Design Gyration</u>	<u>Maximum Rut</u>
	75 & 115	0.315 in. (8.000 mm)
	160	0.197 in. (5.000 mm)
	205	0.197 in. (5.000 mm)

*Fines to asphalt ratio shall be defined as the percent materials passing the No. 200 (0.075 mm) sieve (expressed as a percent of total aggregate weight) divided by the effective asphalt binder content.

ARKANSAS DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
PERCENT AIR VOIDS FOR ACHM MIX DESIGNS

Table 407-1 and Table 407-2 of **Subsection 407.04, Construction Requirements and Acceptance**, are hereby deleted and the following substituted therefor:

Table 407-1		
Design Requirements for Asphalt Concrete Hot Mix Surface Course (1/2" [12.5 mm])		
	Control Points	
Sieve (mm)	Percent Passing (%)	
3/4" (19.0)	100	
1/2" (12.5)	90 - 100	
3/8" (9.5)	90 max.	
No. 8 (2.36)	28 - 58	
No. 16 (1.18)	-	
No. 30 (0.60)	-	
No. 50 (0.30)	-	
No. 200 (0.075)	2 - 10	
Asphalt Binder Content	Design Value	
% Air Voids	4.0	
% VMA	14.0 -- 16.0	
Minimum Water Sensitivity Ratio	80.0	
% Anti-strip	As Required	
Fines to Asphalt Ratio*	0.6 -- 1.6	
Wheel Tracking Test (8000 cycles, 100 psi, 64°C)	<u>Design Gyration</u>	<u>Maximum Rut</u>
	75 & 115	0.315 in. (8.000 mm)
	160	0.197 in. (5.000 mm)
	205	0.197 in. (5.000 mm)

*Fines to asphalt ratio shall be defined as the percent materials passing the No. 200 (0.075 mm) sieve (expressed as a percent of total aggregate weight) divided by the effective asphalt binder content.

**ARKANSAS DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
PERCENT AIR VOIDS FOR ACHM MIX DESIGNS**

Table 407-2
Design Requirements for Asphalt Concrete Hot Mix Surface Course (3/8" [9.5 mm])

	Control Points	
Sieve (mm)	Percent Passing (%)	
1/2" (12.5)	100	
3/8" (9.5)	90 - 100	
No. 4 (4.75)	90 max.	
No. 8 (2.36)	32 - 67	
No. 16 (1.18)	-	
No. 30 (0.60)	-	
No. 50 (0.30)	-	
No. 200 (0.075)	2 - 10	
Asphalt Binder Content	Design Value	
% Air Voids	4.0	
% VMA	15.0 -- 17.0	
Minimum Water Sensitivity Ratio	80.0	
% Anti-strip	As Required	
Fines to Asphalt Ratio*	0.6 -- 1.6	
Wheel Tracking Test (8000 cycles, 100 psi, 64°C)	<u>Design Gyration</u>	<u>Maximum Rut</u>
	75 & 115	0.315 in. (8.000 mm.)
	160	0.197 in. (5.000 mm)
	205	0.197 in. (5.000 mm)

*Fines to asphalt ratio shall be defined as the percent materials passing the No. 200 (0.075 mm) sieve (expressed as a percent of total aggregate weight) divided by the effective asphalt binder content.

ARKANSAS DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
LIQUID ANTI-STRIP ADDITIVE

Division 400 of the Standard Specifications for Highway Construction, Edition of 2014, is hereby amended as follows:

Section 404, DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES, is hereby modified as follows:

The following is added as the last bullet following the first paragraph of **Subsection 404.01(b), Design Requirements**:

- All ACHM mixes must contain a liquid, anti-strip additive.

Section 409, MATERIALS AND EQUIPMENT FOR ASPHALT CONCRETE PLANT MIX COURSES, is hereby modified as follows:

The second paragraph of **Subsection 409.02 Asphalt Binder** is hereby deleted and the following is substituted therefor:

The asphalt binder for all Asphalt Concrete Hot Mixes shall contain a heat-stable, liquid anti-strip additive. The additive shall be furnished from the Qualified Products List. The additive shall not harm the completed bituminous concrete mixture and must be compatible with the aggregate and asphalt binder supplied for the project. The anti-strip additive shall be added either by an in-line blending process just before introduction of the asphalt binder to the mixer or by blending with the asphalt binder at the asphalt binder terminal. If blended at the terminal, the bill of lading accompanying the load being delivered to the hot mix asphalt plant shall include the anti-strip manufacturer's name, product name, and quantity of all anti-strip additive included in the load.

The liquid anti-strip additive shall be added at rates as indicated below:

- For ACHM mixes where the use of an anti-strip additive is required as determined by the laboratory analysis and mix design procedures, the anti-strip additive shall be added at the rate of 0.50% to 0.75% by weight of asphalt binder as determined by the laboratory analysis and laboratory mix design procedures.
- For all other mixes, the manufacturer's recommended dosage of the additive shall be used, but the rate of liquid anti-strip additive shall not be less than 0.25% by weight of the asphalt binder.