

# FOCUSING ON RAP PERCENTAGES



**A**NYONE WHO IS CONSIDERING the potential value of using reclaimed asphalt pavement (RAP) in their hot-mix asphalt (HMA) mixes should factor in this common-sense point:

It's not a matter of *if*  
—or even *when*—  
RAP will become  
a key part of  
everyday hot-mix production.  
The move toward  
using RAP is underway  
right now.

It was that common-sense point that prompted C.R. Jackson, Inc., an HMA producer headquartered in Columbia, South Carolina, to add a new piece of equipment to their growing array of production tools. Clarke DeHart, vice president at C.R. Jackson, recently voiced his opinion about RAP. He said that although the use of RAP in HMA mixes was considered to be an added benefit by some producers in the past, it will soon become an economic necessity for almost all producers.

“As prices increase in the asphalt industry, the use of RAP is going to move from the back burner to the front burner,” said DeHart with emphasis.”



**When the DOT started allowing higher percentages of RAP, this company immediately expanded its RAP-handling capabilities with a mobile screening plant from Astec Mobile Screens.**

The C.R. Jackson company has been in business since 1972 when its founder, Richard Jackson, began offering grading, clearing, and utility work to homebuilders in the Columbia, South Carolina area. In 1989, the company purchased its first HMA plant, thereby establishing itself as a full-service site contractor.

Today, the company operates two HMA facilities: an Astec Double

Barrel<sup>®</sup> dryer/mixer plant located in Columbia, and a Cedarapids plant in Richburg, South Carolina. A major part of the firm's business involves highway paving projects, so when its state department of transportation started allowing higher percentages of RAP in the mixes, the management of C.R. Jackson immediately welcomed the opportunity to expand their RAP-handling capabilities.

Accordingly, in early 2006, the company purchased an Astec Mobile Screens Fold 'n Go<sup>®</sup> 2612V mobile screening plant for the purpose of fractionating RAP.

“The percentages of RAP allowed on state jobs are different for every mix,” said Dehart, “but we are usually able to run as high as 15 or 20 percent. That's the main reason we bought the Fold 'n Go screening plant: So we would be able to put that higher percentage of RAP in there.”

The Fold 'n Go 2612V mobile screening plant features a PEP Vari-Vibe<sup>®</sup> 2612V double-deck high-frequency screen. The unit's 6 x 12-ft. (1.8 x 3.7-m) top and bottom decks are driven by five variable-speed hydraulic vibrators (0 to 4,200 RPM) that are mounted below the screen for directly-induced vibrating action. All of the vibrators have five force-amplitude settings on adjustable slip counterweights and hydraulic controls for variable angle operation. The plant can produce up to 300 tph (454 tonnes per hour) or more.

At the C.R. Jackson facility, the Fold 'n Go plant is placed behind a Telsmith crusher. DeHart explained that this is because the company's

RAP comes from various sources: some of it is milled material, some of it is in chunks, and some of it is plant waste. As a result, the size of the RAP can be unpredictable.

"We originally tried running only straight millings through the Fold 'n Go unit without any prep. But if anything was in there other than straight millings, we ended up with a good bit of oversized material," said DeHart. "We found that it was better to prep the material by running it through the Telsmith crusher. Our overs have gone to virtually nothing at all."

Two sizes of RAP are produced using the screening plant: minus 4 and plus 4/minus 0.5. These two sizes can then be fed into the Astec HMA plant's multiple RAP bins, allowing the company to achieve higher-quality mixes with larger RAP percentages.

"When we made the move from running virgin mixes to mixes with RAP in them, our quality did not suffer at all! It just was not an issue," said DeHart. "There are a lot of people who think that when you start putting unprocessed material in there, you will see a value decline. But we treat it just like virgin aggregate and put the same amount of value on it. In doing that, we have been allowed to increase our percentages and run RAP in mixes that we hadn't been able to before. We are very happy with it."

In addition to fractionating RAP at the company's Columbia location, C.R. Jackson utilizes the Fold 'n Go plant's mobility to provide its screening features to its Richburg facility, as well as to Satterfield Construction, in Greenwood, South Carolina.

"We've moved it four times in the six months that we've had the unit," said DeHart. "It's very easy to move. It only takes the operator

one hour to fold it up and get it ready to go. Of course, then he has to clean it before we can take it out on the road. And then, once it's at the new site, it only takes about one other hour to set it up and get it running."

DeHart said the same operator is in charge of the Fold 'n Go mobile screening plant, no matter where it is doing the work. "He does it all—everything that has to do with the screening plant—including running the loader," said DeHart. "He is assigned to that one machine. Wherever it goes, he goes. He stays with it, he operates it, and he maintains it."

The ease of use was a key point in the company's decision to buy this particular unit, added DeHart.

"The operator, Gary Gergen, thinks it's a neat machine. We used to have an old, off-brand screener that just would not do what he wanted it to do," he said. "I kept telling him that we had a Fold 'n Go on order and that it was going to work much better. And within two days of delivery, he was very happy. He is very satisfied with his new equipment."

Providing their employees with the right equipment for the job is a central philosophy maintained Richard Jackson, said DeHart.

"Richard Jackson's main business philosophy is sharply focused on the people—not the people who are in management, but everyone out there who works and carries the load for these companies. We try to buy new equipment that our people will have confidence in, and that is easy to use. And this equipment certainly meets that criteria.

"The Fold 'n Go screening plant is a good piece of equipment. It is easy to set up. It is easy to use. And it is certainly easy to produce a quality product." ▼▲▼



The management team at C.R. Jackson, Inc. made a quick decision to begin fractionating RAP as material costs climbed. They purchased this Astec Mobile Screens Fold 'n Go 2612V mobile screening plant (shown above in profile view) for the sole purpose of fractionating RAP.



The rough RAP is first reduced in size by a Telsmith crusher (which is outside of the frame in the photo on the left) and is then screened to remove anything that is still oversized.

Then it moves up to a PEP Vari-Vibe® double-deck screen where it is separated—or fractionated—into three different sizes. The aerial view (below) provides a view of the three stockpiles that are the result of the Fold 'n Go screening plant's efficient process.



### FOR MORE INFORMATION

about the wide range of products offered by Astec Mobile Screens, contact Ron Earl at Astec Mobile Screens:

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