



Leaders in the Industry

Producing Warm-Mix Asphalt

Warm-Mix Asphalt Fact Sheet

PAVEMENT PRODUCED AT LOWER TEMPERATURES:

BETTER QUALITY PAVEMENT, SAFER FOR WORKERS & GOOD FOR THE ENVIRONMENT

For additional information please visit

<http://www.warmmixasphalt.org/>

What are the benefits?

- Provides improved asphalt compaction, especially during cooler weather.
- Results in improved working conditions by reducing exposure to fuel emissions, fumes, and odors.
- Allows haulers to travel further distances without compromising the integrity of the mix.
- IDOT approved technology
- Lessens the aging of the liquid asphalt allowing for longer pavement life span.
- Less oxidation results in asphalt retaining color longer.

Warm-mix asphalt is a state approved technology that allows hot-mix asphalt producers to mix pavement materials cooler than traditional mixing at an asphalt plant. The change in temperature may seem insignificant, but the benefits are quite the opposite. Environmental benefits include production at lower temperatures, and means less smoke and a noticeable lack of fumes, which makes it **safer for workers** at a job site.

Performance benefits include less effort to mix and compact warm-mix asphalt, thus increasing production efficiency during the mixing, paving, and rolling operations. **Less effort to compact during cooler weather** ensures the rolling operation is still able to achieve good compaction. In addition, lower mixing temperatures at the asphalt plant **lessens the aging of the liquid asphalt cement** as it is mixed, thus allowing for a longer pavement lifespan. Because warm-mix asphalt technologies result in less effort to compact the mix, they are typically referred to as compaction aids. **Better compaction** increases performance of asphalt pavements.

Why does this work?

Warm-mix asphalt is produced at the mixing plant using various technologies. Mechanical water injection systems connected to the mixing plant add a small amount of water, approximately 2 percent, to the liquid asphalt cement. The injected water immediately boils to expand the volume of liquid asphalt by creating air bubbles or foamed liquid asphalt. The expanded or foamed asphalt is easier to mix with the coarse and fine aggregate at the plant and makes the asphalt easier to compact in the field. Because these technologies result in asphalt that is easier to mix and compact, the temperature of the warm-mix asphalt can be reduced.



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