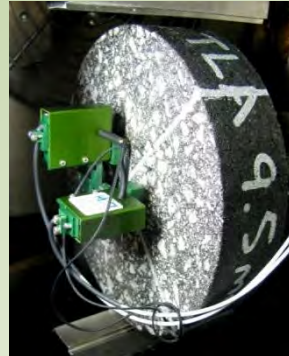


at AUBURN UNIVERSITY

Proposed Guide Specifications for WMA



Specifying WMA

- Permissive Specification
 - Some DoTs allow WMA to be used on any project specified for HMA as long as bid price is not increased and specifications are met
- Product Approval List
- Modify existing HMA spec for WMA

Warm Mix Asphalt

- One proposed definition of Warm Mix Asphalt (WMA) refers to asphalt mixtures produced at temperatures approximately 30°F (17°C) or more below those typically used in production of HMA. I prefer to specify a maximum temperature such as 275°F. Temperature reductions may be achieved through approved additives and/or water injection systems.
- All specification requirements for HMA shall apply to WMA except as noted herein.
- The mixture shall be produced with a WMA technology from the approved list and in accordance with the WMA technology provider's guidelines for dosage rate, plant mixing temperature, and laboratory compaction temperature.

Warm Mix Asphalt

- An approved HMA mix design may be used for the WMA. May want to add something about aggregate absorption
- The WMA mix design submitted by the contractor shall include the name of the WMA technology, dosage rate, plant mixing temperature, and laboratory compaction temperature.

Warm Mix Asphalt

- The antistrip-additive may be eliminated from the WMA mixture provided that:
 - a. The WMA additive contains active antistripping components as certified by the WMA technology provider.
 - b. The WMA mixture without an additional antistripping agent meets the standard HMA moisture damage test criteria.

Warm Mix Asphalt

- Plant operations for WMA production
 - The burner shall be properly tuned to operate at the WMA mix temperature such that the fuel is entirely consumed in the combustion zone of the drier. Production shall immediately cease if evidence of unburned fuel is detected in the produced asphalt mixture or in the baghouse.
 - The plant discharge temperature of the WMA shall be within 20°F of the temperature designated on the WMA mix design.

Warm Mix Asphalt

- Plant operations for WMA production
 - The addition of WMA additives, including water, shall be controlled by a calibrated metering system interlocked with the plant's controls.
 - Chemical additives may be added at the asphalt terminal at the dosage rate recommended by the WMA technology provider. The dosage rate and additive name shall be printed on the Bill of Lading for the asphalt binder.

Warm Mix Asphalt

- Warm mix technologies (additives, foaming techniques, etc.) listed on the Department's website may be used in the production of the mix.

Example of Approved Additives/Processes

- Aspha-min (Aspha-min) <http://www.aspha-min.com/>
- Astec Industries (Double Barrel Green System) <http://www.astecindustries.com/www/announcements/0.239/astec-double-barrel-warm-mix-don-brock-asphalt.html>
- MeadWestvaco Asphalt Innovations (Evotherm DAT) <http://www.evotherm.com>
- Meeker Equipment (Aqua Foam System) http://www.meekerequipment.com/new_warmmix.html
- Terex Roadbuilding: Warm Mix Asphalt System
 - <http://www.terexrb.com/default.aspx>

Requirements to be included on the approved products/process list:

- Be a recognized process with successful project(s) constructed nationally or internationally.
- Partner with a contractor and FDOT District Office and construct a demonstration section on a FDOT project.
- Meet all FDOT construction specifications during construction of the demonstration section.

Generally simple matter to
modify HMA spec to be used
for WMA

Any Questions???