**FPT Infrastructure Standard Specification for**

**SAMISCREED**

**HIGHLY FLEXIBLE ASPHALT PAVEMENT REPAIR (HFAPR)**

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

1. Repair spalled areas, potholes, large cracks (1 to 18” wide), and joints on all asphalt pavements using highly flexible asphalt pavement repair with optional surface course aggregates as specified below.

1.2 REFERENCES

1. ASTM International (ASTM): www.astm.org:
	1. ASTM D8260-20 Standard Specification for Hot-Applied Asphalt Aggregate-Filled Mastic

1.3 DEFINITIONS

1. Binder – the thermal setting material that is the basis of the patching material, and to which any fillers, fibers or other components are added. It is to consist of a highly polymerized asphalt cement and rosin ester.
2. Patching material – the binder and other additives, mixed together, and in the form that will be applied to the patch, not including bulking or surface aggregates.

1.4 QUALITY ASSURANCE

1. Qualifications
	1. The Manufacturer shall have a minimum of 10 years’ experience in the production, sales, and technical support of the Specified patching materials.
	2. The Applicator shall have the Manufacturer’s written approval that he is qualified by training and experience to execute the work, as the Manufacturer’s nominated & approved applicator.
	3. Proposed suppliers of "or equal" products shall be required to meet all provisions of this specification as well as provide evidence for compatibility between components to the satisfaction of the Engineer.
	4. Any deviations from the Specifications shall be submitted in advance of bids being submitted. Unless prior approval has been given before the Bids close, any deviations from the Specifications, shall not be entertained after the bidding is completed.
2. Sampling and Testing
	1. Provide material that has been preapproved by the Construction Division, Maintenance Division, or Material and Testing. Submit blended samples of patching material for preapproval or field evaluation.

1.5 PACKAGING, STORAGE AND PROTECTION

1. Packaging
	1. Patching material shall be packaged in 40 pound meltable bags that are an integral ingredient in the patching material.
2. Storage and Protection
	1. The Applicator shall be provided with a storage area for all components. The area shall be secure, cool and dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
	2. Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.

1.6 PROJECT CONDITIONS

1. Environmental Requirements
2. Application may proceed while air and substrate temperatures are between 5 °F (-15 °C) and 95 °F (35 °C), providing the substrate is clean, dry and free of moisture.
3. Safety Requirements
4. The Owner shall be responsible to provide uninterrupted and unimpeded access to and in the work area when work is to commence and for the duration of the installation process.
5. Non-related personnel shall not be present in the work area during the installation.

PART 2 - PRODUCT

2.1 MANUFACTURER(S)

FPT Infrastructure

401 Old US 52 South

Mount Airy, NC 27030 USA

T: 336 789 7259

Website: www.fptinfrastructure.com

TERRITORY CONTACT

Name – Title

Contact Number(s); email

2.2 MATERIALS

1. Provide a hot applied flexible patching material consisting of asphalt, rosin ester, polymers, graded fillers, granite aggregates, metal fibers, glass fibers and recycled tire 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 shall contain asphalt and resin, and shall be premixed with the other components of the patching material. The patching material must meet the following requirements:

**Property Value**

Color Black

Mastic Resilience 50% minimum

Effects of Rapid Deformation No cracking, chipping, or separation, 8 N-m, -7 °C

No cracking, chipping, or separation, 8 N-m, -18 °C

Crack Bridging 3 cycles, -7 °C

3 cycles, -18 °C

Mastic Stability 40.0 mm maximum @ 70°C

40.0 mm maximum @ 60°C

Asphalt Binder Cone Penetration < 60 mm @ 77 °F

< 120 mm @ 122 °F

Tensile Adhesion 35 psi – 1.5” elongation at failure

Softening Point (R&B) 198 °F

Impact Testing Pass: no cracking, chipping or separation

Recommended Application Temp 370 – 400 °F

Specific Gravity 1.7 – 2.0

1. Optional Bulking Aggregate. Provide single sized bulking aggregate consisting of a crushed, double washed, and dried ¾” Granite to be added as the patch is being applied. This bulking aggregate may not be added to the melting machine or premixed at the factory.
2. Optional Final Surface Aggregate. Provide final surface aggregate for desired texture and/or skid resistance.
3. Patents. Patented materials will not be considered for use.

PART 3 - CONSTRUCTION

3.1 PREPARATION

1. Equipment
	1. All application equipment shall be certified by the material manufacturer.
2. Surface Preparation
3. Using a hot air lance or compressed air and forced gas torch, dry and clean the area to be repaired. Use an air compressor with a minimum of 185 CFM.
4. Thoroughly clean and dry substrate faces using a hot-compressed air lance.
5. Prime the area using a primer determined by the manufacturer to prevent moisture intrusion.
6. Heat and mix the patching material on site in a horizontal mixing unit equipped with electronically controlled thermostats. The HFAPR must be heated to approximately 370 to 400 °F in a purpose built mastic mixer capable of sweeping agitation with the shaft turning on a horizontal axis
7. When used, bulking aggregate shall be heated to 300 ⁰F to ensure it is dry and free of any dust using a vented barrel mixer or other approved method.

3.2 APPLICATION

1. Patching material application

1. Using a screed box or other manufacturer approved method, apply the patching material to the repair area. If the repair area is deeper than 1 inch and wider than 3 inches, add bulking aggregate at a rate of 25% to 55% by volume in 2” or less lifts. Otherwise, bulking aggregate is not necessary.
2. Install additional patching material and bulking aggregate in 1” to 2” lifts until the repair is level within ¾” of the existing pavement.
3. Apply a final coat of the heated patching material to level the repair area.
4. Optional. Dress the surface of the patch with heated surface aggregate while the patch is still hot to ensure good adhesion of surface aggregate.
5. Sweep the area and remove all loose debris from the site.
6. Open repair area to traffic only when the patch has cooled to the point that it does not permanently deform under pressure, as recommended by the manufacturer or as directed.

PART 4 - BASIS OF PAYMENT

3.1 PAYMENT

1. This Item will be paid by the pound. 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.

END SECTION