READ THIS FIRST

The Engineer shall verify that the latest version of the Federal Aviation Administration Advisory Circular AC 150/5370-10, “Standards for Specifying Construction Of Airports” and that the latest version of the Federal Aviation Administration, Northwest Mountain Region Revision to AC 150/5370-10, “Standards for Specifying Construction Of Airports” are incorporated into this specification.

This Project Spec Document may need additional modifications to suit your project. It is recommended that you proofread each section, paying attention to any “Notes” boxes such as this one--you should remove these “Notes” sections as you go. Also, do a search for all bracket characters “ [ ] “ as they are used to show you areas containing options or project specific details (you can use Microsoft Word’s Find feature {Ctrl-F} to jump to an open bracket “ [ “ character quickly). Again, these bracket characters should be removed.

It is important that every paragraph be numbered to allow for easy referencing. If you use the document’s built in styles and formatting your outline should be fine (turn on the formatting toolbar by going to View > Toolbars > Formatting). Most paragraphs will use the style “Numbered Material” and can be promoted (Shift) or demoted (Shift-Tab).

You should not have to manually enter extra spaces, carriage returns or outline characters such as A, B, C, or 1.01, 1.02; the formatting will do this for you. The entire document is 11 pt. Arial. If you paste items in, you may need to reapply the “Numbered Material” format.

1. GENERAL
   1. SUMMARY OF WORK
      1. The location and extent of “Bituminous Tack Coat (FAA)” Work is shown in the Contract Documents. The bituminous tack coat, placed upon a bituminous or concrete surface as a treatment underlying the Plant Mix Bituminous (Asphaltic Concrete) Pavement, shall be provided in accordance with the provisions of FAA Item P-603, Bituminous Tack Coat, attached hereto.
   2. GOVERNING CODES, STANDARDS, AND REFERENCES
      1. TBD
   3. SUBMITTALS
      1. Submit materials data in accordance with Section 01 33 00 - Submittals. Furnish manufacturers’ technical literature, standard details, product specifications, and installation instructions for all products.
      2. Submittals shall include the following:
2. NOT USED
3. NOT USED
4. NOT USED

End of Section

Revision History:

05/01/2014 Conversion to 2004 CSI Numbering System

10/15/2014 Added Sole Source and Salient Characteristics Note to Part 2 and revisions

# ITEM P-603 BITUMINOUS TACK COAT

## DESCRIPTION

603-1.1 This item shall consist of preparing and treating a bituminous or concrete surface with bituminous material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

## MATERIALS

A. If only one product is acceptable (single or sole source product), obtain an approved Competition Waiver and submit to the CPO Construction, Contract Administrator. The language shall read as: “Manufacturer Name, Product # XXXXX, No Equal.” Refer to CPO-6 Competition Waiver Policy for more information.

B. If a Competition Waiver is not approved or more than one product is acceptable, this section must list a minimum of 2 products plus the language “Or Approved Equal,” along with salient characteristics. Refer to CPO Construction’s Salient Characteristics Guidelines for more information.

603-2.1 BITUMINOUS MATERIALS. The bituminous material shall be either cutback asphalt, emulsified asphalt, or tar and shall conform to the requirements of Table 1. The type, grade, controlling specification, and application temperature of bituminous material to be used shall be specified by the Engineer.

### Table 1 Bituminous Material

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type and Grade** | **Specification** | | **Application Temperature** | |
|  | | | *Deg. F* | *Deg. C* |
| **Emulsified Asphalt** | | | | |
| SS-1, SS-1h | | ASTM D 977 | 75-130 | 25-55 |
| CSS-1, CSS-1h | | ASTM D 2397 | 75-130 | 25-55 |
| **Cutback Asphalt** | | | | |
| RC-70 | | ASTM D 2028 | 120-160 | 50-70 |
| **Tar** | | | | |
| RTCB 5, RTCB 6 | | AASHTO M 52 | 60-120 | 15-50 |

## CONSTRUCTION METHODS

603-3.1 WEATHER LIMITATIONS. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is above 60 °F (15 °C). The temperature requirements may be waived, but only when so directed by the Engineer.

603-3.2 EQUIPMENT. The Contractor shall provide equipment for heating and applying the bituminous material.

The distributor shall be designed, equipped, maintained, and operated so that bituminous material at even heat may be applied uniformly on variable widths of surface at the specified rate. The allowable variation from the specified rate shall not exceed 10 percent. Distributor equipment shall include a tachometer, pressure gauges, volume-measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents. The distributor shall be self-powered and shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.

If the distributor is not equipped with an operable quick shut off valve, the tack operations shall be started and stopped on building paper. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the owner.

