
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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SECTION 02985

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06/04

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SECTION 02985

ASPHALT-PAVING REPAIR
06/04

NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This section covers asphalt-paving repair.

Drawings must indicate the areas to be repaired and extent of repair required.

Facilities must refer to corresponding local highway specifications.

Recycling Considerations:

Specifier should review the Intermodal Surface Transportation Efficiency Act of 1991 for recommendations on recycling of scrap rubber tires into asphalt mixes. References: U.S. Code Congressional and Administrative News, ASTM D 2000, ASTM D 1566, ASTM D 3515 and AI MS 2.

PART 1 GENERAL

1.1 REFERENCES

NOTE: The following references should not be manually edited except to add new references. References not used in the text will automatically be deleted from this section of the project specification.

The publications listed below form a part of this section to the extent referenced:

ASPHALT INSTITUTE (AI)

AI ES-12

(1982; R 1997) Asphalt Surface Treatment - Construction Techniques

ASTM INTERNATIONAL (ASTM)

ASTM D 2399	(1983; R 1999) Standard Practice for Selection of Cutback Asphalts
ASTM D 946	(1982; R 1999) Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D 977	(2003) Standard Specification for Emulsified Asphalt

1.2 SYSTEM DESCRIPTION

Unit of measurement for asphaltic concrete shall be [_____] [12] pounds per square foot per inch [60] kilogram per square meter per 25 millimeter thickness, with a permissible variation of plus or minus [4] [_____] percent in the required tonnage.

1.3 SUBMITTALS

NOTE: Review submittal description (SD) definitions in Section 01330 SUBMITTALS and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

The following shall be submitted in accordance with Section 01330 SUBMITTALS in sufficient detail to show full compliance with the specification:

SD-03 Product Data

Certificates of Compliance shall be submitted for the following items including weigh tickets as delivered to site.

- Tack Coat
- Prime Coat
- Asphalt
- Hot-Plant Mix

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Tack Coat

Asphaltic emulsion shall be Grade [RS-1] [SS-1] according to ASTM D 977.

2.1.2 Prime Coat

Liquid asphalt shall be Grade MC-70 according to ASTM D 2399.

2.1.3 Aggregate

Maximum size of aggregate shall be 3/8-inch 10 millimeter, graded in accordance with the local highway department specifications.

2.1.4 Asphalt

Asphalt shall be [40 to 50] [_____] Penetration Grade ASTM D 946, 5.0 to 6.5 percent (by weight of aggregate).

2.2 MIXES

Hot-plant mix shall be from a commercial asphalt plant and shall be uniform throughout. Hot-mix formula shall be submitted for approval by the Contracting Officer at least [14] [_____] calendar days prior to being used on the job.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Temperature

Hot-mix temperature shall not exceed 325 degrees F 165 degrees C when applied. Asphaltic concrete paving shall be laid in one course.

3.1.2 Tack Coat

A tack coat shall be applied at the rate of 0.05 to 0.10 gallon per square yard 0.2 to 0.5 liter per square meter of the surface covered where asphaltic concrete is to be placed over or against existing asphaltic pavement or concrete surfaces.

3.1.3 Paving

A paving machine shall be used for accessible and sizable areas. Raking shall be used only to remove excess material. Where the paving is hand spread, a sufficient labor force shall be used for rapid and smooth operation to prevent chilling of the mix before spreading and rolling are completed. Paving shall not be laid at an ambient temperature below 40 degrees F 5 degrees C or during unfavorable weather. Only hot tools shall be used.

3.1.4 Prime Coat

A prime coat for repair work shall be applied to the prepared base course. Coating shall be pressure-applied at a rate of 0.3 gallon per square yard. 1.5 liter per square meter.

3.1.5 Cracks in Asphalt

Cracks less than [_____] [1/8] inch [3] millimeter shall be repaired by removing loose and defective material with a broom or compressed air and replacing with a hot-plant-mixed patching material (such as a rapid setting asphalt emulsion). Larger areas to be patched shall be saw cut square or rectangular. Sawn edges shall be painted with asphalt, ASTM D 2399, Grade MC-70.

3.1.6 Existing Surfaces

Existing surfaces shall be prepared in accordance with AI ES-12.

3.1.7 Joining Existing Paving

Edges of existing pavement shall be saw cut to straight vertical surfaces and cleaned, where new and existing paving intersect. Juncture of the new and existing paving shall be flush and made in a manner to ensure a continuous bond. Apply tack coat to sawn edges prior to placing adjoining pavement.

3.1.8 Compaction of Asphaltic Concrete

Rolling with a 5- to 8-ton 4500 to 7300 kilogram steel-wheeled tandem roller or rollers sufficient in size and number shall start immediately after placing has been completed, temperature of hot-mix permitting, and when asphaltic mixture will not pick up and adhere to the rollers. Rolling shall continue, as the temperature allows, until the surface texture has completely closed and roller marks are removed. Areas inaccessible to the roller shall be completed by hand methods, continuing until the mixture is compacted and the surface smooth. Minimum density of the paving when compacted shall be not less than [90] [_____] percent of the calculated voidless density of the mixture.

3.1.9 Finish

Upon completion of compaction, smoothness of the finished surface (except where breaks in grade are required) shall vary not more than 3/16 inch 5 millimeter when tested with a 10-foot 3000 millimeter straightedge in both directions. Completed surfaces shall be free of all standing water when flood-tested. If water stands or ponds on any surface, the asphalt concrete surface shall be corrected to eliminate this condition without additional cost to the Government.

3.2 FIELD QUALITY CONTROL

3.2.1 Tests

Tests will not be required of aggregate, paving, or emulsified asphalts provided these materials have been obtained from approved sources and processed by acceptable plants and methods.

3.2.2 Inspection

Weigh tickets shall indicate the application of the required number of pounds kilogram of asphaltic concrete per square foot meter of area paved.

-- End of Section --