

HOT MIX ASPHALT

# Put all that RAP to work.

**Invigorate**<sup>®</sup>

Invigorate<sup>®</sup> additive is the first asphalt rejuvenator that truly rejuvenates asphalt. This all-natural additive, which contains 100% bio-based content, attacks aged binder at the molecular level to transform recycled material from the inside out. That means you can take RAP content beyond the 50% threshold and still beat binder specifications like PG and  $\Delta T_c$ .



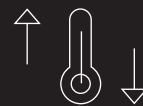
Rejuvenate at molecular level to create softer binder.



Enhance effects of polymer incorporation in binder.



Increase critical performance temperature range.



Improve high- and low-temperature performance grade.

45%

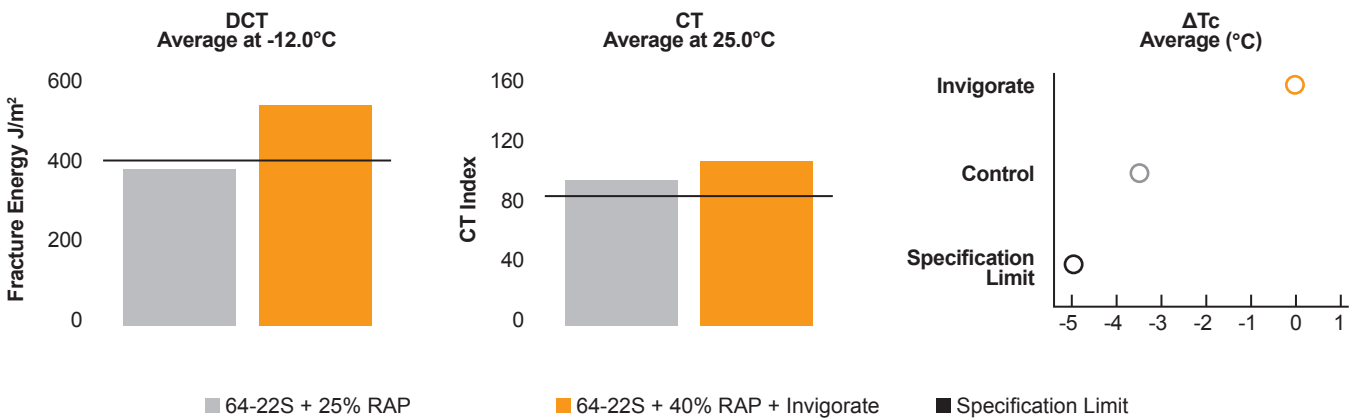
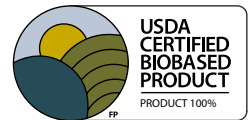
Use up to 45% RAP without age-old drawbacks.

# Beneath the surface.

The “standard” rejuvenator has a watered-down effect on stiff binder, which only amounts to a superficial change in viscosity — but no actual change in the aged elements. Invigorate triggers chemical reactions inside RAP to break down asphaltene aggregation and reverse the effects of oxidation, which actually addresses the aged elements and restores flexibility in the final mix.



## DATA FROM A PROJECT IN INDIANA



## DATA FROM A PROJECT IN MINNESOTA

**The Mix**  
**58-28S** + **40%** + **4%**  
 Virgin Binder RAP Biomag

**The Results**  
 Final PG **58-28S** Final ΔTc **-0.7°C**