

Draft Special Provision for Porous Hot Mix Asphalt

Porous Hot Mix Asphalt

Description

Section 5-04.1 is supplemented with the following:

This Work shall consist of providing and placing one or more layers of plant-mixed porous hot mix asphalt (PHMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans or established by the Engineer. The manufacture of PHMA may include porous warm mix asphalt (PWMA) processes in accordance with these Specifications. PWMA processes include organic additives, chemical additives, and foaming. PHMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

Work shall also include preparation and protection of subgrade, subbase and leveling course specific to PHMA.

Construction Requirements

Section 5-04.3 is supplemented with the following:

5-04.3(1) HOT MIX ASPHALT MIXING PLANT

This section is supplemented with the following:

Plants used for preparation of HMA and PHMA shall conform to the following requirements:

Fiber Supply System

When fiber stabilizing additives are required for PHMA, a separate feed system that meets the following will be required:

Accurately proportions by weight the required quantity into the mixture in such a manner that uniform distribution will be obtained.

When a batch type plant is used, the fiber shall be added to the aggregate in the weigh hopper or as approved by the Engineer. The batch dry mixing time shall be increased by 8 to 12 seconds, or as directed by the Engineer, from the time the aggregate is completely emptied into the mixture. The fibers are to be uniformly distributed prior to the injection of the asphalt binder into the mixture.

When a continuous or drier-drum type plant is used, the fiber shall be added to the aggregate and uniformly dispersed prior to the injection of asphalt binder. The fiber shall be added in such a manner that it will not become entrained in the exhaust system of the dryer or plant.

Surge and Storage Systems

The storage time for PHMA mixtures not hauled immediately to the project shall be no more than four (4) hours for non-insulated silos or eight (8) hours for insulated silos. Placement temperature specifications shall be met.

5-04.3(2) Hauling Equipment

The temperature of the mix at the time of discharge from the haul vehicle shall be within the temperature range identified in the approved porous asphalt submittal.

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2 **General**

3 Section 5-04.3(7)A1 is supplemented with the following for Porous HMA:
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5 The asphalt binder for Porous HMA shall be PG 70-22 polymer modified (N-75 gyration)
6 or higher grade. Binder content shall be between 6.0% and 7.0% by weight of total (dry
7 aggregate) mix, and will be the highest percentage that meets 0.3% maximum drain down
8 test (ASTM D6390-05) and with a void ratio of 16% to 25% (ASTM D3203) requirements
9 tests at 75 gyrations (N_{design} = 75) or higher. The contractor shall adjust the aggregate to
10 meet the maximum drain down test requirements within the ranges provided in section 9-
11 03.8.
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13 **Acceptance Sampling and Testing - HMA Mixture**

14 Section 5-04.3(8)A1 is supplemented with the following:
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16 Commercial evaluation will be the basis for acceptance of PHMA.
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18 **Spreading and Finishing**

19 Section 5-04.3(9) is supplemented with the following:
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21 Placement temperature of the mixture shall be within the temperature range identified in the
22 approved PHMA submittal.
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24 **Compaction**

25 Section 5-04.3(10)A is supplemented with the following for PHMA:
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27 Pneumatic tire rollers shall not be used. Steel wheel rollers shall operate in static mode
28 unless otherwise directed by the engineer.
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30 **Measurement**

31 Section 5-04.4 is supplemented with the following:
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33 PHMA PG _____ shall be measured by the ton in accordance with Section 1-09.2, with no
34 deduction being made for the weight of asphalt binder, blending sand, mineral filler, or any other
35 component of the HMA. If the contractor elects to remove and replace mix as allowed in Section
36 5-04.3(11), the material removed will not be measured.
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38 **Payment**

39 Section 5-04.5 is supplemented with the following:
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41 "Porous HMA CL. _____ In. PG 70-22", per ton
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43 The unit Contract price per ton for "Porous HMA CL. _____ In. PG 70-22" shall be full
44 compensation for all costs, including anti-stripping additive, incurred to carry out requirements of
45 Section 5-04 except for those costs included in other items which are included in this subsection
46 and which are included in the proposal.
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1 **HMA Proportions of Materials**

2 Section 9-03.8(6) is supplemented with the following

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The aggregate for PHMA shall conform to the following gradation:

Sieve Size	Percent Passing
¾" square	100
½" square	90-100
3/8" square	55-85
U.S. No. 4	10-25
U.S. No. 8	0-13
U.S. No. 200	0-5

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The aggregate should consist of crushed stone with a percent fracture greater than 90% on two face.

Recycled asphalt pavement shall not be used in PHMA.

Mix Designs for PHMA shall be submitted to the Project Engineer on DOT Form 350-042 (Additional PHMA test data shall be included in the remarks section on page 2 of form 350-042).

The anti-stripping requirements for PHMA shall be equivalent to the anti-stripping requirement for same HMA design.

This is a draft special provision for porous hot mix asphalt. This specification is currently being updated.

Please email Tim Horton at THorton@Skillings.com for the most current special provision.