

* USE STORED SPECIFICATION 109PAVSM WHEN AN *
 * INCENTIVE/DISINCENTIVE PAYMENT FOR ASPHALTIC CONCRETE *
 * PAVEMENT SMOOTHNESS IS SPECIFIED IN THE *
 * MATERIALS DESIGN REPORT. *

* USE IN CONJUNCTION WITH STORED SPECIFICATION 1001MATL *
 * USE IN CONJUNCTION WITH STORED SPECIFICATION 1009ASRM *

* FILL IN THE FOLLOWING: *
 * 414-3 SPREAD RATE (1 place) *
 * PERCENTAGE (ASPHALT-RUBBER) (1 place) *
 * PERCENTAGE (LEVELING) (1 place) *
 * THICKNESS (1 place) *
 * 414-3.03 TYPE OF ASPHALT-RUBBER (1 place) *

(414ACFAR, 01/13/20)

SECTION 414 ASPHALTIC CONCRETE FRICTION COURSE (ASPHALT-RUBBER):

414-1 Description: the first paragraph of the Standard Specifications is revised to read:

The work under this section shall consist of constructing Asphaltic Concrete Friction Course (Asphalt-Rubber), hereinafter asphaltic concrete, by furnishing all materials, mixing at a plant, hauling and placing a mixture of aggregate materials, mineral admixture, and bituminous material (asphalt-rubber) to form a pavement course or to be used for other specified purposes, in accordance with the details shown on the project plans and the requirements of the specifications, and as directed by the Engineer.

414-3 Materials: of the Standard Specifications is modified to add:

For comparative purposes, quantities shown in the bidding schedule have been calculated based on the following data:

Spread Rate (lb./sq. yd.)	<u>XXX</u>
Asphalt-Rubber, %	<u>XX.X</u>
Mineral Admixture, %	1.0

The estimated target spread rate specified above includes XX percent for leveling to provide a minimum XX-inch thickness above the leveling thickness.

414-3.01 Mineral Aggregate: the first paragraph of the Standard Specifications is revised to read:

The contractor shall provide a source of mineral aggregate in accordance with the requirements of Section 1001 of the specifications.

414-3.02 Mineral Admixture: the last paragraph of the Standard Specifications is revised to read:

The certification and acceptance of Portland cement, blended hydraulic cement (Type IP), and hydrated lime shall be in accordance with Materials Practice and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

414-3.03 Bituminous Material: the first paragraph of the Standard Specifications is revised to read:

Bituminous material shall be asphalt-rubber conforming to the requirements of Section 1009 of the specifications. The asphalt-rubber shall be CRA Type ~~XXXXX~~. The crumb rubber gradation shall be Type B conforming to the requirements of Section 1009.

414-4 Mix Design: of the Standard Specifications is modified to add:

The contractor may propose the use of a mix design that has been developed for a previous project. The proposed mix design shall meet the requirements of these specifications. The contractor shall provide evidence that the type and source of bituminous material, the type of mineral admixture, and the source and methods of producing mineral aggregate have not changed since the formulation of the previous mix design. The contractor shall also provide current test results for all specified characteristics of the mineral aggregate proposed for use. The Engineer will determine if the previously used mix design is suitable for the intended use and if the previous use of the mix design was satisfactory to the Department. The Engineer will either approve or disapprove the proposed mix design. Should the Engineer disapprove the use of the previously used mix design, the contractor shall prepare and submit a new mix design proposal in accordance with the requirements of these specifications.

A previously used mix design older than two years from the date it was formulated, sealed, signed, and dated shall not be allowed for use. Once approved for use on a project, a mix design may be used for the duration of the project.

414-5 Mix Design Revisions: the third paragraph of the Standard Specifications is revised to read:

If the contractor elects to change its source or type of bituminous material, the type of mineral admixture, or the source(s) of mineral aggregate, or if the contractor adds or deletes the use of a mineral aggregate stockpile(s) regardless of source, testing to the extent deemed necessary by the Engineer will be performed in order that the Engineer may be satisfied that the mix design criteria will be met.

