

**OKLAHOMA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION  
FOR  
BITUMINOUS (FIBER FILL) CRACK SEALING**

These special provisions amend and where in conflict, supersede applicable sections of the 2009 Standard Specifications for Highway Construction, English and Metric.

*(Add the following:)*

**415.02 MATERIALS**

Provide a certificate of analysis from the manufacturer as proof of meeting the required specifications for each batch of materials.

**A. COMPOSITION OF SEALANT**

Provide a crack/joint sealant consisting of a mixture of no less than 8.0% by weight of polypropylene fibers (92% AC + 8% fiber = 100% mix).

**B. ASPHALT CEMENT**

Provide either PG 64-22 or PG 70-22 asphalt cement, meeting subsection 708.03. Additionally, ensure Penetration, 77EF, 100g. 5 sec. falls between 60 and 85.

**C. FIBER**

Provide fibers manufactured for use in bituminous concrete mixes as specified in the Contract, of uniform, singular shape and color, meeting the following requirements.

<b>Physical Property</b>	<b>Value</b>	<b>Test Procedure</b>
Materials	Polypropylene	
Denier	.00189"±.0004" (15±3)	ASTM D-1577*
Length	10±2mm	
Crimps	None	ASTM D-3987-82
Tensile Strength	40,000psi, min.	ASTM D-822-83*
Elongation	33% minimum	ASTM D-2256-80*
Specific Gravity	0.91	
Alkali Resistance	99% strength retained	40% NaOH solution at 70°F for 1000 hrs

Physical Property	Value	Test Procedure
Acid Resistance	99% strength retained	95% HCl solution at 70 °F for 1000 hrs
Moisture Regain at 70 °F and 65% Relative Humidity	Less than 0.1%	ASTM D-2654-76
Shrinkage	0% at 300 °	C.T.L. temperature resistance test

### 415.03 EQUIPMENT

Furnish equipment in accordance with subsection 108.06. Furnish application equipment possessing the following minimum capabilities:

- (1) A pre-application batch unit to provide a continuous supply of properly proportioned blended materials to the application machine, and
- (2) An application machine with a full sweep agitation system to maintain through mixing of fibers in a holding tank prior to extrusion onto pavement under an application shoe and an indirect heating system capable of automatically maintaining uniform heat throughout the material vessel and plumbing during application.

### 415.04 CONSTRUCTION METHODS

#### A. GENERAL

Furnish all material, equipment, personnel, and traffic control to clean cracks and joints and place PG 64-22 or PG 70-22 Liquid Asphalt (grade to be determined by the Engineer) modified with polypropylene fibers in accordance with the following specifications.

Remove debris and vegetation from cracks or joints. Blow cracks or joints clean and dry with a minimum of 90 psi compressed air. Place crack sealant material in cracks or joints with a pressurized wand delivery system so as to form a maximum 1/8 inch thick by a minimum of 3 inch wide overseal band. Center the overseal band so the center of the 3 inch wide band is within 1 inch of the edge of the crack. Remove any over spill or over filling of crack sealant material prior to initial set. Do not place sealant on top of pavement markings, manholes and drainage castings.

Ensure that only properly proportioned materials are placed on the roadway cracks or joints (i.e. no unblended materials may be added to application machine while applying materials to roadway).

Do not heat the material to a temperature above 300° F.

If requested by the Engineer, provide the following items at least two weeks prior to the start of the crack sealing operation (the Department will use this information and samples to determine the acceptability of the fiber at this time):

- (1) certified test data for the fiber
- (2) a one pound sample of the finished fibers that will be used on the project
- (3) a 10 foot uncut sample of the fiber for verification of the Asphalt Adhesion test results by ODOT personnel

**B. ACCEPTANCE**

The material will be accepted on the basis of certification from an independent testing facility. The independent testing facility shall certify that all crack sealing material shipped to and incorporated into the project meets specifications.

**415.06 BASIS OF PAYMENT**

Cost to be included in bid price bid per linear foot of joint seal. Samples that do not conform to specifications will be paid for only at the discretion of the Department.