

An aerial photograph of a winding asphalt road that snakes through a dense, lush green forest. The road has white dashed lane markings and a solid white edge line. Several small cars are visible on the road, including a white car, a pink car, and a blue car. The road curves in a series of S-shapes, creating a rhythmic pattern against the green landscape.

ReGen[®]

Truly ReGenerating Your Reclaimed Asphalt

BLACKLIDGE[®]

ReGen® is a revolutionary new product by Blacklidge that restores characteristically flawed asphalt binder, such as RAP and RAS, to a highly durable and age-resistant state.



RAP Stockpile



RAP (after heat)



ReGen™ RAP (after heat)

ReGen is an engineered additive for reclaimed asphalt technologies that enables complete diffusion between reclaimed asphalt pavement (**RAP**), reclaimed asphalt shingles (**RAS**), and virgin binder to create a ReGen Asphalt mixture, even at high percentages of replacement. The result is low-cost, high performance asphalt that is reliable, resilient, meets PG criteria,

and displays superior age-resistance compared to untreated RAP mixtures. ReGen is formulated to chemically bond with and disperse existing asphaltene molecular clusters to create an optimum balance of chemical fractions proven to sustain through an extended field aging process.

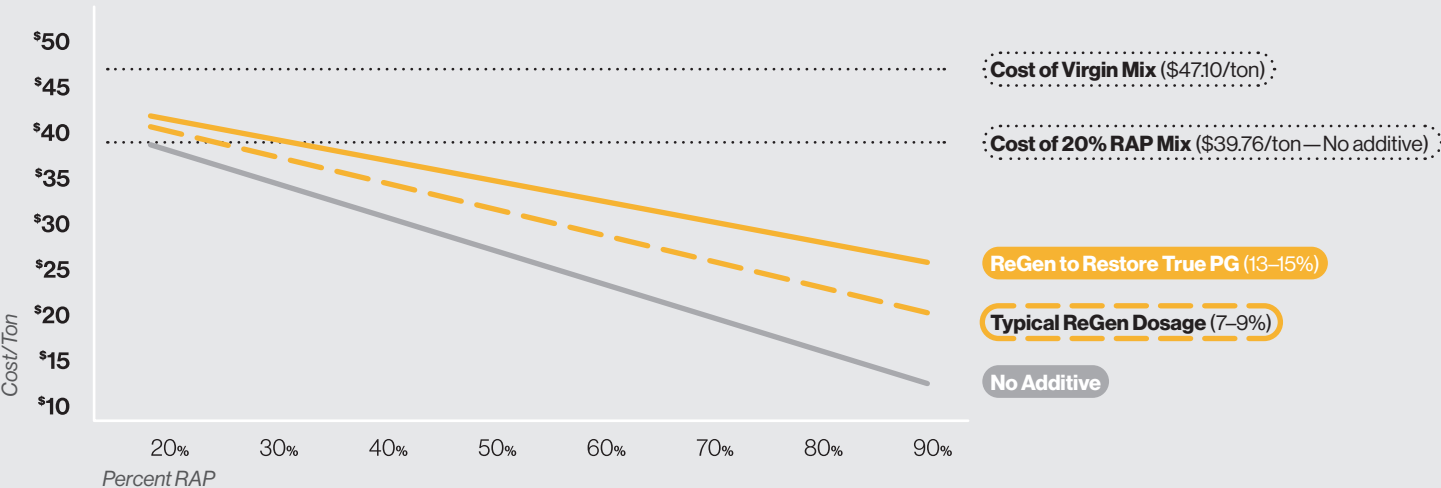
Engineering specifically for reclaimed asphalt technologies, ReGen provides transformative material reuse, superior pavement performance, cost savings, and environmental impact for contractors, agencies and tax-payers.

