



# MORBARK

*Building equipment that creates opportunities.*

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## Maximizing value of asphalt shingles fuels success of Texas recycler

On so many different levels, recycling asphalt shingles might just be one of the most beneficial material recovery efforts being undertaken today. From the perspective of the hot mix asphalt producer, recycled asphalt shingles (RAS) can provide a cost-effective additive to virgin asphalt material, thereby reducing operating costs and serving as a buffer against the incessant “spiking” of oil prices. Asphalt users (paving and construction companies, for example) reap the benefits of being able to offer customers a product that, in many cases, has been shown to be far more durable than virgin-only mixes. And finally, roofing contractors who choose to recycle the shingles being removed, can both tout their “green” building practices to the homeowner, and benefit from a lower disposal cost than landfilling. Little wonder then, that more and more companies are making forays into shingle recycling—some successfully, some not. One firm which has established itself as a major player in this still-evolving market is Houston-based Sustainable Pavement Technologies (SPT). Armed with a Morbark 4600XL grinder—and a penchant for material cleanliness—the firm has already set up operations in Houston, San Antonio, the Dallas-Ft. Worth area and Austin, as well as one in the upper Midwest, and is poised for future nationwide growth.



## ► Roots in Recycling

Though officially in business for about three years, SPT's business plan has been in the works for a bit longer than that. According to Jeff Wanic, company president, SPT's roots are grounded in a belief that recycling in general is a positive endeavor.

"My history of looking at the feasibility of recycling goes back about 15 years," he says. "As a chemical engineer in the plastics division of a major chemical company, my job often involved looking at ways to reduce the amount of plastic material going into landfill, finding beneficial re-uses for their products, and so on. Seeing what was possible essentially drove the decision to establish SPT as a multi-faceted recycling company. So while shingles are currently the major component of this operation, we also are looking at other ways to reuse C&D debris, pallet wood, tires, and more."

Wanic says the decision to focus on shingles was based on both his research background and having friends in the construction industry who provided valuable input.

"Actually, some of my first ideas centered around alternative fuels and biofuels, but I seemed to keep coming back to shingles, shingles, shingles. Because they can contain between 20%

and 30% oil, I felt there was really no reason they should be going into a landfill. But, until now, the economics to make it work—specifically getting them into a form where they have value—cost too much."

## ► The Right Stuff

What changed to make shingle grinding a feasible effort for SPT was, in part, their acquisition of a grinder that was efficient and productive, yet could give them the quality product their customer demanded.

"Obviously our primary market for the RAS is the hot mix asphalt producer and they have some very demanding DOT-generated specs for the material that we have to meet," says Wanic. "For Texas the state spec for gradation says that 100% of the material has to pass a 1/2-inch sieve, 90% needs to pass a 3/8-inch sieve. If we don't meet that spec, we simply don't have a sellable product. Over the last few years we've tried a number of different makes, sizes and configurations of grinders and feel that we've found the ideal tool in the Morbark 4600XL."

Wanic is apparently not alone in his satisfaction. He says that a recent visit to his site from the Texas DOT resulted in perhaps the best endorsement a company can hope for.

"This was a lead engineer for TXDOT who, after looking at our product, said

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that it was the best looking material in terms of gradation that he had ever seen. That's exactly what we—and the hot mix guys—like to hear.”

### ▶ Making the Grade

The gradation to which Wanic refers, is nothing more than particle size distribution across a specific sampling. In the hot mix industry, it is generally believed that the finer the product, the better. That, however, only goes so far. Get it too fine and the those same customers will suddenly be dissatisfied.

“So it can't be like dust and it can't have chunks in it,” he says. “That's one of the real strengths of the 4600XL: its ability to give us high-quality RAS and do so consistently. On a regular basis, we are generating anywhere from 28 to 34 loader buckets of material per hour. That translates to about 110 tons/hour of excellent product created by a single pass through the grinder. We've been extremely satisfied with what we're getting with the Morbark unit.”

### ▶ Cleanliness is Key

While grinding can generate the proper

sized product SPT needs, the cleanliness of the material is as important—if not more so—than its actual size. Wanic is understandably reluctant to discuss that facet of the business in any detail, but will say that it is a focused effort.

“In most cases, the material needs to be cleaned prior to grinding to remove contaminants and other non-shingle debris.

I say ‘in most cases’ because in addition to post-consumer shingles, we also take in post-manufactured material—scraps and discards direct from the shingle manufacturer. We have multiple stages of cleaning to get it to a point where it can go into the 4600. How clean it needs to be depends, again, on state DOT specs.”

Wanic says different state DOTs have different specs. In Texas, deleterious material—all non shingle debris—needs to be less than 1.5% of volume; in Minnesota it is .5%.

“That .5% number is almost impossible to meet,” he says. “Within the shingle itself, there are other materials such as matting, felt, rock, and so on. We

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have one of the most aggressive efforts anywhere to remove non-shingle material, just to get to Texas' 1.5% threshold. But that effort, combined with the 4600's performance has helped us get to where we are today."

► Future's So Bright . . .

For good reason, Wanic and SPT are very optimistic about what the future holds for them. With an estimated 11 million tons of waste asphalt shingles generated each year and a growing acceptance among most of the larger hot mix companies to accept RAS, the company is positioned for growth. At the same time, the hot mix asphalt producers will continue to derive real benefits from SPT's efforts. Using RAS, after all, reduces their demand for virgin asphalt, resulting in a cost savings. But Wanic says it goes much further than just costs.

"There is also a performance benefit to using shingles," he says. "The asphalt in shingles that have been on roofs for 30 years or more has oxidized and stiffened. In Texas, with its high summer temperatures, having a stiffer asphalt actually produces a road with better rut resistance

and better high-temp performance.

Citing the naïve approach of some companies who tried, unsuccessfully, to get into shingle grinding, Wanic says his company is fortunate to have so much valuable experience under their belts as the market continues to mature.

***"But that effort, combined with the 4600's performance has helped us get to where we are today."***

"Unlike some others who simply bought a grinder and thought the money would start rolling in, we were quick to realize the complexity of the situation, the demands of the customer, the best ways to bring it all together—and that includes everything

from site layout to equipment selection. We have some aggressive plans for growth, plans which will include additional grinder purchases, and the performance we've gotten from the Morbark 4600XL tells us that model will fit into those plans nicely."

***Opportunity created***

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