

QCML Criteria

Warm Mix Asphalt

For a Warm Mix Asphalt (WMA) additive to be listed on the Qualified Construction Materials List (QCML), a product must meet the requirements of Subsection M3.01.4 of MassDOT's Standard Specifications. This includes a requirement for a product to be evaluated by AASHTO's National Transportation Product Evaluation Program (NTPEP).

MassDOT Research & Materials (RMS) shall evaluate the NTPEP data and perform laboratory testing using a MassDOT approved asphalt mixture. The following criteria must be met as part of the product submission:

- The NTPEP submission shall show that the product does not use a foaming process. No WMA foaming technology which requires the mechanical injection of steam or water into the liquid asphalt will be permitted.
- NTPEP testing shall show that the product does not negatively affect:
 - The performance grade of the asphalt binder.
 - The mixture's Tensile Strength Ratio (TSR).
 - The WMA TSR shall not be less than the control TSR.
 - The WMA TSR shall not demonstrate a drop in dry or wet strength greater than 20% from the control TSR.
 - The mixture's Hamburg rutting or stripping results.
 - The maximum WMA rut depth shall be less than 12.5 mm after 20,000 passes.
 - The WMA stripping inflection point shall not demonstrate a drop greater than 10% from the control.
- The manufacturer of the WMA additive must provide a certification that their product is compatible with polyphosphoric acid modified binders, polymer modified binders, asphalt rubber binders, and anti-stripping agents.
- The WMA additive shall demonstrate that it can be compacted as a mixture, which utilizes a PG64-28, at an optimum temperature less than 260°F.
- The mixture shall be tested in the Hamburg Wheel Tracking Device following AASHTO T 324.
 - Specimens shall be submerged with a water bath temperature of 45°C.
 - After 20,000 passes the specimen shall not exhibit:
 - Greater than ½ an inch of rutting.
 - A stripping inflection point prior to 15,000 passes.

Once approved, the WMA additive will be listed on the MassDOT QCML. The product shall remain on the approved list for seven (7) years unless one of the following occurs:

- If the manufacturer does not have the product reevaluated by NTPEP in accordance with the workplan.
- If the product's technology changes. If the product formulation or technology changes, the manufacturer shall notify MassDOT RMS.
- MassDOT RMS determines that the product no longer meets the minimum requirements.

A written request for re-approval must be submitted to the Department at least 60 days prior to the expiration date for the product to remain on the QCML.