



## SECTION 407

### TACK COAT

**407.1 Description.** This work shall consist of preparing and treating an existing bituminous or concrete surface with bituminous material, in accordance with these specifications.

**407.2 Material.** All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Emulsified Asphalt or Performance Graded Asphalt Binder	1015

**407.3 Equipment.** The contractor shall provide a system for heating and applying the bituminous material. The system shall be designed, equipped, maintained and operated such that emulsified asphalt or liquid asphalt, at even heat, may be applied uniformly on variable widths of surface up to 15 feet with uniform pressure and an allowable variation from any specified rate of  $\pm 0.01$  gallon per square yard. The system shall include a calibrated tank and a thermometer for measuring temperature of tank contents. The system shall be equipped with instrumentation that continuously verifies application rates. The calibration of the system shall be approved by the engineer prior to use, and the contractor shall furnish all equipment, material and assistance if calibration is required.

#### 407.4 Construction Requirements.

**407.4.1 Preparation of Surface.** The existing surface shall be free of all dust, loose material, grease or other foreign material at the time the tack is applied. Any excess bituminous surface mixture or bituminous joint material will be removed by MoDOT without cost to the contractor before the tack is applied.

**407.4.1.1 Coldmilled Surfaces.** All coldmilled surfaces shall be in accordance with [Sec 622.10](#), except modified herein. Coldmilled surfaces shall be swept or vacuumed prior to tack coat application. The sweeping or vacuuming requirement may be waived, if traffic is

allowed onto the coldmilled surface and is considered clean by the engineer.

**407.4.1.2 Pre-wetting.** Existing surfaces may be pre-wetted just prior to the tack coat application. Pre-wetting shall consist of misting the surface with controlled spraying equipment to achieve a damp condition with no standing water or shiny appearance.

**407.4.2 Asphalt Emulsion Application.** Asphalt emulsion shall be applied uniformly with a pressure distributor or spray paver at the target rates indicated in the following table. Upon approval by the engineer, the target application rate may be varied by +/- 0.02 gal/sy in the field, based upon the existing pavement condition. The tack coat material shall be heated at the time of application to a temperature in accordance with [Sec 1015](#). When an asphalt emulsion is applied through a pressure distributor, the tack coat shall be properly set and the tacked surface shall be clean of all dirt before the next course is placed.

<b>Tack Coat Application Rates</b>		
<b>Surface Type</b>	<b>Target Application Rate; Undiluted (gal/yd<sup>2</sup>)</b>	<b>Target Application Rate; 20% Diluted (gal/yd<sup>2</sup>)</b>
New Asphalt Surfaces	0.05	0.06
Existing Asphalt or Concrete Surfaces	0.08	0.10
Coldmilled Asphalt or Concrete Surfaces	0.10	0.13

**407.4.2.1 Dilution of Asphalt Emulsions.** Water may be added only by the tack coat manufacturer and shipped to the jobsite. No dilution shall be allowed in the field. When water is added to the asphalt emulsion, the resulting mixture shall contain no more than 20 percent of added water. The contractor shall notify the engineer of the use of a diluted emulsion. The exact quantity of added water shall be indicated on the manufacturer's bill of lading, manifest or truck ticket. The target application rate shall be adjusted to the diluted target application rate as specified in the table under [Sec 407.4.2](#).

**407.4.2.2 Performance Graded (PG) Asphalt Binder.** Hot applied PG graded asphalt binders may be used as tack coat in lieu of emulsified asphalt. The PG graded binders shall be applied uniformly with a pressure distributor to provide complete coverage of the

preceding course or layer. Safety procedures of hot applied asphalt shall be addressed in the contractor's safety plan. A pre-construction meeting shall be held to address all safety procedures and protocols of hot applied asphalt prior to tack coat application.

**407.4.3 Tack.** The tack coat shall be applied in such a manner as to cause the least inconvenience to traffic and to permit one-way traffic without tracking of asphalt emulsion. A bituminous mixture shall not be placed upon a tacked surface that is not uniformly covered or surfaces that have experienced excessive loss of tack due to tracking. Re-application of tack due to excess tracking or non-uniform coverage shall be at the contractor's expense. All exposed tack coat shall be covered with bituminous mixture prior to opening to traffic.

**407.5 Method of Measurement.** Measurement of asphalt emulsion to the nearest 10 gallons will be made in accordance with [Sec 1015](#). If water is added to asphalt emulsion, the quantity to be paid for will be determined prior to the addition of water.

**407.6 Basis of Payment.** The accepted quantity of tack coat will be paid for at the contract unit price. No direct payment shall be made for water added to the asphalt emulsion.