COMMONWEALTH OF KENTUCKY
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August 14, 2019

CALL NO. 301
CONTRACT ID NO. 191232
ADDENDUM \# 1

Subject: MUHLENBERG COUNTY, FD04 SPP 0890062 016-018 Letting August 23, 2019
(1) Added - Special Notes - Pages $208(a)$ - 208 (c) of 225
(2) Revised - Plan Sheets - R2B, R2C, R2F, and R2L

Proposal revisions are available at http://transportation.ky.gov/ConstructionProcurement/.

If you have any questions, please contact us at 502-564-3500.

Sincerely,


Rachel Mills, P.E.
Director
Division of Construction Procurement

RM: mr
Enclosures

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## SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.
2. MATERIALS, EQUIPMENT, AND PERSONNEL.
2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.
2.1.1 Provide an adhesive conforming to the following requirements:

| Property | Specification | Test Procedure |
| :--- | :---: | :--- |
| Viscosity, $400^{\circ} \mathrm{F}(\mathrm{Pa} \cdot \mathrm{s})$ | $4.0-10.0$ | ASTM D 4402 |
| Cone Penetration, $77^{\circ} \mathrm{F}$ | $60-100$ | ASTM D 5329 |
| Flow, $140^{\circ} \mathrm{F}(\mathrm{mm})$ | 5.0 max. | ASTM D 5329 |
| Resilience, $77^{\circ} \mathrm{F}(\%)$ | 30 min. | ASTM D 5329 |
| Ductility, $77^{\circ} \mathrm{F}(\mathrm{cm})$ | 30.0 min. | ASTM D 113 |
| Ductility, $39^{\circ} \mathrm{F}(\mathrm{cm})$ | 30.0 min. | ASTM D 113 |
| Tensile Adhesion, $77^{\circ} \mathrm{F} \mathrm{( } \mathrm{\%)}$ | 500 min. | ASTM D 5329, Type II |
| Softening Point, ${ }^{\circ} \mathrm{F}$ | 171 min. | AASHTO T 53 |
| Asphalt Compatibility | Pass | ASTM D 5329 |

Ensure the temperature of the pavement joint adhesive is between 380 and $410{ }^{\circ} \mathrm{F}$ when the material is extruded in a 0.125 -inch-thick band over the entire face of the longitudinal joint.

### 2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.
2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.
2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

## 3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.
3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of $40^{\circ} \mathrm{F}$ during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).
3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive’s certification to the Engineer stating the material conforms to all requirements herein prior to use.
3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb . samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is $400^{\circ} \mathrm{F}$ or below at the time of sampling.
4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

| Pavement Joint Adhesive Price Adjustment Schedule |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Test | Specification | 100\% Pay | 90\% Pay | 80\% Pay | 50\% Pay | 0\% Pay |
| Joint Adhesive Referenced in Subsection 2.1.1 |  |  |  |  |  |  |
| Viscosity, $400^{\circ} \mathrm{F}$ (Pa•s) ASTM D 3236 | 4.0-10.0 | 3.5-10.5 | $\begin{gathered} 3.0-3.4 \\ 10.6-11.0 \end{gathered}$ | $\begin{gathered} 2.5-2.9 \\ 11.1-11.5 \end{gathered}$ | $\begin{gathered} 2.0-2.4 \\ 11.6-12.0 \end{gathered}$ | $\begin{gathered} \leq 1.9 \\ \geq 12.1 \end{gathered}$ |
| Cone Penetration, $77^{\circ} \mathrm{F}$ <br> ASTM D 5329 | 60-100 | 57-103 | $\begin{gathered} 54-56 \\ 104-106 \end{gathered}$ | $\begin{gathered} 51-53 \\ 107-109 \end{gathered}$ | $\begin{gathered} 48-50 \\ 110-112 \end{gathered}$ | $\begin{gathered} \leq 47 \\ \geq 113 \end{gathered}$ |
| Flow, $140{ }^{\circ} \mathrm{F}$ (mm) ASTM D 5329 | $\leq 5.0$ | $\leq 5.5$ | 5.6-6.0 | 6.1-6.5 | 6.6-7.0 | $\geq 7.1$ |
| Resilience, $77{ }^{\circ} \mathrm{F}$ (\%) ASTM D 5329 | $\geq 30$ | $\geq 28$ | 26-27 | 24-25 | 22-23 | $\leq 21$ |
| Tensile Adhesion, $77{ }^{\circ} \mathrm{F}$ (\%) ASTM D 5329 | $\geq 500$ | $\geq 490$ | 480-489 | 470-479 | 460-469 | $\leq 459$ |
| Softening Point, ${ }^{\circ} \mathrm{F}$ AASHTO T 53 | $\geq 171$ | $\geq 169$ | 166-168 | 163-165 | 160-162 | $\leq 159$ |
| Ductility, $77{ }^{\circ} \mathrm{F}$ (cm) ASTM D 113 | $\geq 30.0$ | $\geq 29.0$ | 28.0-28.9 | 27.0-27.9 | 26.0-26.9 | $\leq 25.9$ |
| Ductility, $39^{\circ} \mathrm{F}$ (cm) ASTM D 113 | $\geq 30.0$ | $\geq 29.0$ | 28.0-28.9 | 27.0-27.9 | 26.0-26.9 | $\leq 25.9$ |

Code<br>20071EC

Pay Item
Joint Adhesive

Pay Unit Linear Foot

May 7, 2014









