

green CONT'D

# GREEN IS THE NEW BLACK

## Team Elmer's introduces 'greener' asphalt

By Kandace Chapple

TRAVERSE CITY - Team Elmer's is rolling out green asphalt in Northern Michigan this spring.

Green, that is, in production and

is up to six years longer, it is less costly over time.

"We'll be seeing this new technology on our roads soon," she said. "There



Team Elmer's at work on the roads.

are test projects underway and Elmer's will also lay its own test strip for independent studies this spring."

One of the test projects in Michigan is in Iron Mountain, where one lane of M-95 was paved with WMA at 270 degrees and another lane with traditional hot mix asphalt at 317 degrees in 2010.

Nationwide, use of WMA soared to 47.2 million tons in 2010, up from 16.7 million ton in 2009 – a 180 percent increase in one year, according to Wildfong.

Green benefits of WMA include a reduction in fuel consumption, emissions and greenhouse gases during production (see sidebar).

WMA also allows for the increased use of RAP (recycled asphalt pavement) in place of virgin binder and aggregates. Increasing the use of RAP reduces the need for natural resources and lowers CO<sub>2</sub> emissions.

Engineering benefits include better compaction on the road, the ability to haul paving mix for longer distances, and extending the paving season by being able to pave at lower temperatures.

WMA has 22 commercially-available warm mix technologies here in the United States in three categories, chemical additives, organic additives,

and mechanical production.

As explained by Wildfong, mechanical production (or water foaming) works like this: Water is injected into the asphalt binder. This suspended state (think steam bubbles in your foamy cappuccino) allows the aggregate material to be coated at lower temperatures. (Asphalt binder is solid at room temperature. Hot mix asphalt is typically produced between 280 and 320 degrees Fahrenheit. WMA is between 225 to 295 degrees.)

In WMA, increased fluidity allows lower production temperatures. The asphalt material stays in a foamed state until the material is compacted, at which time the air bubbles are removed. This foamed state has the benefit of longer hauling distances, a compaction aid during construction, and paving in cooler weather situations, among others.

Another benefit is that the crew can travel longer distances to projects while maintaining workability.

"One crew had their paver break down in Colorado with 30 trucks en route to the job site. After waiting

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— Tonya Wildfong

over four hours for the needed repairs, the project was completed. This would not be possible with hot-mix asphalt in the trucks," Wildfong said.

The result for consumers is opening to traffic faster after the completion of projects and a longer season where, for example, they could pave a private road on a new house before winter hits. BN



process.

The new product is warm-mix asphalt (WMA), which allows for the production and placement of asphalt mix at temperatures up to 70 degrees Fahrenheit lower than traditional hot-mix asphalt.

Elmer's is the first one in the area to use WMA, according to Tonya Wildfong, marketing director, and it will be seen this spring on projects such as parking lots and private roads to start.

The technology comes from Europe and is now in use by some 47 states. Widespread use is growing but slow to catch on in some areas due to the "new" status of the technology.

"We've been doing a fair amount of education with the area road commissions," said Wildfong. "It's just starting to be included."

WMA can add approximately \$1 to \$4 to the cost of material per ton compared to traditional hot-asphalt mix, Wildfong said, but because its lifecycle

## Warm-Mix Asphalt is on the rise

Nationwide use 2009-2010:

- Department of Transportations – increased from 6.3 % to 15%
- Other agencies (road commissions/cities) - increased from 4.4% to 11 %
- Commercial/residential – increased from 4.5% to 10%

Source: Federal Highway Administration

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