

**SECTION 02515
AGGREGATE SEAL COATING – FURNACE SLAG**

PART 1 - GENERAL

1.1 Description of the Work Covered by This Specification Section

This section describes the provision of materials for and the application of a seal coat composed of an application of asphalt binder material, with a covering of fine aggregate, on an existing paved roadway surface.

PART 2 - MATERIALS & EQUIPMENT

2.1 Asphalt Binder

The asphalt binder layer shall be cationic emulsified asphalt and shall meet the requirements of Sections 455 and 475 of the latest version of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, as set forth on the Department of Transportation website.

2.2 Crushed Aggregate (3/8-inch)

The crushed aggregate material for seal coat cover shall be hard, durable particles of dry, lightweight bottom slag. The percentage of wear, as determined by the Los Angeles abrasion test, shall not exceed 40. At least 60%, by count, of the number of particles retained on the No. 4 sieve shall have at least one fractured face. When the fraction of the aggregates retained on the No. 4 sieve is subjected to five cycles of the sodium sulphate soundness test the weighted loss shall not exceed 18%, by weight.

The aggregate for seal coat cover shall conform to the following gradation requirements:

Sieve Size	Percent Passing, by weight
1/2-Inch	100
3/8-Inch	95 - 100
No. 4	0 - 60
No. 16	0 - 5

2.3 Equipment

The Contractor shall have available on the site and use as appropriate an asphalt distributor, an aggregate spreader, one or more rollers, and a power broom. The variation in the longitudinal spread of the distributor shall not vary by more than 10%, and the variation in the longitudinal spread of the distributor shall not vary by more than 15%. The rollers shall be self-propelled, smooth-tread, pneumatic-tired rollers or relatively light steel wheel rollers (6 to 8 tons) which will not crush the aggregate particle.

PART 3 - CONSTRUCTION

3.1 Preparation of Existing Surface

Existing pavements to receive seal coat shall be cleaned over the full width to be treated immediately prior to the application of the asphalt binder. Particular care shall be taken to thoroughly clean the outer edges of the pavement to be treated. This cleaning shall be accomplished with a power broom.

3.2 Application of Asphalt Binder

The asphalt binder layer shall be applied at a rate of 0.37 to 0.39 gallons per square yard in accordance with the provisions of Section 475 of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, as set forth on the Department of Transportation website. These materials shall be applied only when the air temperature is 50 degrees Fahrenheit, or higher, and when the surface is dry. Application shall not take place when rains are known or believed to be impending. The surface area treated with binder in any day shall be limited to the amount which can be properly covered with aggregate and rolled in that same day. The surface which has been treated shall be closed to traffic until the aggregate is applied and rolled.

3.3 Application of and Rolling of Aggregate

Aggregate shall be spread in accordance with the equipment requirements and methods specified in Section 475 of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, as set forth on the Department of Transportation website. When the desired stage of tackiness of the applied asphalt binder is attained the aggregate shall be spread uniformly over the treated surface at an average rate of 25 to 27 pounds per square yard. The aggregate shall be damp to surface dry and, if necessary, it shall be moistened with water to reduce the dust coating which might affect its bond to the asphalt binder. Immediately after the aggregate is spread the surface shall be

rolled. Rolling shall start at the edges and shall continue to the center, lapping one-half the roller width on each successive trip. Rolling shall be continued until the aggregate for seal coat cover is thoroughly embedded and the surface is smooth and uniform in texture. The surface shall then be lightly broomed to remove excess aggregate. Traffic signs shall then be erected to limit speeds to 20 miles per hour for the next 24 hours.

3.4 Warranty

The Contractor shall warranty the materials and workmanship for a period of one year following acceptance of the work, as signified by final payment. Any defects in materials and workmanship found within the warrantee period shall be repaired by the Contractor or the affected areas shall be re-treated, at no cost to the Owner.

END OF SECTION

**SECTION 02515
AGGREGATE SEAL COATING – 3/8” CHIPS**

PART 1 - GENERAL

1.1 Description of the Work Covered by This Specification Section

This section describes the provision of materials for and the application of a seal coat composed of an application of a layer of emulsified asphalt, with a covering of fine aggregate, on an existing paved roadway surface.

