

Rock Products Committee
SCOPING DOCUMENT
Warm Mix Asphalt
August 22, 2012
Revised January 10, 2013

Task Group

Asphalt Task Group (ATG)

Problem Process

- Annual
 Expedited
 Emerging Initiative

Title

WMA Specifications Issues

Issue/Problem Statement

Warm Mix Asphalt (WMA) is a suite of technologies that allows a reduction in traditional hot-mix asphalt (HMA) production and paving temperatures. Producing asphaltic concrete at reduced temperature can result in a number of environmental, safety and performance life benefits. To fully realize the use and benefits of WMA, it is important that specifications are user friendly, practical and devoid of overly prescriptive requirements that go beyond current industry standards. The existing specifications, while well written, contain some requirements that are more in line with pilot projects specifications, create contractual issues or are not in keeping with current industry standards (see bulleted items below). Minor revisions to address these items will lead to an improved specification.

- The requirement to have a WMA manufactures representative at the plant for the first 3 days of production – requirement typically limited to pilot projects
- The requirement for the WMA technical representative to direct the HMA mix operation as it relates to the WMA technology – can create contractual issues
- The requirement to use a MTV with RHMA-OGFC with WMA technology – Unaware of problems with current practice, not required for HMA projects
- The requirement to have the asphalt binder supplier at the pre-paving conference – Serves no real purpose
- The requirement to have the plant operator at the pre-paving conference – Serves no real purpose, creates hardship on contractors HMA operations
- The additional requirements to perform CT 371 and AASHTO T 324 in the Contractor option specifications - potentially negates use of WMA contractor option by adding significant cost
- Disallowance of mechanical foaming technology for OGFC – removes tool from toolbox

Background

Warm Mix Asphalt (WMA) is a suite of technologies that allows a reduction in traditional hot-mix asphalt (HMA) production and paving temperatures. There are currently four different WMA categories; organic additives, inorganic additives, chemical foaming processes, and mechanical foaming processes. WMA is an acceptable alternative to HMA at the contractor's discretion, provided the WMA meets applicable HMA specifications. Best practices would dictate that use of WMA result in pavement performance life equal to or better than HMA. To preclude roadblocks and fully realize the use and benefits of WMA, it is important that specifications are user friendly, practical and devoid of overly prescriptive requirements that go beyond current industry standards. Prescriptive requirements normally related to pilot projects add costs to standard specification contracts without a return on investment.

Purpose

WMA allows for significant reductions in asphalt plant production and placement temperatures. Reducing the mix production temperatures by up to 100° F can result in many environmental and pavement performance related benefits. Some of the benefits that have been observed are as follows:

- Allows for longer haul distances
- Allows for paving in cooler weather
- Reduces energy consumption
- Reduces greenhouse gas emissions
- Allows for more RAP
- Improves mix workability
- Improves mix durability
- Improves workers environment
- Reduces fatigue Cracking
- Reduces binder aging
- Improves paving efficiency

Objectives/Deliverables

Holding down project cost is important. Remove unnecessary specification requirements to create a win/win situation for all stakeholders.

- Revised WMA Specification

Timeline

- August 2012 – September April 2013 Discuss and modify existing WMA specification. Post Changes in the April 2013 RSS.

Benefits

- Reduced contract cost
- Mitigate contractual issues associated with third part directing contractors work
- Remove roadblock to WMA contractor option (additional testing requirements)
- Allow contractor to use all WMA tools in toolbox for OGFC

Impacts

- No impacts to existing policy
- Improved specifications
- Cleaner air, safer work environment, improved pavement performance life

Resource Requirements

FY 2012/2013 0.02 PY

Impediments to Completion of Deliverables

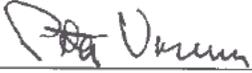
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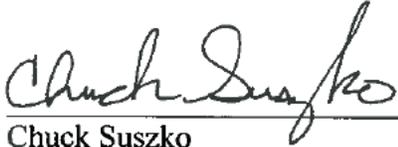
Recommendation and Approval

This scoping document for WMA Specification Issues was prepared by Asphalt Task Group to address a priority issue that has Statewide significance and is within the Rock Products Committee mission. The Task Group Co-Chairs have determined the scope, resources required and timeline for delivery of this project to ensure that the deliverables are achievable in a timely manner.

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