

JOHNSON COUNTY, TEXAS

RMC-VARIOUS LOCATIONS

Crack Seal CSJ – 6378-76-001

Q & A

July 14, 2021

Q1) We are bidding on the above referenced crack seal job this week and have a question for you about item 712 6002 - fiber reinforced patching materials. This is a new item that we have not used on crack seal jobs in the past. Will you please reply or call to give me some information on the product and how it is used?

A1) Attached is the 721 Item insert for the Fiber Reinforced Polymer Patching Material from the Spec Book. Also, below is a list of pre-qualified producers.

Fiber Reinforced Polymer Patching Material

The following producers are pre-qualified to supply Fiber Reinforced Polymer Patching material for use with Specification Item 721. Materials with lab numbers represented by dates of manufacture shown below need no job site sampling unless material quality is questioned.

For more information, contact the Materials and Tests Division's Flexible Pavements Section at (512) 506-5818.

Pre-Qualified Joint Sealers

Product	Producer	Contact	Lab Number	Tested	Expires
SamiScreed	FibreCrete Preservation Technologies	Bart Pharr 301 Old Highway 52 South Mount Airy, TX 27030 (336) 479-1824	C20374416	01/01/21	12/31/21
			C19373856	01/01/20	06/30/20
			C19372064	07/01/19	12/31/19
			C19371178	01/01/19	06/30/19
			C18372361	07/01/18	12/31/18
Fibrecrete G	FibreCrete Preservation Technologies	Bart Pharr 301 Old Highway 52 South Mount Airy, TX 27030 (336) 479-1824	C19373857	01/01/20	06/30/20
			C19372723	07/01/19	12/31/19
			C18372362	07/01/18	12/31/18
TechCrete	Crafco, Inc.	Ian Lowry 6165 W. Detroit Street Chandler, AZ 85226 (602) 276-0476	C21370135	01/01/21	12/31/21
			C18375036	01/01/19	06/30/19
			C18371949	07/01/18	12/31/18
Mastic One	Crafco, Inc.	Ian Lowry 6165 W. Detroit Street Chandler, AZ 85226 (602) 276-0476	C21370662	01/01/21	12/31/21
			C19374811	01/01/20	06/30/20
			C18371678	07/01/18	12/31/18
Level N Go	Crafco, Inc.	Ian Lowry 6165 W. Detroit Street Chandler, AZ 85226 (602) 276-0476	C21370924	01/01/21	12/31/21
			C19374810	01/01/20	06/30/20
			C18371677	07/01/18	12/31/18

I have also attached the special provision to Item 712 which changes the work method to allow Item 721. The 721 Item is for the larger cracks wider than 1.5." It also allows for bulking aggregate when the crack is deeper than 1."

Item 721

Fiber Reinforced Polymer Patching Material



1. DESCRIPTION

Repair spalled areas, potholes, and joints on concrete and asphalt pavements using a fiber reinforced polymer patching material, bulking aggregates, and finishing aggregates as specified below.

2. DEFINITIONS

For the purposes of this specification, the following definitions apply:

- **Binder.** The thermal setting material that is the basis of the patching material, and to which any fillers, fibers, or other components are added.
- **Patching Material.** The binder and other additives, mixed together, and in the form that will be applied to the patch, not including bulking aggregate or final surface aggregate.
- **Bulking Aggregate.** Additional aggregate mixed with the patching material when using for repairs deeper than 1 in.
- **Finishing Aggregate.** Additional aggregate applied to the patch after the patching material has been applied.

3. MATERIALS

Provide a hot-applied patching material consisting of a combination of binder, polymers, graded fillers, aggregates, fibers, and rubber that once heated provides an impermeable, voidless solid mass at ambient temperatures. Formulate the patching material according to climatic conditions to provide a durable pavement repair with good fluidity at process temperature, low temperature flexibility, and ambient temperature flow resistance.

The binder may be liquid asphalt or polymer based, unless otherwise shown on the plans, and may be provided separately or premixed with the other components of the patching material. The patching material must meet the requirements of Table 1.

