

METRO MATERIALS

Recycled Cement Treated Base Outperforms

Improved Load-Bearing Capacity: When Cement Treated Base is produced using recycled concrete, the residual cement found in the recycled concrete helps to stabilize the aggregate, enhancing its load-bearing capacity and providing a stronger and more resilient base. This structural advantage increases the integrity and longevity over non-recycled aggregate.

Enhanced Workability: The presence of residual cement will improve the workability of the CTB especially in the finer blends. The residual cement also aids in binding the aggregate, filling gaps and creating a more uniform and cohesive mix.

Reduced Need for Additional Cement: Since recycled concrete aggregates contain cement, there is a reduced need for much additional cement in the CTB mix. This can lead to cost savings to the owner while providing a better product.

Application: Jobsite segregation is decreased by the angular nature of crushed aggregate while reducing the raveling found with most natural products.

Consistency in Performance: The residual cement contributes to the consistency and predictability of the CTB's performance, ensuring that it meets the required engineering properties for various applications.

Environmental Benefits: Utilizing recycled aggregates with residual cement reduces the demand for new cement and aggregate production, which in turn lowers the carbon footprint and the environmental impact of the construction process.

Locally Sourced: Since recycled concrete is always locally sourced, the local economy is strengthened by a factor of six verses using a global corporation that uses virgin materials.

Job Creation: Small, locally owned businesses generate higher incomes for people in the community compared to big, non-local firms. Local businesses hire from the surrounding community, which helps reduce unemployment and improve the overall economic health of the area.

Community Development: Local businesses often provide unique and personalized services that contribute to the community's identity and social capital. Local companies foster a sense of community and belonging.

Environmental Impact: Local providers typically have a smaller carbon footprint due to shorter supply chains and less transportation required. This leads to a more sustainable local economy and environment.

Economic Resilience: Communities with a strong base of locally owned businesses are often more flexible to economic downturns. Local businesses adapt more quickly to changing market conditions and continue to serve the community even during challenging times.

In summary, the residual cement in recycled concrete plays a key role in enhancing the performance, workability, and environmental sustainability of Cement Treated Base (CTB) using recycled aggregates.

Civic Economics: Local Value Generation: Independent Businesses vs. Global Chains Business News Daily: How Small Businesses Benefit Local Economies

Sustainable Business Toolkit: Local Economies Definition: Everything You Need to Know

Institute for Local Self-Reliance: Key Studies: Why Independent Matters

Utilization of recycled aggregates in cement-treated bases: a state-of-the-art review <https://link.springer.com/article/10.1007/s41062-021-00555-4?form=MG0AV3>

Performance of Concrete Structures with Unique Materials, Reinforcement or Geometry <https://ijcsm.springeropen.com/articles/10.1007/s40069-013-0032-5?form=MG0AV3>

Sustainable building materials-recycled aggregate and concrete: a systematic review of properties, modification techniques, and environmental impact <https://link.springer.com/article/10.1007/s11356-024-32397-9?form=MG0AV3>