

Special Provision to Item 346

Stone-Matrix Asphalt



For this project, Item 346, "Stone Matrix Asphalt," of the Standard Specifications, is amended with respect to the clauses cited below, and no other clauses or requirements of this Item are waived or changed.

Section 346.2.6.1. "Fibers," is voided and replaced by the following:

When PG binder is specified, provide strengthening stabilizing fibers. Do not use fibers when A-R binder is specified.

The fibers proposed for use must meet the following requirements:

- Materials in a blend of Polyolefin and Poly para-phenyleneterephthalamide, or para-aramid, or aramid.
- Length: 3/4", (19 mm)
- Form: Fibrillated and Monofilament Fibers
- Specific Gravity: Polypropylene 0.91; Aramid 1.44
- Tensile Strength: Aramid \geq 400,000 psi.
- Melt Temperature: Polypropylene \geq 300°F, (148.9°C) Aramid \geq 800 °F, (426.7°C)
- Acid/Alkali Resistance: Inert

Individual unit packaging:

- Polyethylene / (C₂H₄)_nH₂
- Melting point of \geq 290 °F, (148.3°C)

Article 346.3., "Equipment," is supplemented by the following:

Provide required or necessary equipment in accordance with Item 320, "Equipment for Asphalt Concrete Pavement." Fiber Supply System when a strengthening stabilizing fiber is used as a mixture ingredient. Use a separate feed system to store and proportion by weight the required quantity into the mixture with uniform distribution.

Control the feeder system with a proportioning device that meets the following:

- Accurate to within \pm 10 percent of the amount required by the design. Automatically adjusts the feed rate to maintain the material within tolerance at all times;
- Has a convenient and accurate means of calibration;
- Provides in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds (kg) per minute, to verify feed rate;
- Interlocks with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes;
- Provides flow indicators or sensing devices for the fiber system and interlock them with the plant controls to interrupt the mixture production if fiber introduction fails or if the output rate is not within the tolerances specified.

Introduce the fiber as follows:

- When a batch type plant is used, add the fiber to the aggregate in the weigh hopper. Increase the batch dry mixing time by 8 to 12 seconds from the time the aggregate is completely emptied into the mixer to ensure the fibers are uniformly distributed prior to the injection of asphalt cement into the mixer.

- When a continuous or drier-drum type plant is used, add the fiber to the dry heated aggregate at or near RAP port and uniformly disperse prior to the injection of asphalt cement. Ensure the fibers will not become entrained in the exhaust system of the drier or plant.

Section 346.4.4.1. "Design Requirements." Table 8 is voided and replaced by the following:

Table 8
Laboratory Mixture Design Properties

Mixture Property	SMA Mixtures	SMAR Mixtures	Test Procedure
Design gyrations, (N _{design}) ¹	50	50	Tex-241-F
Target laboratory-molded density, %	96.0	96.0	Tex-207-F
Asphalt binder content, %	6.0-7.0	7.0-10.0	–
Drain-down, %	0.10 Max	0.10 Max	Tex-235-F
Fiber content, % by wt. of total mixture	0.45-0.55	–	Calculated
CRM content, % by wt. of A-R binder	–	15.0 Min	Calculated
Hamburg Wheel test, ² rut depth @ 20,000 passes tested @ 50°C, mm	12.5 Max	12.5 Max	Tex-242-F
Overlay test, number of cycles	200 Min	200 Min	Tex-248-F
Boil test ³	–	–	Tex-530-C

1. Adjust within a range of 35–100 gyrations when shown on the plans or specification or when mutually agreed between the Engineer and Contractor.
2. For SMAR mixes, the number of passes required for the Hamburg Wheel test may be decreased. Other tests may be required for SMAR mixes instead of, or in addition to, the Hamburg Wheel test when shown on the plans.
3. Used to establish baseline for comparison to production results. May be waived when approved.