# Rapid Penetrating Emulsion JSP 23-03

**1.0 Description.** This work shall consist of preparing and treating an existing bituminous or concrete surface with bituminous material in accordance with Section 407, except as revised by this specification.

**2.0 Equipment and Construction Requirements.** All equipment and construction requirements shall be in accordance with Section 407; except as revised as follows:

**2.1 Storage and Handling.** All guidelines and instructions about storage and handling of the penetrating emulsion shall be followed in accordance with the product manufacturer. A copy of this information shall be provided to the engineer. The information shall include the application and maximum allowable temperatures for the product and the particle charge.

**2.2 Distributor.** The distributor shall have the full circulating and heating capabilities in the tank. If the particle charge of the penetrating emulsion is different from the particle charge of the emulsion that was previously used then the tank shall be thoroughly cleaned prior to use, since some products are not compatible.

**2.3 Asphalt Emulsion Application.** The penetrating emulsion shall be applied to the longitudinal joint uniformly and sprayed 24 inches wide within +/- 2 inches with a pressure distributor at the target rate of 0.15 gal/sy. 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.

**2.4 Curing.** The penetrating emulsion shall be allowed to cure prior to any construction traffic driving on the surface. A minimum of 15 minutes of cure time shall be allowed prior to driving on the tacked surface unless less cure time is successfully demonstrated and approved by the engineer.

**3.0 Material Requirements.** All material shall be in accordance with Section 1015 of the Standard Specifications and specifically as follows:

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| **Emulsion Properties for Penetrating Emulsion** | | | |
| Tests | Method | Min | Max |
| Viscosity, Saybolt Furol @ 25°C (77°F), s | AASHTO T 59 | -- | 50 |
| Sieve Test, percent | AASHTO T 59 | -- | 0.1 |
| Identification Test, percent | MODOT TM 94\*\* | 60 | -- |
| Water Resistance Test, percent | MODOT TM 95\*\* | 60 | -- |
| Residue by Distillation, percent | AASHTO T 59 | 30 |  |
| Oil Distillate by Distillation, percent | AASHTO T 59 | -- | 1.0 |
| Test on Residue from Distillation | | | |
| Penetration 25°C, 100 g, 5 s | AASHTO T 49 | -- | 150 |
| Ash Content, % | AASHTO T 111 | -- | 1.0 |

\*\*MODOT TM is in reference to MODOT Test Methods

**4.0 Method of Measurement.** Measurement of asphalt emulsion to the nearest gallon, based on initial and final distributor reading, shall be made as specified in Sec 1015. The measurement of asphalt emulsion shall be based upon undiluted material.

**5.0 Basis of Payment.** The accepted quantity of penetrating emulsion will be paid for at the contract unit price of 408-99.12 Misc. Rapid Penetrating Emulsion. If used for remedial action, the corrections shall be done at the contractor’s expense.