Table 1
Patching Material Properties

Property	Test Method	Requirement
Resilience	Tex-547-C	50% minimum
Tensile Strain to Failure	Tex-548-C	20% minimum
Tensile Stress at Failure	Tex-548-C	50 psi minimum
Cone Flow	Tex-549-C	12% maximum (asphalt based) 4% maximum (polymer based)
Flexibility	Tex-550-C	pass ¹
Settlement	Tex-551-C	3 mm, maximum

1. No evidence of cracking of the sample.

- 3.1. **Sampling and Testing.** Provide material that has been preapproved by the Department in accordance with [Tex-545-C](#). Submit blended samples of patching material for preapproval or field evaluation.
- 3.2. **Bulking Aggregate.** Provide single-sized bulking aggregate consisting of a crushed, double-washed, and dried Type A Grade 1 aggregate in accordance with Item 302, "Aggregates for Surface Treatments," or equivalent.

Note—Patching material may be supplied with the bulking aggregate premixed, when shown on the plans. The Engineer may sample the material to determine the percentage by weight of bulking aggregate included.

- 3.3. **Final Surface Aggregate.** Provide final surface aggregate consisting of a crushed, double-washed, and dried Type A Grade 5 aggregate in accordance with Item 302, "Aggregates for Surface Treatments."

4. **WORK METHODS**

Install the patching material to fill the damaged or spalled areas as shown on the plans, with adjustments to the depth and width of the repairs as directed.

Use an applicator certified by the material manufacturer.

Remove all loose and damaged material from the repair area, either by saw-cutting around the area and using a jackhammer to remove material, or a milling machine, as approved. Remove material from the repair area to a depth and width necessary to provide sound pavement that will allow proper seating of the patching material.

- Use an approved jackhammer capable of performing the required removal of the existing material without further damaging the surrounding pavement. Use a jackhammer no larger than 30 pounds unless otherwise approved.
- Operate the milling machine in the longitudinal direction to provide a tapered edge in the direction of travel.

Thoroughly clean and dry substrate faces using a hot-compressed air lance.

Prime the area for concrete pavement using a primer determined by the manufacturer to prevent moisture intrusion.

Mix and heat the patching material on site in a horizontal mixing unit equipped with electronically controlled thermostats. Heat the bulking and final surface aggregates until dry and free of dust, using a vented barrel mixer or other approved method to 300°F.

Apply patching material to the repair area. If the repair area is deeper than 1 in., add bulking aggregate at a rate of 15%-30% by volume as directed. Install patching material in lifts to ensure uniform application for materials with the bulking aggregate premixed.

Install additional patching material and bulking aggregate in 1-in. lifts until the repair is level with the existing pavement.

Apply a final coat of the heated patching material to level the repair area.

Dress the surface of the patch with heated surface aggregate. Perform this operation while the patch is still hot.

Sweep the area and remove all debris from the site. Ensure the material has cooled where it does not permanently deform under pressure, as recommended by the manufacturer or as directed, before opening to traffic.

5. **MEASUREMENT**

This Item will be measured by the pound of patching material installed. If the bulking aggregate is supplied premixed with the patching material, discount the gross weight of material by the weight percentage of bulking aggregate included.

6. PAYMENT

The work performed and materials furnished in accordance with the Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Fiber Reinforced Polymer Patching Material." This price is full compensation for furnishing materials, including bulking and final surface aggregates, patching material binder, and primer; heating and mixing; removal and disposal of existing pavement material; placing and finishing; labor, equipment, tools, and incidentals.

Special Provision to Item 712

Cleaning and Sealing Joints and Cracks (Asphalt Concrete)



Item 712, "Cleaning and Sealing Joints and Cracks (Asphalt Concrete)" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 712.4., "Work Methods," is voided and replaced by the following:

Apply material when the air or pavement temperature is within the manufacturer's recommendations or as approved. For cracks 1/2 in. to 1-1/2 in. in width, fill with standard hot applied crack sealant. For cracks wider than 1-1/2 in., fill with Department Item 721, "Fiber Reinforced Polymer Patching Material." Installation method as shown on the plans. Rout joints and cracks to the configuration shown on the plans when required. Clean joints and cracks with air blast cleaning or other acceptable methods to a depth at least twice the joint or crack width. Joints and cracks must be free of moisture before sealing. Dispose of materials removed as directed or approved. Apply sealing material with a pressure nozzle. Completely fill cracks and joints. Squeegee material to no more than 3 in. wide and 1/8 in. above the pavement surface. Prevent tracking with an application of fine aggregate as directed.