414-6.03(B) Asphalt-Rubber Content: the last two sentences of the first paragraph of the Standard Specifications are revised to read:

The contractor's technicians performing the testing, including the calibration of the nuclear gauge, shall meet the technician requirements given in Materials Practice and Procedure Directive No. 19, "ADOT System for the Evaluation of Testing Laboratories".

414-6 Acceptance of Materials: of the Standard Specifications is modified to add:

414-6.04 Material Spread:

The estimated target spread rate will be as shown in the table in Subsection 414-3. The Engineer may adjust the estimated target spread rate, and establish a new target spread rate, as necessary to maintain a suitable thickness.

The thickness behind the screed shall be measured by the contractor continuously throughout each spread lot to ensure that the minimum compacted thickness specified in Subsection 414-3 is being met.

A spread lot shall be considered to be one-half shift of production. The contractor shall record information pertaining to each spread lot on forms provided by the Engineer. Information shall include the project number, date and period of time that each spread lot was placed, the spread lot number, beginning and ending station, the plans thickness, target spread rate, and tons placed in each spread lot. Completed spread lot forms shall be signed by the contractor and given to the Engineer at the end of each shift.

The Engineer will calculate the quantity required in each spread lot using the target spread rate.

The calculated quantity required in each spread lot will be compared to the actual quantity placed. A spread lot will be considered to be acceptable if the actual quantity placed does not vary by more than +5.0 percent from the required quantity.

414-7.03 Proportioning, Drying, Heating, and Mixing: the third paragraph of the Standard Specifications is hereby deleted.

414-7.04(A) General Requirements: the second and third paragraphs of the Standard Specifications are revised to read:

All wheels and tires of compactors shall be wetted with water, or if necessary soapy water, or a release agent in order to prevent the sticking of asphaltic concrete. All other equipment surfaces shall be treated when necessary with a release agent. Only release agents evaluated through NTPEP are acceptable for use. The results from NTPEP testing, when tested in accordance with AASHTO TP 102, shall meet the following criteria:

RELEASE AGENT TEST	REQUIREMENT
Asphalt Stripping Test Diluted	No Stripping
Non-Diluted (Full Strength)	No Stripping

Mixture Slide Test	10 g Retained, Max.
Asphalt Performance Test	Less than or equal to 10.0% after the third cycle

Release agents which degrade, dissolve, or in any way damage the bituminous material shall not be used. Diesel fuel shall not be used as a release agent.

Before asphaltic concrete is placed, the surface to be paved shall be cleaned of all objectionable material and tacked with bituminous material in accordance with the requirements of Section 404.

414-7.04(A)(1) Placement Dates and Weather Requirements: of the Standard Specifications is revised to read:

Asphaltic concrete shall be placed when the temperature of the surface on which the asphaltic concrete is to be placed is at least 85 degrees F and the ambient temperature at the beginning of placement is at least 70 degrees F and rising. The placement shall be stopped when the ambient temperature is 75 degrees F or less and falling. Night time placement may occur during falling temperature if the low temperature is 70 degrees F or higher.

No placement of asphaltic concrete shall occur if ambient temperatures are forecasted to be at or below 40 degrees F at any time during the day or night after placement.

No placement of asphaltic concrete shall occur if ambient temperatures exceed, or are forecasted to exceed, 110 degrees F the day before, the day of, or the day after paving.

No placement of asphaltic concrete shall occur if sustained wind speeds in excess of 15 MPH are forecast on the day of the scheduled placement. However, the Engineer may allow placement of asphaltic concrete during high wind conditions if the ambient temperature is 85 degrees F and rising.

No asphaltic concrete placement shall take place if rain occurs at any time in the two days prior to the scheduled placement of the asphaltic concrete, nor shall placement be expected to occur if rain is forecast during the proposed day of placement. However, at the discretion of the Engineer, placement may commence if actual conditions are conducive to placement.