Key Benefits of ReGen®

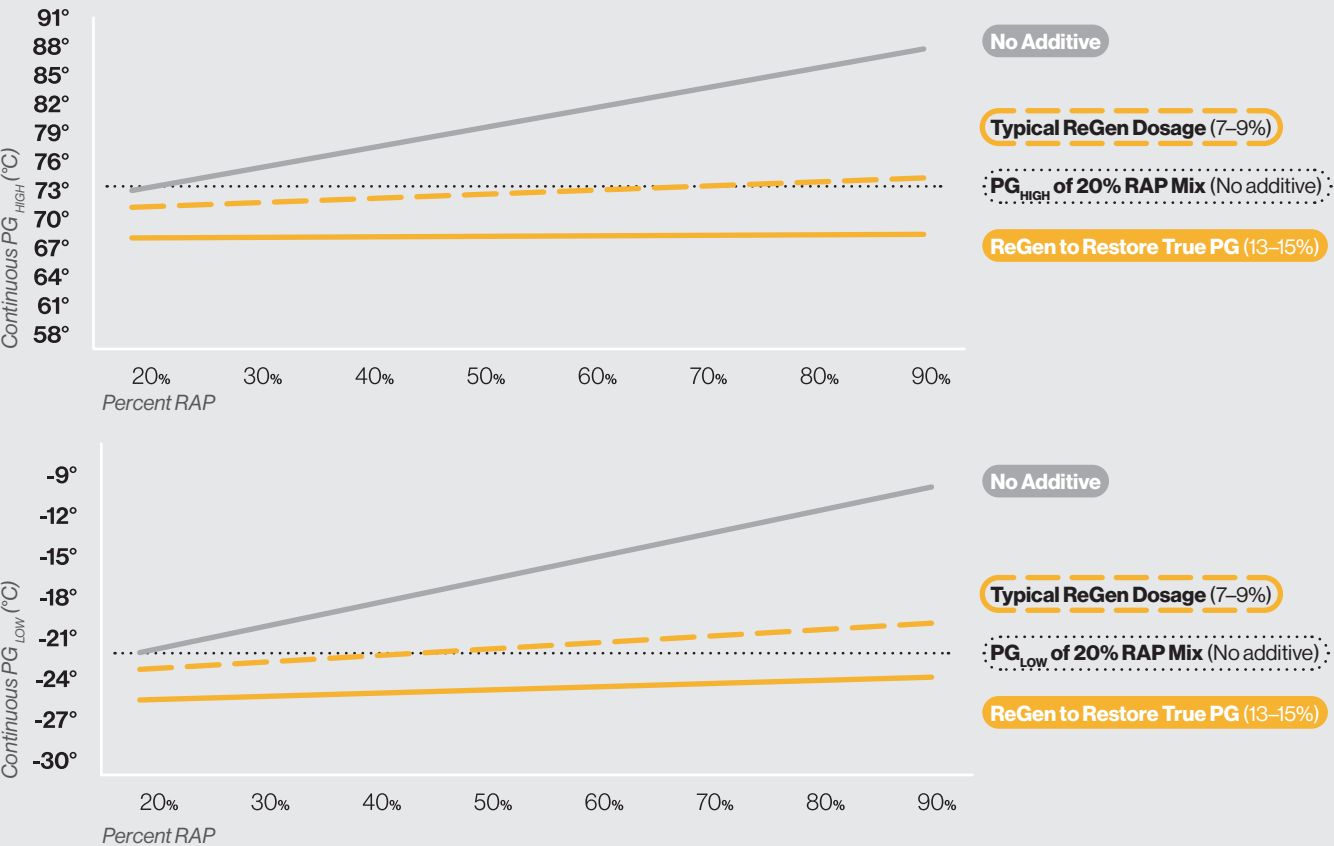
Long-term Cost Savings

ReGen not only enables the use of higher RAP content with enhanced long-term performance but also improves your return on initial investment compared to untreated 20% RAP mixtures.*

