400 FLEXIBLE PAVEMENT

ITEM 413 - CRACK SEALING, HOT APPLIED

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- **413.01 Description.** The work covered by this specification consists of furnishing all labor, equipment, and materials in performing all operations necessary in connection with the application of a hot applied crack sealant in accordance with the specifications using the Over-Fill Band Type (Extrudamat) method. The City will consider only those bidders who have demonstrated their ability to successfully perform the class of work described herein.
- **413.02 Materials.** The work herein described shall consist of preparation and sealing of pavement cracks with the following materials or approved equals:

1. **Composition.**

93.0 percent minimum by weight asphalt cement, 702.01, *PG64-22* with penetration value of 75-100.

7.0 percent minimum by weight of the asphalt cement polypropylene fibers (recycled fibers are not permitted)

Note: Up to 1 percent latex rubber may be substituted for asphalt cement to control tracking.

2. Specially Designed Fine-denier, Short-cut Staple Polypropylene Fiber.

Denier 15 +/- 3 ASTM D 1577

Length 10 mm +/- 2 mm

Crimps None ASTM D

3987

Tensile strength, minimum 40,000 psi (272 mPa)

Specific gravity 0.91

Minimum melting point 320°F (160°)

3. Sealant Physical Properties.

Crack shall be filled by the "over-fill bead method."

Thickness: Min. 0.065" (1.65 mm) Max. 0.1875-inch

(4.75 mm)

Width: 3" to 4" (76 - 102 mm)

Strength (at break): 72 ° F (22° C) Min. 500 psi (3.4 MPa) Strength (at break): 0° F (-17° C): Min. 500 psi (3.4 MPa)

Elongation (at break): 72° F (22° C) Min. 50%

0° F (-17° C): Min. 10%

4. **General.**

Operating temperature in the kettle should be 260°-295° F (126°-146° C) and shall never exceed 295° degrees F (146°C).

413.03 Crack Preparation. All cracks shall be free of dirt, debris, and grass, dry and cleaned with oil free compressed air prior to sealant application. Contaminants on surface near joints and cracks shall also be removed by compressed air. No sealant shall be applied where frost, snow and ice is present, or when the air temperature is below 40° F (4° C). No sealant shall be applied if the temperature is above 90° F (32° C).

413.04 Equipment. Sealant material is to be heated indirectly by an oil jacketed double wall kettle with separate thermometers for the oil bath and melting vat. Kettle shall be equipped with an agitator. Air compressors shall be portable and capable of furnishing not less than 75 psi (517 kPa) air pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

413.05 Application. The sealant shall be placed on all roadway cracks (1/8 inch (3 mm) and larger) large enough to be sealed and as directed by the Engineer. Crack Sealant applied in a mobile set-up on arterial and residential streets shall be wetted to prevent tracking. All crack sealant applied in temperatures in excess of 80° F (26° C) shall have "black beauty", black sand, or an approved equal, applied within 50 feet (15 m) and at all intersections and heavily traveled areas as directed by the Engineer.

Traffic shall not be allowed on the sealant until it has cured and the possibility of tracking does not exist. The Engineer will determine when this condition exists.

413.06 Maintenance of Traffic.

- 1. The Contractor shall be responsible for providing all traffic control devices, flaggers and police officers required to properly and safely maintain traffic.
- 2. All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the OMUTCD for Construction and Maintenance

Operation, copies which are available from the OHIO DEPARTMENT OF TRANSPORTATION, 1980 W. Broad Street, Columbus, Ohio 43223. An arrow board shall be used for all work and cone spacing shall be 50 feet (15 m) maximum.

413.07 Approval of Alternative Materials. Manufactures or suppliers of materials other than those indicated by these specifications may request to be added as an approved equal through the Director. Each such request shall be in writing and submitted to the Director for review and approval, in accordance with the current policy and procedure concerning such matters. If approved the material will be added to a list which will be kept on file in the office of the Director or owner Division.

413.08 Method of Measurement. The quantities will be measured based on the area in square yards, number of linear feet (meters), or pounds (kilograms) of crack sealant in place, completed and accepted. A linear foot (meter) of crack sealant shall be defined as filling all cracks with a *3 to 4 inch* (76 to 102 mm) wide section of pavement 1 foot (0.3 m) long.

413.09 Basis of Payment. Payment for this work will be made at the contract unit price per square yard (square meter), linear foot (meter), or pounds (kilograms) for preparation and sealing of joints and/or cracks in the existing pavement, complete in place, which price includes all materials, equipment, tools, traffic control, and labor incidental thereto.

Payment for accepted quantities, complete in place, will be made at the contract price for:

Item	Unit	Description		
413 413 413	Linear Foot (Meter) Square Yard (Square Meter) Pounds (Kilograms)	Crack Sealing, Hot Applied Crack Sealing, Hot Applied Crack Sealing, Hot Applied		
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