

Green Asphalt – The Bubblegum of Roadways

Written by Susan Stein Kregar

Remember Black Jack Gum – the black gum that tasted like licorice? Now think of driving your car on miles of it in Southern Arizona. You can and you are if you live in Green Valley and Sahuarita.

Green Asphalt™ – not the color green as you may envision, gets its name from the main environmentally “green” ingredient – recycled tires.

Green Asphalt™ an exclusive, patent-pending product developed and used exclusively by Tucson Asphalt Contractors, Inc. uses recycled tires and a rubber binder (their “special sauce”) to provide durable asphalt pavement that is not only saving money for homeowner associations and municipalities throughout Southern Arizona, but it also results in a faster process with a smaller carbon footprint.



The consistency of Green Asphalt™ has been compared to bubble gum. Photo courtesy of walkmemorylane.com

“It’s like bubblegum,” said Joe Herrick, Business Development Manager, Tucson Asphalt Contractors, Inc. (TACI). “It is extremely durable and is far superior to conventional binders, which tend to crack quickly.”

The difference between rubberized asphalt and Green Asphalt™ lies in the thickness. Typical asphalt pavement is two to three inches thick or more, whereas Green Asphalt™ is only one inch thick and up to two and half times stronger.

Because the original asphalt does not need to be removed and regraded, it eliminates long-term disruption (two days, instead of two weeks). Within 15 minutes of being laid, the road can be opened to traffic which makes drivers happy because they don’t need to find an alternative route. Businesses are happy because their entrances are not blocked for weeks at a time. Additionally, roadway noise is

reduced by more than 50 percent.

The Town of Sahuarita’s pavement preservation project on Rancho Sahuarita Boulevard from Sahuarita Road to Avenida Mitla included the removal and replacement of some paving and an overlay of the area using Green Asphalt™.

Beth Abramovitz, Public Works Director, said the Town been very happy with the results of using Green Asphalt™.

“It has held up the way we were told it would,” she said. “We will not have to deal with maintenance for at least four years whereas with typical asphalt we have to maintain it three years in. Because of the structural capacity which is better than fog or slurry seal, right off the bat we are extending the life of the road and getting a bigger bang for our buck.”

The money the Town saves allows them to do more projects which the community appreciates. “We have been really happy,” said Abramovitz. “Our construction teams are the first line of defense. They look at every road and rate them based on what needs repair first. The Green Asphalt™ has allowed them to focus on additional tasks.”

According to TACI, Green Asphalt™ saves enormous amounts of resources, including time, money, and fossil fuels in comparison to traditional asphalt. For example, based on a 100,000 square-foot paving job, the estimated savings using Green Asphalt™ vs. traditional asphalt include:

- 33 tons of petroleum asphalt
- 1,110 gallons of fuel burned at the asphalt plant
- 37,000 pounds of CO2 emissions at the asphalt plant
- 2,000 gallons of pavement sealer
- 280 gallons of dump-truck fuel
- 550 tons of sand and gravel
- 1,527 tons of used-asphalt removal
- 200 tires recycled from landfill
- 670 cubic yards of landfill space

TACI’s first Green Asphalt™ project was completed in Tucson in 2006 and according to Herrick, is still standing and durable. He anticipates it will be another five



Rancho Sahuarita Boulevard before and after using Green Asphalt. Photo courtesy of Town of Sahuarita

or six years before it will need any maintenance. Since then, this material has been used in numerous HOA’s in Tucson and Green Valley, the U of A, and the municipalities of Sahuarita, Bisbee, Oro Valley, Tucson, and Nogales.

For a municipality or HOA funding a paving project, this material saves them time, money, and human resources. Rather than two inches of asphalt being hauled out and back, Green Asphalt™ only requires one inch to be hauled in. That eliminates the need for additional heavy equipment, labor charges, and multiple runs to the dump. Green Asphalt™ comes with a 4-year warranty compared to one year for traditional asphalt, making it even more attractive to budget-conscious projects.

“Green Asphalt™ is the perfect candidate to save an older asphalt road,” said Herrick. “and by ‘going green’ the savings are between \$0.40 to \$0.60 per square foot which quickly adds up to major savings.”

What do all of these benefits mean for taxpayers? It means big savings for the municipalities that use it, which in turn costs the taxpayers less. The lower cost is achieved through less thickness, fewer materials, less equipment, and labor on the job site costs, and fewer wasted natural resources. Depending on the condition of the asphalted being overlayed, it does not need to be removed and replaced.

Green Valley Canoa Seca Estates II was one of two homeowner association projects in Green Valley and The Town of Sahuarita’s Rancho Sahuarita Boulevard project that contracted with TACI for a total of 879,829 sq. ft of Green Asphalt™. This translated to approximately 5.2

miles of Green Asphalt™ for a 32 ft. wide road.

Before selecting TACI, Canoa Seca Estates II Homeowners Association conducted an independent study to determine the structural and cost-effectiveness of Green Asphalt™ over 10 years. The study concluded “savings out to at least 14 years due to no maintenance requirements. There is a four-year warranty from Tucson Asphalt for its Green Asphalt™ product vs. one year for other companies/processes.”

A 10-year life cycle cost analysis (LCCA) was also conducted using written estimates from contractors that included the initial cost and the maintenance required over a ten-year period for different processes. The results are as follows:

Company B -- Mill and Overlay \$472,361

Company B -- Pulverize and Replace \$522,616

Company A -- Micro Seal \$369,000

Tucson Asphalt: Green Asphalt™ \$329,000

“Green Valley residents tend to be highly educated,” said Herrick. “There are many retired engineers here and they understand the engineering behind the product that makes it so environmentally and cost-effective.”

For a complete list of Green Asphalt™ benefits visit <https://tucsonasphalt.com/green-asphalt-benefits/>.

