

Georgia Department of Transportation

Office of Materials and Testing

Standard Operating Procedure (SOP) 43-B

Approval of Warm Mix Asphaltic Concrete Additives

I. General

The Office of Materials and Testing is responsible for verifying that asphaltic concrete produced for the Department's use meets all applicable Specifications. All approved Warm Mix Asphaltic Concrete (WMA) Additives are listed on QPL-89 "Georgia's List of Approved Warm Mix Asphaltic Concrete Additives". The purpose of this Standard Operating Procedure is to detail the prerequisites and procedures required to add a WMA Additive to QPL-89.

Products that appear on this list have been evaluated by the Office of Materials and Testing and have proven their capability of meeting the appropriate Georgia Department of Transportation specifications. Any of these products may be used without sampling or pre-testing provided the field engineer determines the product is uncontaminated and /or undamaged. The field engineer must ascertain that the construction item is the same material identified on the Qualified Products List and will acknowledge receipt of these items in the project diary or as required by the Construction Manual.

It shall be the responsibility of the Bituminous Branch to monitor products covered by this SOP. The Office of Materials and Testing will update the Qualified Products Manual a minimum of every twelve months. Representatives from the Office of Materials and Testing, at unscheduled times, may visit the producer's plant or warehouse and/or construction and maintenance projects to obtain random samples of items covered by this SOP. Products that consistently produce test results that significantly vary from those established by the manufacturer and verified by the Office of Materials and Testing will be removed from the Qualified Products Manual. Products that meet the current requirements of the Specifications but do not perform satisfactorily in the field will be removed from the Qualified Products Manual. Removal from the Manual will prohibit the use of the product in Department of Transportation work until the acceptability of the product is re-established. Products that have not been used in Georgia Department of Transportation Construction or Maintenance work for a period of twelve months, may, at the Department's discretion, be removed from the Qualified Products List. The Department reserves the right to limit the number of products of each type material from any manufacturer.

II. Prerequisite for Approval

A. Project Specific Warm Mix Asphaltic Concrete Additive Use

Prior to using any product not listed on QPL-89 on Georgia Department of Transportation Construction or Maintenance projects, the asphaltic concrete producer shall request in writing to the State Materials Engineer approval to use the specific WMA Additive detailing the Georgia Department of Transportation project. All WMA Additives must be terminally blended with the Asphalt Cement prior to delivery to the asphalt plant. All equipment for the production and the facilities and equipment for

testing the materials shall meet the minimum requirements established in Special Provisions 400, 402, 410 and 828 and shall be approved by the Engineer.

Specific mix designs incorporating WMAC Additives are required for each mix type. Include the dosage rate of approved terminally blended WMAC Additive in proportion to the asphalt cement in each mix design. All mix designs must be approved by the Office of Materials and Testing prior to beginning production.

B. Project Related Test Section for WMAC Additives not Listed on QPL-89

1. Prior to commencing work on a WMAC project, a 500 ton or one day's production test section will be required to evaluate the produced WMAC for compliance with all specified requirements established in Special Provisions Sections 400, 402, 410, and 828.
2. Failure to meet specified requirements during the test section will result in the work being halted and the contractor will be required to submit a written plan of action detailing what steps will be taken to meet specifications if any of these requirements are not met in the test section. If approved by the Engineer, the contractor will be permitted to construct another 500 ton test section. The contractor will not be allowed to start continual mix placement until an acceptable test section including mix design verification of the plant produced mix is obtained.
3. The Department will have ten (10) business days to complete the mix design verification of plant produced mix. Additionally, in order to evaluate the moisture susceptibility of WMAC produced with additives, the Department may perform the test according to AASHTO T 324, Standard Method of Test for Hamburg Wheel-track Testing of Compacted Hot-Mix Asphalt (HMA)". When the Department's mix design verification of plant produced mix has been completed and the test section has been approved by the Engineer, placement of the warm mix asphaltic concrete may continue provided all specified requirements are maintained.

C. Minimum Number of Test Sections Required for Approval on QPL-89

Prior to a WMAC Additive being listed on QPL-89 as approved, a minimum of three (3) test sections placed on GDOT projects meeting all specified requirements must be achieved. After three (3) successful WMAC tests sections have been completed, the **WMAC Additive Manufacturer** may submit a request in writing to the Office of Materials and Testing that their product be listed on QPL-89 "Georgia's List of Approved Warm Mix Asphaltic Concrete Additives".

When submitting a request for inclusion in QPL-89, the Office of Materials and Testing requires the following:

1. A Product Evaluation Form must be completed, listing each product submitted for inclusion.
2. A Manufacturer Safety Data Sheet (MSDS) should accompany the request.
3. Warranty Letter as described in Section III.
4. Documentation of minimum three (3) test sections on GDOT projects.
 - a. Project Number and County
 - b. Asphaltic Concrete Producer and Plant Number
 - c. Completion Date
5. The request and required documentation should be sent to the following address:

Georgia Department of Transportation
Office of Materials and Testing
15 Kennedy Drive
Forest Park, Georgia 30297
Attn: Bituminous Special Projects Coordinator

III Annual Warranty

- A.** The manufacturer or producer must submit an annual warranty for each product before being added to the Qualified Products Manual. The warranty shall be submitted on company letterhead and contain the following:

This is to warrant that the product (*Product Trade Name*) as manufactured and sold by (*Company Name*) is a WMAC Admixture meeting the current requirements of Special Provisions Sections 410, 402, 400, and 828.

This will be followed by additional statement below, signed by a person legally responsible to bind the company, and notarized. The following additional Warranty shall be included as the latter part of every Warranty: *“We further warrant that material furnished to State of Georgia projects will be replaced without cost to the purchaser and State of Georgia when found not in conformity with any of the specified requirements. We accept full responsibility for determining the governing specification for each order, provided we are given notice of revised Specifications, and we warrant that the material currently being furnished is identical in formulation, composition, and properties as the material originally submitted for source approval.”*

B. Product Identification

Brand name, type, and any other pertinent information must identify submitted products. The manufacturer will be expected to conduct sufficient tests and maintain product control records to verify that production is adequate to assure specification compliance. It will be required that the manufacturer notifies the Office of Materials and Testing, in writing, of any change in formation or composition of any of their product with the understanding that a new evaluation process will be required.

C. Production Quality Control Plan

Manufacturers must submit a copy of a production quality control plan for each of their products for review by the Office of Materials and Testing.

D. Initial and Annual Evaluations

Submittal of products for Initial or Annual Evaluation must be in accordance with this Standard Operating Procedure. The Department will not evaluate or approve any improperly submitted products.

State Materials Engineer

Director of Construction