A power broom and/or blower shall be provided for any required cleaning of the surface to be treated.

603-3.3 APPLICATION OF BITUMINOUS MATERIAL. Immediately before applying the tack coat, the full width of surface to be treated shall be swept with a power broom and/or air blast to remove all loose dirt and other objectionable material.

Emulsified asphalt shall be diluted by the addition of water when directed by the Engineer and shall be applied a sufficient time in advance of the paver to ensure that all water has evaporated before any of the overlying mixture is placed on the tacked surface.

The bituminous material including vehicle or solvent shall be uniformly applied with a bituminous distributor at the rate of 0.05 to 0.15 gallons per square yard (0.24 to 0.72 liters per square meter) depending on the condition of the existing surface. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

Following the application, the surface shall be allowed to cure without being disturbed for such period of time as may be necessary to permit drying out and setting of the tack coat. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the next course has been placed. Suitable precautions shall be taken by the Contractor to protect the surface against damage during this interval.

603-3.4 BITUMINOUS MATERIAL CONTRACTOR’S RESPONSIBILITY. Samples of the bituminous material that the Contractor proposes to use, together with a statement as to its source and character, must be submitted and approved before use of such material begins. The Contractor shall require the manufacturer or producer of the bituminous material to furnish material subject to this and all other pertinent requirements of the contract. Only satisfactory materials so demonstrated by service tests, shall be acceptable.

The contractor shall furnish the vendor’s certified test reports for each lot of bituminous material. The engineer may use the local state DOT agency supplier certification program for approval instead of the test reports. Any of the certifications shall not be interpreted as a basis of final acceptance. Samples may be taken and tested for verification by the engineer when material is delivered to the site.

603-3.5 FREIGHT AND WEIGH BILLS. Before the final estimate is allowed, the Contractor shall file with the Engineer receipted bills when railroad shipments are made, and certified weigh bills when materials are received in any other manner, of the bituminous materials actually used in the construction covered by the contract. The Contractor shall not remove bituminous material from the tank car or storage tank until the initial outage and temperature measurements have been taken by the Engineer, nor shall the car or tank be released until the final outage has been taken by the Engineer. Copies of freight bills and weigh bills shall be furnished to the Engineer during the progress of the work.

## METHOD OF MEASUREMENT

603-4.1 The bituminous material for tack coat shall be measured by the [gallon (liter)] [ton (kg)]. Volume shall be corrected to the volume at 60 °F (15 °C) in accordance with ASTM D 1250 for cutback asphalt, ASTM D 633 for tar, and Table IV 3 of The Asphalt Institute’s Manual MS 6 for emulsified asphalt. Water added to emulsified asphalt will not be measured for payment.

## BASIS OF PAYMENT

603.5-1 Payment shall be made at the contract unit price per [gallon (liter)] [ton (kg)] of bituminous material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-603-5.1 Bituminous Tack Coat-per [gallon (liter)] [ton (kg)]

## MATERIAL REQUIREMENTS

|  |  |
| --- | --- |
| ASTM D 633 | Volume Correction Table for Road Tar |
| ASTM D 977 | Emulsified Asphalt |
| ASTM D 1250 | Petroleum Measurement Tables |
| ASTM D 2028 | Cutback Asphalt (Rapid-Curing Type) |
| ASTM D 2397 | Cationic Emulsified Asphalt |
| Asphalt Institute Manual MS-6 Table IV-3 | Asphalt Pocketbook of Useful Information (Temperature Volume Corrections for Emulsified Asphalts) |

End of Item P-603

## REFERENCES

1. AASHTO M 52 RTCB 5, RTCB 6 Tar
2. AASHTO M 52 Tar for Use in Road Construction
3. ASTM D 633 tar corrected to the volume at 60 F
4. ASTM D 633 Volume Correction Table for Road Tar
5. ASTM D 977 SS-1, SS-1h Emulsified Asphalt
6. ASTM D 977 Emulsified Asphalt
7. ASTM D 1250 cutback asphalt corrected to the volume at 60 F
8. ASTM D 1250 Petroleum Measurement Tables
9. ASTM D 2028 RC-70 Cutback Asphalt
10. ASTM D 2028 Liquid Asphalt (Rapid-Curing Type)
11. ASTM D 2397 CSS-1, CSS-1h Emulsified Asphalt
12. ASTM D 2397 Cationic Emulsified Asphalt
13. The Asphalt Institute's Manual MS-6 Table IV-3 emulsified asphalt corrected to the volume at 60 F
14. Asphalt Institute Manual MS--6 Table IV-3 Temperature-Volume Corrections for Emulsified Asphalts
15. FAA Item P-603 Bituminous Tack Coat

End of Item