PART 2 - MATERIALS & EQUIPMENT

2.1 Emulsified Asphalt Binder Layer

Emulsified asphalt shall be cationic and shall meet the requirements of Sections 455 and 475 of the latest version of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, as set forth on the Department of Transportation website.

2.2 Crushed Aggregate ($\frac{3}{8}$ -inch)

The crushed aggregate material for seal coat cover shall be hard, durable particles of crushed stone meeting the requirements of Section 475 of the latest version of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, as set forth on the Department of Transportation website. The percentage of wear, as determined by the AASHTO T96 test, shall not exceed 40 after 500 revolutions. At least 60%, by count, of the number of particles retained on the No. 4 sieve shall have at least one fractured face. Aggregate retained on the No. 4 sieve shall have 10 percent, by weight, or less flat & elongated pieces based on a 5:1 ratio.

The aggregate for seal coat cover shall conform to the following gradation requirements:

Sieve Size	Percent Passing, by weight
½-Inch	100
$\frac{3}{8}$ -Inch	95 - 100
No. 4	0 - 60
No. 16	0 - 5

2.3 Equipment

The Contractor shall have available on the site and use as appropriate equipment to heat and distribute the asphalt, an aggregate spreader, steel wheel and pneumatic-tire rollers, and a power broom. The variation in the longitudinal spread of the distributor shall not be more than 10%. Use steel wheel rollers (6 to 9 tons) and pneumatic-tire rollers with tires on one axle arranged to cover the spaces between tires on the other axle. Ensure that all tires are the same size and uniformly inflated. The pneumatic-tired rollers shall be self-propelled, smooth-tread rollers which will not crush the aggregate particle during roller operation. Ensure that the wheel load and tire contact pressure is 30 psi or greater. If the engineer requests, furnish manufacturer documentation showing the contact areas and contact pressures for various wheel loadings and tire inflation pressures.

PART 3 - CONSTRUCTION

3.1 Preparation of Existing Surface

Existing pavements to receive seal coat shall be cleaned over the full width to be treated immediately prior to the application of the asphalt binder layer. Particular care shall be taken to thoroughly clean the outer edges of the pavement to be treated. This cleaning shall be accomplished with a power broom.

3.2 Application of Emulsified Asphalt to Create the Asphalt Binder Layer

The emulsified asphalt shall be applied at a rate of approximately 0.30 gallons per square yard, or at a rate so that 70% of the average chip dimension will be imbedded in the emulsified asphalt, in accordance with the provisions of Section 475 of the latest version of the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, as set forth on the Department of Transportation website. These materials shall be applied only when the air temperature is 50 degrees Fahrenheit, or higher, and when the surface is dry. Application shall not take place when rains are known or believed to be impending. The surface area treated with emulsified asphalt in any day shall be limited to the amount which can be properly covered with aggregate and rolled in that same day. The surface which has been treated shall be closed to traffic until the aggregate is applied and rolled.

3.3 Application of and Rolling of Aggregate

Aggregate shall be spread in accordance with the equipment requirements and methods specified in Section 475 of the latest version of State of Wisconsin

Department of Transportation Standard Specifications for Highway and Structure Construction as set forth on the Department of Transportation website. When the desired stage of tackiness of the applied asphalt binder is attained the aggregate shall be spread uniformly over the treated surface at an average rate of 25 to 27 pounds per square yard. The aggregate shall be damp to surface dry and, if necessary, it shall be moistened with water to reduce the dust coating which might affect its bond to the asphalt binder. Immediately after the aggregate is spread the surface shall be rolled, first with the steel wheeled roller. Rolling shall start at the edges and shall continue to the center, lapping one-half the roller width on each successive trip. Rolling shall be continued until the aggregate for seal coat cover is thoroughly embedded and the surface is smooth and uniform in texture. The surface shall then be lightly broomed to remove excess aggregate. Traffic signs shall then be erected to limit speeds to 20 miles per hour for the next 24 hours.

3.4 Warranty

The Contractor shall warrantee the materials and workmanship for a period of one year following acceptance of the work, as signified by final payment. Any defects in materials and workmanship found within the warrantee period shall be repaired by the Contractor or the affected areas shall be re-treated, at no cost to the Owner.

END OF SECTION