At any time, the Engineer may require that the work cease or that the work day be reduced in the event that weather conditions are anticipated to have an adverse effect upon the asphaltic concrete.

Unless otherwise directed by the Engineer, no traffic (including construction traffic, with the exception of required striping equipment) shall be allowed on the AR-ACFC overlay until at least 8 hours after the placement of AR-ACFC. The Engineer may reduce this time for materials placed on ramps and auxiliary lanes, or for traffic related purposes. Prior to opening to any traffic, the Engineer may require up to three applications of lime water (a minimum of 50 pounds of lime per 2,000 gallons of water). Reasons may include, but are

not limited to, opening prior to the 8 hour curing time, or ambient temperatures above 100 degrees F. Lime water shall be applied in a manner that uniformly covers the entire surface of the paving pass. No separate payment will be made for lime water or its application, the cost being considered as included in this contract item.

The contractor shall prepare their bid submittal and initial construction schedule, submitted at the Preconstruction Conference as described in Subsection 108.03, based on the following beginning and ending dates for asphaltic concrete production.

Average Elevation of Project, Feet	Beginning and Ending Dates
0 – 3499	March 15 – May 31
0 – 3499	September 1 – October 31
3500 – 4999	April 15 – October 15
5000 – 5999	June 1 – September 15
6000 and over	June 1 – August 15

Any proposed placement deviating from the beginning and ending days shall be detailed in the written schedule of construction submitted at the weekly meeting described in Subsection 108.04. No contract time extension will be granted for placement outside of the beginning and ending dates. Any placement deviating from the beginning and ending dates shall be at the sole risk of the contractor.

414-7.04(A)(1) Placement Dates and Weather Requirements: the second paragraph of the Standard Specifications is revised to read:

At any time, the Engineer may require that the work cease or that the work day be reduced in the event that weather conditions, either existing or expected, are anticipated to have an adverse effect upon the asphaltic concrete.

414-7.04(A)(2) Delivery to Screed Unit: item “(a)” of the second paragraph of the Standard Specifications is revised to read:

- (a) Covering hauling units with tarpaulins.

414-7.04(C) Placing and Finishing Asphaltic Concrete by Means of Self-Propelled Paving Machines: the third paragraph of the Standard Specifications is revised to read:

Self-propelled paving machines shall spread the mixture within the specified tolerances, without segregation or tearing, true to the line, grade, and crown indicated on the project plans. Pavers shall be equipped with hoppers and augers which will distribute the mixture uniformly in front of adjustable screeds.

414-7.06(A) General Requirements: the second paragraph of the Standard Specifications is revised to read:

The wheels of compactors shall be wetted with water, or if necessary soapy water, or a release agent approved in accordance with the requirements of 414-7.04, to prevent the asphaltic concrete from sticking to the steel wheels during rolling. Release agents which degrade, dissolve, or in any way damage the bituminous material shall not be used. Diesel fuel shall not be used as a release agent. The Engineer may change the rolling procedure if in the Engineer's judgment the change is necessary to prevent picking up of the asphaltic concrete.

414-8 Method of Measurement: the fourth paragraph of the Standard Specifications is revised to read:

Mineral admixture will be measured by the ton for the mineral admixture actually used in accordance with Subsection 403-2.

414-9 Basis of Payment: the first paragraph of the Standard Specifications is revised to read:

The accepted quantities of asphaltic concrete, measured as provided above, will be paid for at the contract unit price per ton, adjusted if necessary for spread, which price shall be full compensation for the work, complete in place, as specified herein.

If the quantity in a spread lot is found to vary by more than +5.0 percent from the required quantity, as determined in accordance with Subsection 414-6.04, no payment will be made for the material which exceeds the +5.0 percent, including asphalt-rubber and mineral admixture.

The Engineer may exclude asphaltic concrete from the spread lot if the Engineer determines that the proposed use of the material or the existing surface conditions are not conducive to the use of spread lots.