

PROCESSING RAP GIVES

HE IS NOT GIVING AWAY any closely guarded secrets when he tells you that there is good money to be made when it comes to recycling reclaimed asphalt pavement (RAP). But it is still an important message that Andrew Probert, plant superintendent for Blue Diamond Materials, passes along to other hot-mix asphalt (HMA) producers:

“RAP is the future,” he said.

Utilizing RAP in new HMA products has become even more profitable to Blue Diamond Materials—an HMA producer headquartered in Anaheim, California—since they started putting a little extra time and effort into processing their stockpiles of RAP.

Several years ago, instead of simply crushing their milled and ripped-up material into one product, Blue Diamond purchased equipment that allowed them to begin crushing and screening their RAP to two different sizes.

“We call one *Plus 4* and the other *Minus 4*,” said Probert. “Plus 4 is



Blue Diamond Materials' RAP-processing site in South Gate, California was the company's first venture into exploring the potential of RAP processing.

anything that is caught on the No. 4 (4.75 mm) screen of our processing equipment. And Minus 4 is everything that goes through the No. 4 screen.”

Separating the RAP into two sizes serves a very important and productive purpose: It makes it easier to incorporate RAP into their HMA

mixes and it produces a higher-quality end product.

“When we only screened the RAP once, we had a lot of variation from one pile to the next,” said Probert. “But now that we treat the RAP more like a regular rock product, the results are more accurate. We have greater flexibil-

ity with our mix designs, including gradation and oil content. We can manipulate the numbers to create what is, in our eyes, the perfect mix because we have more control. It's simply a better practice in the long run.”

Blue Diamond began screening RAP several years ago when it purchased a RAP processing system for its South Gate HMA production facility. The technique worked out so well that in May of 2007, they purchased a second, similar processing plant for their Irwindale location.

Both RAP-processing systems are similar in design, although Probert said the Irwindale plant has a slightly higher capacity than the one in South Gate.

The Irwindale system, provided by Astec Mobile Screens, is a stationary RAP-processing system with a Telsmith 5252 HSI (horizontal shaft impactor) crusher and a PEP Duo-Vibe® 3618DM triple-deck dual-frequency screening system. A 5 x 15-ft. (1.5 x 4.6-m)

The South Gate, California facility is a stationary RAP-processing system equipped with a Telsmith 3036 HSI crusher and a 2618VM PEP screen. The two high-frequency decks are driven by electric vibrators that are mounted below the screens for directly induced vibrating action.



BLUE DIAMOND AN EDGE

scalping screen with a vibrating motor is positioned above two high-frequency decks: one 6 x 18 ft. (1.8 x 5.5 m) and the other 6 x 12 ft. (1.8 x 3.7 m). The vibrating action is supplied to the decks by electric vibrators mounted below the screen for directly induced vibrating action. The two RAP products are moved to their stockpiles with two 80-ft. (24-m) stacking conveyors. There is a 100-ft. (30-m) radial stacker that returns overs to the Telsmith HSI crusher.

The South Gate stationary RAP processing system features a Telsmith 3036 HSI crusher with a PEP Vari-Vibe 2618VM double-deck high-frequency screening system. Both decks feature high-frequency screens—the top one measuring 6 x 18 ft. (1.8 x 5.5 m) and the bottom one measuring 6 x 12 ft. (1.8 x 3.7 m)—driven by electric vibrators mounted below the screen for directly induced vibrating action.

According to Probert, the firm's RAP processing systems are in



A second RAP-processing facility became operational this year at another of the company's HMA facilities in Irwindale, California.

constant motion. All seven of the company's HMA plants are now utilizing the screened RAP. At the Irwindale location, Probert said a three-man crew operates the RAP-processing system every day for eight to ten hours at a time in an effort to keep 2,000 to 3,000 tons (1,814 to 2,722 tonnes) of the

different RAP product available for their HMA facilities in the area. The RAP that Blue Diamond uses comes from a variety of sources and in two forms—millings and ripped-up material. To make the processed RAP product as uniform as possible, Probert said the company runs a blend of milled

material and ripped-up material. Also, because not all of the company's HMA production facilities are equipped to handle two sizes of RAP, the Irwindale RAP system is equipped with a chute that allows the operators to blend the two products together after they have been sized. "That produces a precisely screened product for our batch plants that do not have the dual RAP-feed bins," Probert explained.

The remarkable success that the company has experienced by using this carefully processed RAP has encouraged them to consider adding more processing systems at their other HMA production facilities in the area.

"You just have to make sure there is a good market for RAP mixes," warned Probert. "If it is a new area where they're not tearing up old roads, you probably will not get enough reclaimed material from your customers to make it worth the money." ▼▲▼

Irwindale, California



The Irwindale, California facility is a stationary RAP-processing system equipped with a Telsmith 5252 HSI crusher and a 3618DM PEP screen. It also has two 80-ft. (24-m) stacking conveyors and a 100-ft. (30-m) radial stacker for returning the overs to the crusher for additional processing.

FOR MORE INFORMATION

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