

M-494.4

AC 150/5370-10

CHANGE 7

DATE March 10, 1980

ADVISORY CIRCULAR

CHANGE



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

Subject: Change 7 to STANDARDS FOR SPECIFYING CONSTRUCTION OF AIRPORTS--
Rewritten in Guide Specification Format.

1. PURPOSE. This Change transmits Item P-603, Bituminous Tack Coat. It has been rewritten in guide specification format with minor editorial changes.

The Change number and date of changed material is carried at the top of each page.

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1. DESCRIPTION 3

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. 5
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2. MATERIALS 9

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. 12
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TABLE 1. BITUMINOUS MATERIAL 20

Type and Grade	Specification	Application Temperature		
		deg. F	deg. C	
Emulsified Asphalt				22
SS-1, SS-1h	ASTM D977	75-130	25-55	23
CSS-1, CSS-1h	ASTM D2397	75-130	25-55	24
Cutback Asphalt				25
RC-70	ASTM D2028	120-160	50-70	26
Tar				27
RTCB 5, RTCB 6	AASHTO M52	60-120	15-50	29
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3. CONSTRUCTION METHODS 36

3.1 WEATHER LIMITATIONS. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is above 60 degrees F (15 degrees C). The temperature requirements may be waived, but only when so directed by the Engineer. 39
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3.2 EQUIPMENT. The Contractor shall provide equipment for heating and applying the bituminous material. 45
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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 gages, volume-measuring devices or a calibrated tank, 51
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and a thermometer for measuring temperatures of tank contents. 57
The distributor shall be self-powered and shall be equipped with 58
a power unit for the pump and full circulation spray bars 59
adjustable laterally and vertically. 59

A power broom and/or blower shall be provided for any required 61
cleaning of the surface to be treated. 62

3.3 APPLICATION OF BITUMINOUS MATERIAL. Immediately before 65
applying the tack coat, the full width of surface to be treated 66
shall be swept with a power broom and/or airblast to remove all 67
loose dirt and other objectionable material. 67

Emulsified asphalt shall be diluted by the addition of water when 69
directed by the Engineer and shall be applied a sufficient time 71
in advance of the paver to ensure that all water has evaporated 72
before any of the overlying mixture is placed on the tacked 73
surface. 73

The bituminous material including vehicle or solvent shall be 75
uniformly applied with a bituminous distributor at the rate of 76
0.05 to 0.15 gallons per square yard (0.24 to 0.72 liters per 77
square meter) depending on the condition of the existing surface. 78
The type of bituminous material and application rate shall be 80
approved by the Engineer prior to application. 80

Following the application, the surface shall be allowed to cure 83
without being disturbed for such period of time as may be 84
necessary to permit drying out and setting of the tack coat. 84
This period shall be determined by the Engineer. The surface 86
shall then be maintained by the Contractor until the next course 86
has been placed. Suitable precautions shall be taken by the 88
Contractor to protect the surface against damage during this 89
interval. 89

3.4 BITUMINOUS MATERIAL-CONTRACTOR'S RESPONSIBILITY. Samples of 92
the bituminous material that the Contractor proposes to use, 92
together with a statement as to its source and character, must be 94
submitted and approved before use of such material begins. The 95
Contractor shall require the manufacturer or producer of the 95
bituminous material to furnish material subject to this and all 96
other pertinent requirements of the contract. Only satisfactory 98
materials so demonstrated by service tests, shall be acceptable. 99

The Contractor shall furnish the vendor's certified test reports 101
for each carload, or equivalent, of bituminous material shipped 103
to the project. The report shall be delivered to the Engineer 104
before permission is granted for use of the material. The 106
furnishing of the vendor's certified test report for the 106
bituminous material shall not be interpreted as a basis for final 107
acceptance. All such test reports shall be subject to 108

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verification by testing samples of material received for use on the project.

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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.

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4. METHOD OF MEASUREMENT

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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 degrees F (15 degrees C) in accordance with ASTM D1250 for cutback asphalt, ASTM D633 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.

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5. BASIS OF PAYMENT

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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.

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Payment will be made under:

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

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6. MATERIAL REQUIREMENTS

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ASTM D633 Volume Correction Table for Road Tar

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ASTM D977 Emulsified Asphalt

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ASTM D1250 Petroleum Measurement Tables

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<u>ASTM D2028</u>	<u>L</u> iquid Asphalt (Rapid-Curing Type)	169
<u>ASTM D2397</u>	<u>C</u> ationic Emulsified Asphalt	172
<u>AASHTO M52</u>	<u>T</u> ar for Use in Road Construction	175
<u>Asphalt Institute</u>	<u>T</u> emperature-Volume Corrections for	178
<u>Manual MS-6</u>	<u>E</u> mulsified Asphalts	181
<u>Table IV-3</u>		183
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-		185.5