

City of Columbus

SUPPLEMENTAL SPECIFICATION  
826 ASPHALT CONCRETE WITH  
FIBERS  
November 3rd, 2023

- 826.01 General
- 826.02 Materials
- 826.03 Composition
- 826.04 Mixing
- 826.05 Acceptance
- 826.06 Basis of Payment

**826.01 General.** This work consists of constructing a surface course or an intermediate course of aggregate, fiber and asphalt cement mixed in a central plant and spread and compacted on a prepared surface.

The requirements of Item 401, 402, 403, 440, and 441 or 442 apply, except as modified by this specification. Field tickets of the asphalt shall list the JMF and the fiber designation.

**826.02 Materials.** Use fibers specifically manufactured and drawn for use in asphalt concrete mixes conforming to ASTM D8395. Use the specified fiber type conforming to the following requirements:

**TABLE 826.02-1 FIBER REQUIREMENTS**

<b>Fiber Type</b>	
Material	Aramid
Length, inch	0.75 ± 10% 1.50±10%
Melting temperature, minimum, °F	800

Furnish fibers according to the Department’s Qualified Products List (QPL) and provide a QC testing plan and frequency for the fibers to ensure they meet the requirements. Ensure fibers are blended with 3/4 inch fibrillated polyolefin fibers or wax coated to ensure proper distribution in the mix.

During production, the City will obtain a random 0.5 pound sample of the finished fibers for each 24,000 pounds of fiber used.

**826.03 Composition.** Design the mix in accordance with 441.02 or 442.02. Add fibers at the rate of 1.8 to 4.0 ounces of pure aramid fiber, not including the weight of any polyolefin fibers or coating, per ton of total mix.

Provide certified test data not older than three months that the fiber meets the requirements

in Table 826.02-1 when submitting the mix design to City Testing Lab include the pure aramid fiber dosage and the final fiber dosage that includes polyolefin fibers or coatings.

**826.04 Mixing.** Prior to the start of full production, produce a test batch of fiber asphalt concrete to demonstrate to City Testing how the fibers will be introduced and mixed into the asphalt concrete. Achieve satisfactory results before beginning full production. If during production an unsatisfactory mix is produced, cease production until a satisfactory test batch is produced.

When a batch type plant is used, add fibers according to the manufacturer’s recommendation to the heated aggregate prior to introduction of the asphalt binder. Mix the aggregate and fibers dry for a minimum of 10 seconds after introduction of the fibers. The Laboratory may increase this mixing time if satisfactory results are not obtained.

When a drum mix type plant is used, introduce the fibers into the aggregates by the reclaimed material feed system or by an adjustable pipe near the asphalt feed pipe.

Provide the City with flow rate and quantity of fiber included in the mix. Validate daily production with a digital print out of quantity of fiber inserted into the mix that will accompany the TE-199 per 441.

**826.05 Acceptance.** The Department will base acceptance of the asphalt concrete mix on the item specified in the Contract item description. (i.e.446, 448).

**826.06 Basis of Payment.** The Department will pay for accepted quantities at the contract price for:

<b>Item</b>	<b>Unit</b>	<b>Description</b>
826	Cubic Yard	Asphalt concrete surface course, Type 1, (___), Fiber
826	Cubic Yard	Asphalt concrete intermediate course Type 2, (___), Fiber
826	Cubic Yard	Asphalt concrete surface course, 442 12.5mm, (___), Fiber
826	Cubic Yard	Asphalt concrete intermediate course 442 19mm, (___), Fiber

**Designer note:**

Asphalt concrete with fibers can be selectively applied as an anti-rutting treatment according to the High Stress Guidelines, Appendix B of the Ohio Department of Transportation's Pavement Design Manual. The guidelines in the Pavement Design Manual for 441 and 442 mixes with 448 and 449 acceptance apply.