Hypothetical Cost Savings using ReGen



Impact of ReGen Dosage on PG Grade of RAP Blends



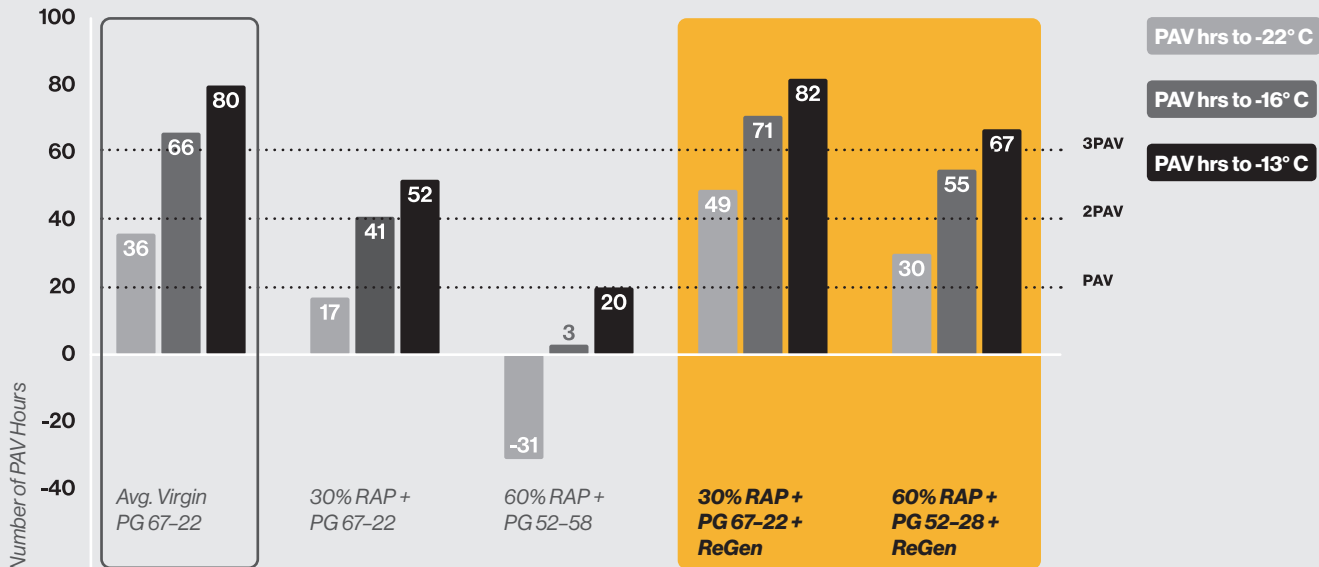
*Doesn't consider cost savings associated with anti-strip replacement or higher "active" binder%. Ask your Blacklidge representative to explain these savings. All ReGen dosages expressed as percentage of the RAP/RAS binder replacement in the mix design.

Key Benefits of ReGen®

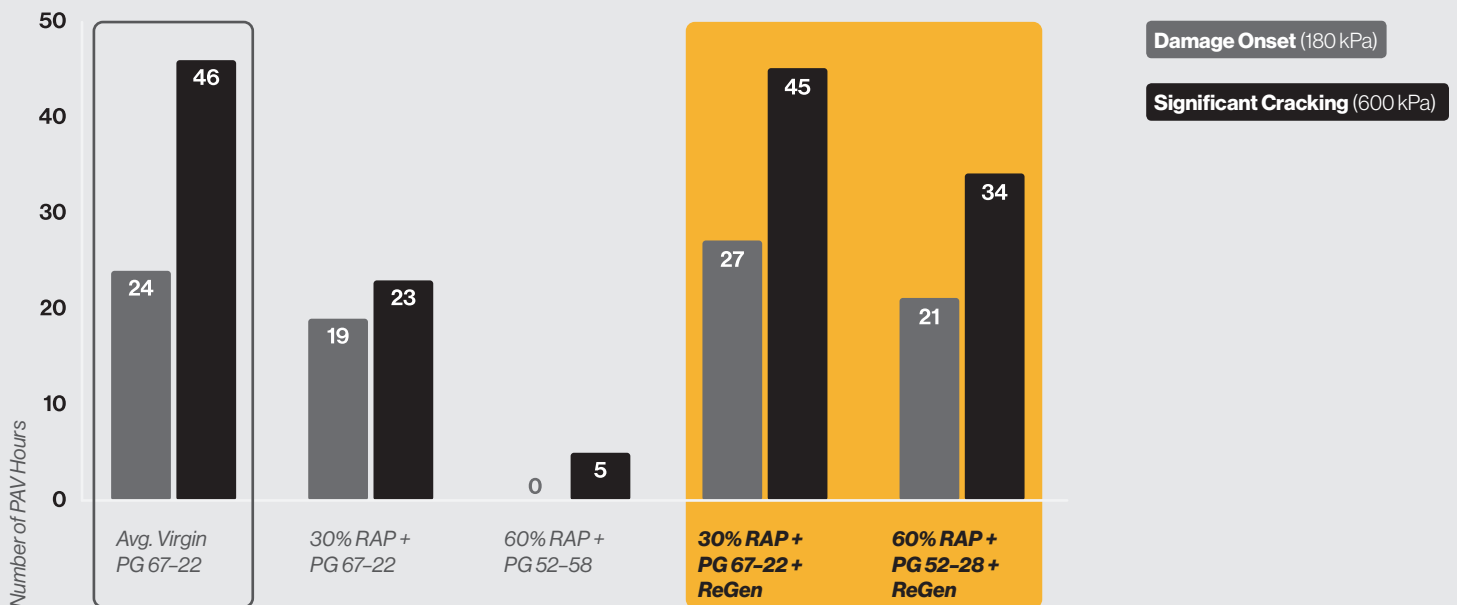
Improved & Sustained Age-Resistance

ReGen upgrades reclaimed asphaltic materials by significantly reversing the adverse effects of aging and defending against future aging.

