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 extent and location of “Bituminous Prime Coat (FAA)” Work is shown in the Contract Documents. Bituminous prime coat shall be provided in accordance with the provisions of FAA Item P-602, Bituminous Prime 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-602 BITUMINOUS PRIME COAT

## DESCRIPTION

Prime coats provide protection of pavements from weather and traffic and provide bonding to the aggregate base. In some instances they can be eliminated from an airfield pavement section with approval from the Airport District Office. The elimination can be considered for aircraft under 12,500 pounds or under asphalt stabilized base courses.

602-1.1 This item shall consist of an application of bituminous material on the prepared base course 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.

602-2.1 BITUMINOUS MATERIAL. The types, grades, controlling specifications, and application temperatures for the bituminous materials are given in Table 1. The Engineer shall designate the specific material to be used.

### Table 1 Bituminous Material

Table 1: Include MC grade cutbacks as an option to the designer.

|  |  |  |  |
| --- | --- | --- | --- |
| **TYPE AND GRADE** | **SPECIFICATION** | **APPLICATION TEMPERATURES1** | |
|  | | *Deg. F* | *Deg. C* |
| **Emulsified Asphalt** | | | |
| SS-1, SS-1h | ASTM D 977 | 70-160 | 20-70 |
| MS-2, HFMS-1 | ASTM D 977 | 70-160 | 20-70 |
| CSS-1, CSS-1h | ASTM D 2397 | 70-160 | 20-70 |
| CMS-2 | ASTM D 2397 | 70-160 | 20-70 |
| **Cutback Asphalt** | | | |
| RC-30 | ASTM D 2028 | 80+ | 30+ |
| RC-70 | ASTM D 2028 | 120+ | 50+ |
| RC-250 | ASTM D 2028 | 165+ | 75+ |
| 1The maximum temperature for cutback asphalt shall be that at which fogging occurs. | | | |

## CONSTRUCTION METHODS

602-3.1 WEATHER LIMITATIONS. The prime coat shall be applied only when the existing surface is dry or contains sufficient moisture to get uniform distribution of the bituminous material, when the atmospheric temperature is above 60 °F (15 °C), and when the weather is not foggy or rainy. The temperature requirements may be waived, but only when so directed by the Engineer.

602-3.2 EQUIPMENT. The equipment used by the Contractor shall include a self-powered pressure bituminous material distributor and equipment for heating 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 prime operations shall be started and stopped on building power. 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.

602-3.3 APPLICATION OF BITUMINOUS MATERIAL. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The bituminous material including solvent shall be uniformly applied with a bituminous distributor at the rate of 0.25 to 0.50 gallons per square yard (1.20 to 2.40 liters per square meter) depending on the base course surface texture. The type of bituminous material and application rate shall be approved by the Engineer prior to application.

Following the application, the primed surface shall be allowed to dry not less than 48 hours without being disturbed or for such additional time as may be necessary to permit the drying out of the prime coat until it will not be picked up by traffic or equipment. This period shall be determined by the Engineer. The surface shall then be maintained by the Contractor until the surfacing has been placed. Suitable precautions shall be taken by the Contractor to protect the primed surface against damage during this interval, including supplying and spreading any sand necessary to blot up excess bituminous material.

602-3.4 BITUMINOUS MATERIAL CONTRACTOR’S RESPONSIBILITY. Samples of the bituminous materials that the Contractor proposes to use, together with a statement as to their 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 materials 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.

602-3.5 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

602-4.1 The bituminous material for prime 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, and Table IV-3 of The Asphalt Institute’s Manual MS-6 for emulsified asphalt.

## BASIS OF PAYMENT

602-5.1 Payment shall be made at the contract unit price per [gallon (liter)] [ton (kg)] for bituminous prime coat. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item p-602-5.1 Bituminous Prime Coat-per [gallon (liter)] [ton (kg)]

## TESTING REQUIREMENTS

|  |  |
| --- | --- |
| ASTM D 1250 | Petroleum Measurement Tables |
| Asphalt Institute Manual MS-6 Table IV-3 | Asphalt Pocketbook of Useful Information (Temperature-Volume Corrections for Emulsified Asphalts) |

## MATERIAL REQUIREMENTS

|  |  |
| --- | --- |
| ASTM D 977 | Emulsified Asphalt |
| ASTM D 2028 | Cutback Asphalt (Rapid Curing Type) |
| ASTM D 2397 | Cationic Emulsified Asphalt |

End of Item P-602

## REFERENCES

1. ASTM D 977 Emulsified Asphalt
2. ASTM D 977 MS-2, HFMS-1 Emulsified Asphalt
3. ASTM D 977 SS-1, SS-1h Emulsified Asphalt
4. ASTM D 1250 cutback asphalt corrected to the volume at 60 F
5. ASTM D 1250 Petroleum Measurement Tables
6. ASTM D 2028 Asphalt, Cutback (Rapid Curing Grade)
7. ASTM D 2028 RC-30 Cutback Asphalt
8. ASTM D 2028 RC-70 Cutback Asphalt
9. ASTM D 2028 RC-250 Cutback Asphalt
10. ASTM D 2397 Cationic Emulsified Asphalt
11. ASTM D 2397 CSS-1, CSS-1h Emulsified Asphalt
12. ASTM D 2397 CMS-2 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-602 Bituminous Prime Coat

End of Item