

SECTION 32 12 18

ASPHALT SEALING & CRACK SEAL

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:

1. Asphalt seal coating
2. Hot-mix asphalt patching.
3. Crack sealing

B. Related Sections include the following:

1. Division 31, Section “Earth Moving” for soil materials, excavating, backfilling, and site grading.
2. Division 32, Section “Pavement Markings” for pavement striping and symbols.

1.03 SYSTEM DESCRIPTION

A. Provide hot-mix asphalt paving in accordance with Section 401 of the WISDOT Specifications.

1. Apply (1) coat of asphalt emulsion sealer.
2. Utilize a sealer mixture containing a minimum (4%) additive to enhance flexibility adhesion to pavement surfaces and durability.
3. Include 1-3 pounds of fractured silica sand per gallon of sealer to improve skid resistance and wear characteristics.

1.05 SUBMITTALS

- A. Product Data: For each type of product indicated, include technical data and tested physical and performance properties.
- B. Job-Mix Designs: For each job mix proposed for the work.
- C. Material Test Reports: For each paving material.
- D. Material Certificates: For each paving material, signed by providers.

1.06 QUALITY ASSURANCE

A. Manufacturer and Installer Qualifications:

- 4. Manufacturer Qualifications: Engage a manufacturer experienced in seal coating asphalt similar to that indicated for this Project and with a record of successful in-service performance.
- 5. Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

B. Testing Agency:

- 1. All testing and inspections required herein will be performed by an independent testing and inspection agency employed by the Owner.
- 2. Notify the testing and inspection agency not less than 48 hours in advance of all work requiring testing or inspection services.

D. Preconstruction Conference: Conduct conference at Project site as directed by the Owner's Representative. The Contractor is to comply with requirements, which may also be included in Division 1, Section "Project Management and Coordination."

1.07 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:

- 1. Tack Coats: Minimum surface or air temperature in the shade of 60 degrees F.

B. Coordination and Scheduling:

- 1. Cooperate with other trades and arrange scheduling to avoid damage to other work, including grading, site utilities and piping, exterior concrete, landscaping, and irrigation systems.

2. Before commencing pavement operations, ascertain that utility lines, site lighting and wiring, piping, curb and gutter work, general grading, and heavy trucking are complete so that such operations will not damage paving work.
3. Mask off and protect exposed building surfaces and abutting concrete from damage or staining caused by tack coat and paving operations.

PART 2 PRODUCTS

2.01 Sealer

- A. Crack seal: Use Rite Point or Meadows Hi Spec, lbs. maximum, or virgin rubberized hot pour crack sealant.
- B. Asphalt Sealer: Utilize a sealer mixture containing a minimum (4%) additive to enhance flexibility adhesion to pavement surfaces and durability. Include 1-3 pounds of fractured silica sand per gallon of sealer to improve skid resistance and wear characteristics.
- C. Mineral Filler: Rock dust, slag dust, hydrated lime, hydraulic cement, or other suitable mineral material conforming to the requirements of Subsection 703.06 of the WISDOT Specifications.

2.02 ASPHALT MATERIALS

- A. Asphalt Cement: The asphalt cement to be used on this project shall be PG 64-22 conforming to the requirements of Subsection 702.01 of the WISDOT Specifications.
- B. Tack Coat: AASHTO M140, emulsified asphalt or AASHTO M208, cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.
- C. Fog Seal: AASHTO M140, emulsified asphalt or AASHTO M208, cationic emulsified asphalt, slow setting, diluted at the factory in water, of suitable grade and consistency for application.
- D. Water: Potable.

2.03 MIXES

- A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes. Furnish job-mix formulas for each pavement type, conforming to the requirements of Subsection 401.02 of the WISDOT Specifications. Mix aggregates and bituminous materials in accordance with the requirements of Subsection 401.15 of the WISDOT Specifications. Use approved job mix formulas. Mix to comply with the following requirements:
1. Provide mixes with a history of satisfactory performance in the geographical area where the Project is located.
 2. Base Course: Grading S.

3. Surface Course: Grading SX. B. Emulsified-Asphalt: Shall conform to AASHTO M140 or AASHTO M208 in accordance with Subsection 702.02 of the WISDOT Specifications.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Building / Property access must be maintained as indicated in the RFB documents.
- B. Verify that substrate is dry, free of water, snow, and ice, and otherwise in suitable condition to support sealer.
- C. Remove vegetation, debris, dirt and loose material from pavement surfaces and cracks. All cracks shall be cleaned out to ensure sealant bonds and adheres to pavement surfaces.
- D. Machines sweep and blow off all surfaces prior to coat application.
- E. Seal cracks 1/4" or larger
- F. Apply (1) coat of asphalt emulsion sealer in accordance with manufacturers' recommendations.

3.02 COLD MILLING

- A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.
 1. Mill to a minimum depth of 1-1/2 inches, or as indicated on the plans.
 2. Mill to a uniform finished surface free of gouges, grooves, and ridges.
 3. Control the milling rate to prevent tearing of the existing asphalt course.
 4. Repair or replace curbs, manholes, and other construction damaged during cold milling.
 5. Excavate and trim unbound-aggregate base course, if encountered, and keep material separate from milled hot-mix asphalt.
 6. Transport milled hot-mix asphalt to asphalt recycling facility.
 7. Keep milled pavement surface free of loose material and dust.

3.03 PATCHING

A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent

sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 gal./sq. yd. to 0.2 gal./sq. yd.

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings.
Remove spillages and clean affected surfaces.

C. Patching: Partially fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.

END OF SECTION