

STORIES OF STRENGTH

Georgia's Highways GDOT



Extending the life (and budget) of Georgia's roadways.

After reading a news story about the crumbling highway system in Georgia, **EdenCrete®** approached the Georgia Department of Transportation (GDOT) with an innovative proposal: Test our **carbon concrete additive** on a stretch of highway. We believed **EdenCrete's®** abrasive resistance properties, decreased permeability, and overall strength gains could potentially double the life expectancy of Georgia's roadways.

The Test It was big a promise to make, but GDOT was willing to give it try. They selected two, 10.5m long sections of I-20 West near the off-ramp to the State of Georgia's Welcome Center. The "control" was poured using the standard *GDOT Class 24-Hour Accelerated Concrete* mix formula that contains 446kg of cement per cubic meter and the equivalent dose of 10L/m³ of **EdenCrete®**. The same *GDOT Class 24-Hour Accelerated Concrete* mix was used with **EdenCrete®** carbon nanotube-enriched additive. The crew also incorporated calcium chloride pellets into both mixes to ensure sufficient strength of the concrete, so the roadway could reopen only a few hours after placement.

The Results **EdenCrete®** increased **abrasion resistance of the concrete by 56%** over the original mix design. Furthermore, **EdenCrete®** increased the **compressive strength of the concrete by 33%**. After review of data and field placement, GDOT has granted **EdenCrete®** the status of "Allowed for Use" for projects specified with either Class 24-Hour Accelerated or Class B concrete.



1, 2, 3, 4. **EdenCrete®** enhances concrete performance and does not affect the fresh concrete properties or its ability to be finished, which makes it extremely user-friendly to finishers on the job site.

Areas of significant improvement for this application



EdenCrete® enhances concrete in all seven areas, but was specifically selected for abrasion, permeability and compressive strength for this project.



1, 2, 3. EdenCrete® enhances concrete performance with no adverse effects to the fresh concrete properties or its ability to be finished.

“We began working with **EdenCrete®** on a collaborative project between their team and the Georgia Dept. of Transportation in 2015. The product can be dosed into trucks like any admixture at our ready-mix facility, and does not present any issues with the fresh properties or the ability of the concrete to be finished. **EdenCrete®** has demonstrated its ability to greatly enhance not only the resistance to abrasion, but also the strength of the concrete. Test results and field trials indicate many concrete applications, not just roadways, can benefit from **EdenCrete®**.”

C.T. Davis, CEO - Augusta Ready-Mix Concrete



Harness the strength of carbon nanotubes for your next pour.

Developed by EdenCrete Industries Inc., **EdenCrete®** is a carbon nanotube-enriched liquid additive that elevates concrete structures to new levels of strength and toughness. When added to concrete mixtures, it performs like multiple additives rolled into one. It boosts surface abrasion resistance and produces extremely low permeability while improving strength properties [i.e., compressive, flexural, and tensile] like no other product on the market today.



Associations



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