PAV Hours to Drop in Continuous PG_{Low}



PAV Hours to Glover-Rowe¹ (G-R) Limits



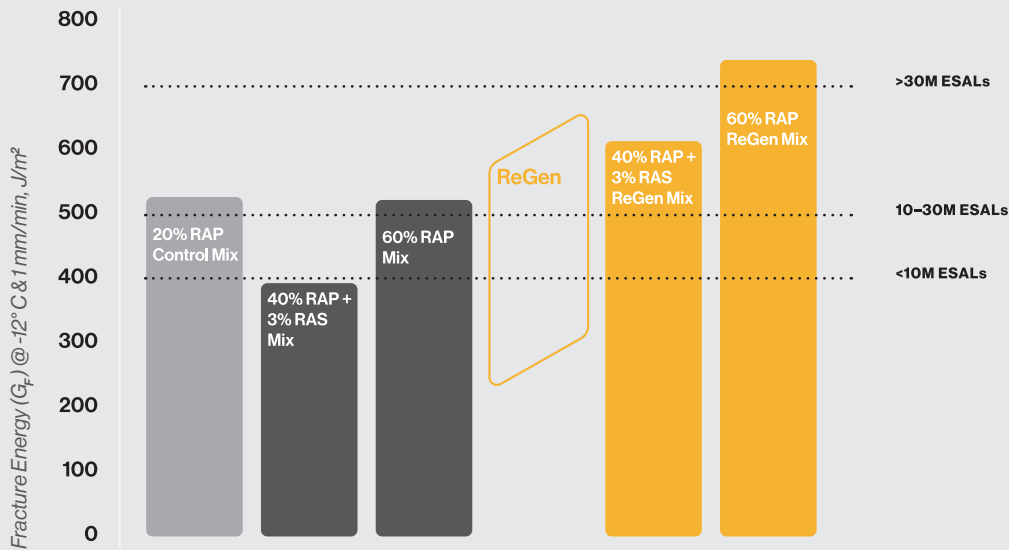
¹ G-R is a state-of-the-art cracking parameter which has been correlated strongly to ductility and observed field cracking.
Rowe, G. (2011). Evaluation of the relationship between asphalt binder properties and non-load related cracking. Prepared discussion.
Journal of the Association of Asphalt Paving Technologists, 80, 649– 663

All testing performed at National Center for Asphalt Technology (NCAT) and Blacklidge's BETA R&D Lab.

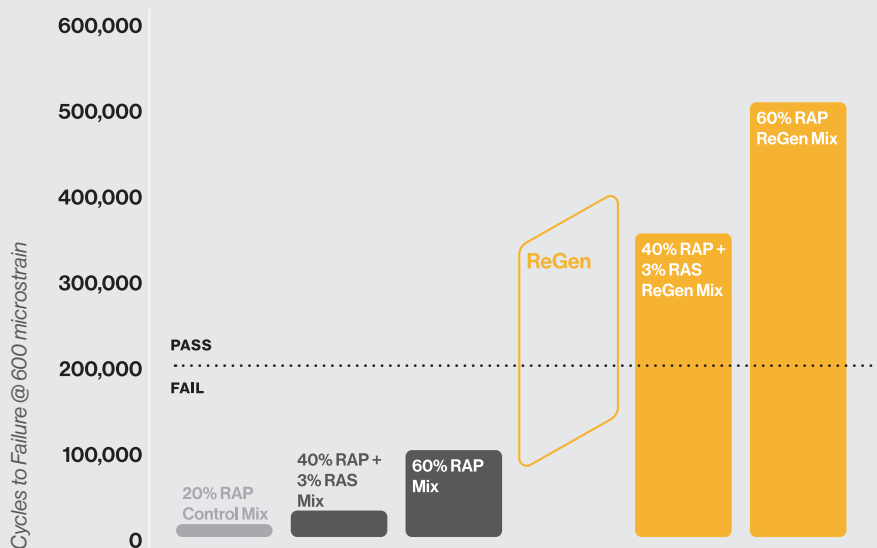
Improved Cracking Performance

High RAP/RAS ReGen[®] mixtures considerably improve the low temperature fracture resistance and fatigue performance without compromising rutting resistance.

