



Improved Warm-Mix Asphalt Formulation

(ROI #2015-12)

Description

- More than 90% of our roadway pavements are surfaced with asphalt materials. Warm mix asphalt refers to a group of various technologies that helps to reduce production and construction temperatures of hot mix asphalt used in asphalt pavements. The warm mix additive formulated at Louisiana Tech is to be added with asphalt binder during hot mix asphalt production. Up on addition this new additive produces significant foaming of asphalt binder that reduces its viscosity and allow production and compaction of asphalt mix at warm temperatures. This warm mix additive produces 6 to 10% more moisture for foaming of the asphalt binder. This results in producing 3.5-3.8 times volumetric expansion of the asphalt binder compare to 1.4-1.6 times volumetric expansion of commercially available similar additives. Laboratory performance of the warm mix asphalt produced with this new technology showed similar or better performance compare to warm mix produced with commercially available similar technologies with respect to pavement rutting and moisture susceptibility tests. This warm mix additive is novel and it is less costly.

Advantages

- Reduces asphalt mix production costs
- Reduces paving temperatures
- Less susceptible to moisture

Areas of Application

- Re-surfacing of roadways

Patent Status

- Patent pending