



TRANSPORTATION CABINET

Frankfort, Kentucky 40622
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Steven L. Beshear
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Construction Memo: 02-09

MEMO TO: Chief District Engineers
TEBM for Project Delivery & System Preservation
TEBM for Engineering Support
Section Engineers & Supervisors

FROM: Steven Criswell, P.E., Director
Division of Construction

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Bill Broyles, P.E., Director
Division of Materials

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DATE: May 5, 2009

SUBJECT: Guidance for the use of Warm-Mix Asphalt

Warm-Mix Asphalt (WMA) produced using a water injection system is approved as a substitute for Hot-Mix Asphalt (HMA) per the Supplemental Specifications effective with the April 24, 2009 Letting. This allows the option to bid either WMA or HMA. Both WMA and HMA will use the same contract bid items for asphalt mixtures. If a contractor wishes to produce WMA with a water-injection system, Subsection 402.01.01 of the supplemental specifications requires that the Department evaluate a trial production of the WMA on a non-KYTC project. The evaluation will include production and placement of the WMA to demonstrate adequate mixture quality inclusive of volumetric properties and density according to compaction Option A.

As we quickly approach the 2009 construction season, we would like to provide you with some guidance on, and request your assistance with, the numerous WMA projects that we anticipate this year. Recently, the Division of Materials requested that each District Materials Office solicit the names and plant locations of contractors who modified their asphalt mixing plant with a water-injection system. In addition, the District Materials Office shall request the brand name of the water-injection system utilized in each case. As required by the WMA supplemental specification, the Department will evaluate the water-injection system at each plant prior to issuing approval for WMA production on Department projects. Please update the Division of Materials, Asphalt Branch, with information concerning other water-injection systems that are added later this year.

The Department will accept and approve conventional HMA designs but allow the production and placement to follow the standard procedures for WMA applications involving material produced with the water-injection process. In these cases, the contractor may utilize the same mixture sources, components, gradation, and asphalt binder content for both HMA and WMA.



However, the production and placement temperatures for WMA will obviously be lower as specified in the applicable supplemental specifications and related Kentucky Methods.

After the water-injection system is approved for a given plant and the contractor begins producing WMA for Department contracts, the following information needs to be submitted to the Division of Materials, Asphalt Branch for each WMA job in your district:

- Contract ID;
- Asphalt mixture bid item, course/layer (in the case of multi-lift base pavements), and application (e.g., mainline, shoulder, approach) for which WMA is supplied;
- Project limits (i.e., milepoints) within which WMA is placed; and
- Quantity of each asphalt mixture bid item for which WMA is supplied.

For the purpose of future evaluation, we strongly encourage that contractors producing WMA place these mixes in a continuous fashion. In other words, HMA and WMA production should not be intermingled within a given asphalt mixture bid item or course. For example, WMA production started for the second lift of base on a project should continue for that entire base layer. When unforeseen circumstances (e.g., a malfunction in the water-injection system) require the production of both WMA and HMA for the same application, the location on the project at which the change occurs should be clearly defined and carefully documented as described above. Such occurrences of WMA/HMA intermixing should be kept to a minimum.

If a contractor wishes to switch to WMA on a project let prior to April 24, 2009, this will be permissible provided the requirements of the supplemental specifications are met. A change order will be required to document this change and to add the WMA supplemental specifications to the contract. A credit for this change will not be required.

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