Disc-Shaped Compact Tension (DCT)



Bending Beam Fatigue Test (BBFT)

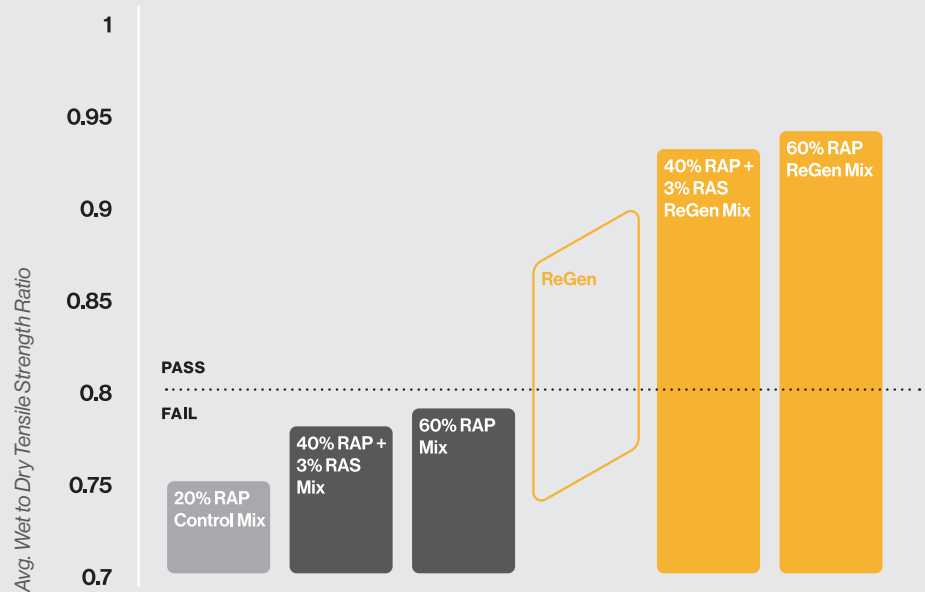


Key Benefits of ReGen®

Superior Resistance against Moisture Damage

High RAP/RAS ReGen mixtures inherently possess superior stripping resistance without the need for expensive anti-stripping agents.

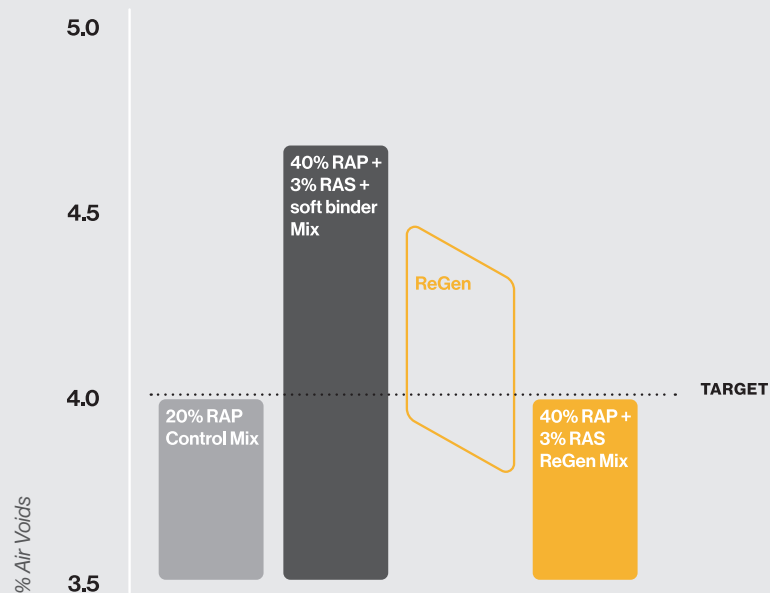
Tensile Strength Ratio (TSR)



Better Constructability

High RAP/RAS ReGen mixtures can achieve desired percentage of air voids with less compactive effort, compared to untreated high RAP/RAS mixtures.

Design % Air Voids ($N_{DES}=100$)





True Sustainability

Superior RAP and RAS binder treatment is the only **sustainable** path for the future. ReGen® was *engineered* with an understanding of the minimum properties that a binder must possess, whether it is reclaimed or not. Since RAP and RAS binders do not possess these essential properties, reclaimed materials must be upgraded to ensure performance and reliability.

Experience ReGen!

At Blacklidge, we help
you build **durable, safe
and smooth roads**
with cutting-edge,
quality products that
ensure your projects
are completed on time
and on budget.

Contact us to learn more about our
innovative products, including ReGen®.

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BLACKLIDGE[®]

PERFORMANCE.
RELIABILITY.[®]