

HESS USA, Pittsburgh, PA 15238, USA

## Large board production machine with face mixing system for Sims Stone, South Carolina

Even during challenging times, opportunity exists for growth. Successful companies understand that an increase in market share often results from going against the downsizing trend normally adopted in a period of economic slowdown. Sims Stone, a division of Sims Bark, has expanded its concrete products manufacturing operations by opening a third production facility at a new location in Bowman, South Carolina.

Sims Stone established its presence in the Southeastern market region almost ten years ago with their new facility located in Tuscumbia, Alabama. They then expanded their manufacturing basis with a second facility in Woodbury, Georgia in 2005. During these years, Sims Stone built a solid reputation for high quality products, featuring interlocking paving stones, segmental retaining walls, as well as concrete block for the building trades.

The expanding demand for their products, combined with advance sales efforts into the Southeastern Coastal region, convinced Sims Stone that the best way to serve this important market was through a dedicated manufacturing facility.

The complete line of products for Sims Stone is produced on a Hess RH 2000 large board production machine in their Tuscumbia, Alabama manufacturing location.

The superior results achieved with the Hess production equipment systems in that facility convinced Sims Stone that the success of the new plant would be best served with Hess as the new equipment partner.

“With the high quality product and the performance output from our Hess equipment in Tuscumbia, along with their team support for our overall operation, we concluded that Hess Machinery was not only the best choice for the new location, but the only choice to assure our success in this new market,” said David Sims.

David Sims, President, selected Hess Machinery to design the new plant around the Hess RH 1500-3 large board production machine, along with a fully-automated finger car, walking beam conveyors and packaging line for high quality production and high volume throughput. The plant is also equipped with a face mixing system to allow the full range of product innovation to best serve this market.

The RH 1500-3 is equipped with the patented Variotronic Vibration system. This advanced technology allows the amplitude and frequency to vary across the pre-, intermediate, and main vibration cycles. A more densely and evenly filled mold cavity is achieved over a range of product heights and shapes. “The RH 1500-3 allowed us to maintain the high standards of quality with a high level of product throughput, all at a very economical cost” offered Eduardo Aleman, General Manager of the new facility. “We were also impressed with the Oil Bath Vibration System which will greatly simplify our machine maintenance and reduce operational costs. This is very impressive technology.”

This new innovation by Hess Machinery provides a maintenance-free vibration table. The vibrator shafts are mounted in individual enclosed housings, filled with oil which assures a uniform lubrication during



Fig. 1: The automated plant design at Sims Stone optimizes the wet side with the dry side for the best results in product quality, throughput, and unit cost.

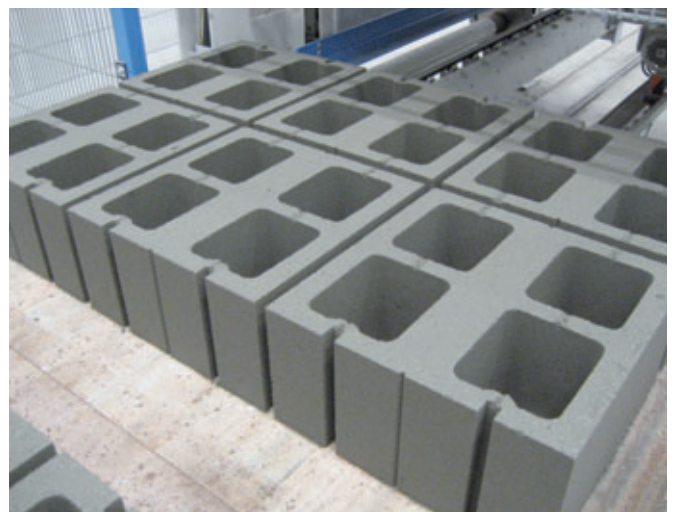


Fig. 2: The patented vibration system of the Hess RH 1500 produces superior results for all types of product shapes and sizes.

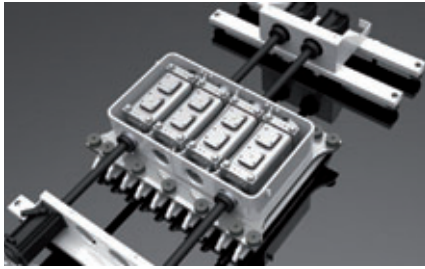


Fig. 3: The unique Oil Bath Vibration system developed by Hess Machinery reduces production and maintenance costs while achieving peak performance levels.

operation. Through a spray channel, the oil reaches all areas of the bearings, and a reservoir on the bottom of the housing prevents dry runs. Damage due to lack of lubrication is eliminated.

