

ITEM 424 FINE GRADED POLYMER ASPHALT CONCRETE

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424.01 Description. This work consists of constructing a surface course of aggregate and polymer modified asphalt binder mixed in a central plant and spread and compacted on a prepared surface. The requirements of 401 apply, except as modified by this specification.

424.02 Composition. For Type A mixes use 8.5 percent modified asphalt binder by total mix weight.

For Type B mixes, submit a proposed JMF according to 441.02 to the Laboratory that meets the requirements of a surface course, except as follows:

- A. Minimum VMA, 15.0 percent
- B. Minimum total binder content, 6.4 percent
- C. Design air voids, 4.0 percent

424.03 Materials. Furnish clean, uncoated aggregate conforming to the applicable requirements of Table 424.03-1 and quality requirements of 703.05.

Use a PG 76-22M asphalt binder or a PG 64-22 asphalt binder modified by adding 5.0 +/- 0.3 percent by weight Styrene Butadiene Rubber (SBR) solids. Provide SBR conforming to 702.14. Provide mineral filler conforming to 703.07. Provide binders conforming to 702.01.

Ten percent asphalt concrete pavement may be used in a Type B mix if all requirements of footnote 3 are met by the reclaimed asphalt concrete. Do not use reclaimed asphalt concrete pavement in a Type A mix.

TABLE 424.03-1 - MIX GRADATION

Sieve	Type A (1, 2)	Type B (1, 3, 4)
1/2 inch (12.5 mm)		100
3/8 inch (9.5 mm)	100	95 to 100
No. 4 (4.75 mm)	95 to 100	85 to 95
No. 8 (2.36 mm)	90 to 100	53 to 63
No. 16 (1.18 mm)	80 to 100	37 to 47
No. 30 (600 μm)	60 to 90	25 to 35
No. 50 (300 μm)	30 to 65	9 to 19
No. 100 (150 μm)	10 to 30	--
No. 200 (75 μm)	3 to 10	3 to 8

424.04

(1) Gradation includes any mineral filler and is specified in percent passing.

(2) Use natural sand with at least 50 percent silicon dioxide by weight according to ASTM C 146. Include with a JMF submittal certified test data from an AASHTO accredited laboratory showing conformance to the 50 percent silicon dioxide requirement. Ensure data is no more than one year old at time of submittal.

(3) Fine Aggregate - Use natural sand with at least 50 percent silicon dioxide by weight according to ASTM C 146. Include with a JMF submittal certified test data from an AASHTO accredited laboratory showing conformance to the 50 percent silicon dioxide requirement. Ensure data is no more than one year old at time of submittal. For medium mixes, use no more than 20 percent limestone sand by weight of total aggregate. For heavy mixes, use 20 percent limestone sand or air cooled slag sand by weight of total aggregate. If 10 percent RAP is used the silicon dioxide content of the total natural sand blend must be at least 50 percent.

(4) Coarse Aggregate - For medium mixes, use 10 percent two-faced crushed aggregate by weight of total aggregate. For heavy mixes, use 100 percent two-faced crushed aggregate. Provide two-faced crushed aggregates conforming to ASTM D5821-95.

424.04 Mixing. Ensure the mixing plant conforms to 402. Discharge the mix from the plant at temperatures between 335 °F to 370 °F (168 °C to 188 °C) for hot mix asphalt or 300 °F to 340 °F (149 °C to 171 °C) for warm mix asphalt.

424.05 Weather Limitations. Do not place the asphalt concrete when the surface of the existing pavement is less than 60 °F or the air temperature is less than 60 °F.

424.06 Spreading and Finishing. Do not allow traffic on the compacted mixture until it has cooled sufficiently to prevent damage.

424.07 Surface Tolerances. Ensure the completed surface course conforms to 401.19.

Remove raised pavement markers according to 621.08. The Contractor may fill the depression caused by the removal of the casting with material meeting this specification.

424.08 Acceptance. For Type A mixes comply with acceptance requirements of 301. For Type B mixes comply with all requirements of 448.

424.09 Method of Measurement. For Type A mixes use a unit weight conversion of 1.75 tons/cubic yard (2.08 metric tons/cubic meter).

The City will measure the number of raised pavement markers removed.

424.10 Basis of Payment. The City will pay for removal of existing raised pavement markers according to Item 621 Raised Pavement Markers Removed.

The City will make payment for accepted quantities, completed in place, at the contract price as follows:

Item	Unit	Description
424	Cubic Yard (Cubic Meter)	Fine Graded Polymer Asphalt Concrete, Type A
424	Cubic Yard (Cubic Meter)	Fine Graded Polymer Asphalt Concrete, Type B