

STATE

OF

TENNESSEE

Rev. 10-1-99
Rev. 12-1-01

March 1, 2006

SPECIAL PROVISION

REGARDING

CLEANING AND RESEALING JOINTS AND CRACKS

Description. This work shall consist of the preparation and sealing of pavement joints and cracks with a fiber-reinforced sealant using a mixture of polypropylene fibers, asphalt cement, and any additives necessary to prevent tracking.

Materials.

- 1) Asphalt cement – PG 64-22 meeting **Subsection 904.01** of the Standard Specifications and with a penetration value of 5 to 80.
- 2) Polypropylene fibers meeting the following properties:

<u>Physical Property</u>	<u>Value</u>
Material.....	polypropylene
Denier.....	15 ± 3
Length.....	10 ± 2 mm
Color.....	white
Crimps.....	none
Tensile Strength.....	40,000 psi min.
Specific Gravity.....	0.91
Minimum Melting Point.....	295 degrees F.
Asphalt Affinity.....	≥ than 7.0 lb
Moisture Absorption.....	≤ than 0.1%
Alkali Resistance.....	99% strength retained
Acid Resistance.....	99% strength retained

Acceptance of the fibers shall be a letter of compliance from the manufacturer.

Composition. The material shall be combined so that fibers are a minimum of 7.0% by total weight of the asphalt cement. The combined materials shall meet the following properties:

Strength (at break) at 72 degrees F. ... 350 psi minimum

at 0 degrees F. ... 500 psi minimum
Elongation (at break) at 72 degrees F. ... 50% minimum
at 0 degrees F. ... 20% minimum

Weather Limitations. Crack Sealing shall not be performed when the surface temperature is below 40 degrees F.

Mixing. Weigh tickets for the asphalt cement shall be used in determining the above proportion of fiber to be blended. The crack sealing material shall be blended in an oil-jacketed double walled kettle equipped with full sweep agitator or reverse rotary auger, capable of maintaining the mixture with separate thermometers for oil bath and melting vat. Unit must also be equipped with a pump (equal or better than Roper 2" hot asphalt pump). Temperature of the sealant shall not exceed 295 degrees F.

Preparation. Prior to the application of the sealant, joints and cracks shall be thoroughly cleaned by hot compressed air to remove dust, dirt, moisture, vegetation and other foreign material that will prevent bonding of the sealant. These areas shall be kept clean and dry until all sealing operations are completed.

Sealing shall be limited to cracks that are open enough to permit entry of the sealant. Tightly closed cracks (less than 3/16 inch) shall only be sealed if they show signs of raveling or spalling. Traffic shall not be allowed on the sealant until it has cured and the Engineer determines that the possibility of tracking does not exist.

Installation. The sealant shall be placed with an applicator head which will completely fill the crack and leave a 2.0 to 3.0 inch wide band.

Basis of Payment. Accepted quantities of Crack Sealant shall be paid for at the contract unit price per pound of PG 64-22 with polypropylene fibers for preparation and sealing of cracks in the existing pavement. Such payment shall include mobilization, materials, equipment, tools and labor incidental thereto.