The Hess plant design provides a cycle time balance between the production (wet) side and the handling and packaging (dry) side. This operational balance achieves maximum output performance for a range of products at the lowest unit production cost while maintaining the highest quality standards. The plant also features an advanced safety system with integrated controls. All machine functions are controlled and managed by a Siemens S7 operating system. A diagnostic program assists the operator in monitoring critical functions, and an interface program connects the diagnostics to the Hess technical team for 24/7 support.



Fig. 4: Eduardo Aleman, Plant Production Manager, enjoys the updated operating software programs which connect the mixing and batching with the production machine and all phases of the automated plant.

Hess Machinery is well recognized for its strong performance record of supporting customers with service, spare parts management, and product molds. "The Hess equipment, in our experience, is the best available", offers Eduardo. "But, more important to us is the quality of the service and the support we receive from the entire Hess organization. We trust their recommendations, and we rely on their support." This versatile, high output machine was able to use the existing molds from the Hess RH 2000 operation in Tuscombia which helped support the start-up operation at the new facility. Sims Stone ordered Hess XD Molds for the new innovative shapes they intend to introduce to the new market territory. Eduardo was also very pleased with

the expert coordination during the installation phase of the new plant between Hess technicians and the Advanced Concrete Technology (ACT) technicians commissioning the mixing and batching plant equipment. The importance of mixing and batching consistent superior quality concrete with a full range of blended colors led to the selection of A.C.T. as the awarded vendor to supply this critical component of the new facility.

This new plant was assigned an aggressive timetable for completion, so this coordination was essential. The plant was purchased in late June of 2009, and the complete plant was placed into operation prior to the end of that year. This timetable permitted Sims Stone to utilize the tax benefits of the ROL Tax Law which was extended by President Obama in February of 2009 as part of his initial stimulus program.

The Hess production system is supplied by an ACT MobilMat Twin Mixer concrete batch plant featuring a Wiggert HPGM 2250 high shear planetary counter-current mixer for base concrete and a HPGM 750 high shear planetary mixer for facing concrete. A Würschum COM 70-3 granular color pigment metering system is fully integrated in the plant. The Hess RH 1500's Siemens S7 control system provides fully automated production, including automatic calls for concrete from the ACT batching and mixing PC based PCS Control system.

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Fig. 5: An ACT Würschum COM 70-3 precision granular color pigment metering system features closed-loop pneumatic dispensing from three separate conveying vessels for a totally automatic, high output dust-free operation.



Fig. 6: The ACT MobilMat batch plant (in background) features a Twin Mixer Plant with a Wiggert HPGM 2250 and a HPGM 750 high shear mixer each feeding three concrete metering hoppers, allowing automatic mixing of three different colors for value added color-mix production of both color-thru and hard-faced paver products. The ACT MobilMat concrete batching system, equipped with the ACT HYDROMAT microwave water metering system for consistent water/cement ratio adherence, produces consistent and high quality concrete. The Hess system produces pavers and retaining walls on large steel production boards.

The ACT MobilMat batch plant features three discharge hoppers below each mixer, allowing automatic mixing of three different colors for color-mix production and greater mix flexibility, producing value-added products. The ACT PCS computer based control system allows fully automatic, unattended operation. Simply by clicking and selecting a programmed product code will download all production parameters including concrete recipes, pigment recipes and concrete color mix feed parameters. The ACT Hydromat microwave water metering system uses a microwave moisture probe in each mixer to automatically maintain the targeted water/cement ratio. An ACT Hydrotester moisture probe, installed in the sand bin, automatically maintains batch yield even as the aggregate moisture varies. The Würschum COM 70-3 color metering system provides automatic precision color metering of virtually any earth tone color from just 4 primary colors and pneumatic dispensing from three separate conveying vessels to the mixers. The closed loop system provides dust-free operation. The system is supplied by suspended labor-saving "super sack" color pigment bags.

The high-speed, computer controlled production system from Hess and ACT enables Sims Stone to be exceptionally efficient low cost producer delivering a wide variety of concrete products. At the same time, the plant delivers the superior quality that Sims Stone demands. The new system is used to manufacture pavers, segmental retaining wall units, and other value added innovations now in product development.

Sims is also saving manpower when it comes to mold changes. The new Hess RH 1500 enables the firm to change product molds and mix designs from product to product in under 15 minutes. This capability also gives Sims Stone the ability to react quickly to market demands and to more efficiently manage inventory.

"Continuing with the proven performance of Hess Machinery, and adding ACT mixing and batching systems to our capabilities, will allow Sims Stone to extend our reputation for quality and product innovation into this important market territory," David Sims remarks, "And these performance levels will augur well for our future growth opportunities."

FURTHER INFORMATION



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