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POLISHED CONCRETE FLOOR DECORATES NEWLY BUILT PERFORMING ARTS SCHOOL

ENEREF INSTITUTE EXAMINES HOW A POLISHED CONCRETE FLOOR REDUCES MAINTENANCE COSTS FOR A PERFORMING ARTS SCHOOL

When a tornado ripped through Tuscaloosa, Alabama on April 27th, 2011, the path of destruction included an elementary school.

“The community was hit real bad—it pretty much wiped it out. It’s

something you don’t want to go through again,” explained Jeff Johnson, Executive Director of Facilities for Tuscaloosa City Schools. “And some of those teachers had worked there twenty years,” he added.

“IT’S AN ALL-AROUND PERFECT FIT FOR ANY SCHOOL.”

Principal Brenda Parker, The Alberta School of Performing Arts

“The school was totally demolished,” said interior designer Deborah Roy, describing the effects of the twister. The storm caused more than \$2.4 billion in damage to the area.

NEW PERFORMING ARTS SCHOOL

Tuscaloosa City Schools responded with a \$24 million rebuild project, constructing a new facility on the site of the destroyed school in just under seventeen months. The new school, The Alberta School of Performing Arts, comprises kindergarten through eighth grade with a unique performing arts curriculum.

“This project needed to be special to set their school apart,” said Jordan Morris, architect and project manager. “Particularly with the performing arts functions.”

INCORPORATING SUSTAINABILITY

The school board sought to incorporate sustainability into every aspect of the facility, while still constructing an aesthetically

attractive school within budget.

Growing in popularity within the built environment community, polished concrete flooring offered the perfect combination of features to help achieve this goal.

As part of our Sustainable Flooring initiative, Eneref Institute interviewed stakeholders involved with the floor design and installation, including: Jeff Johnson, Executive Director of Facilities for Tuscaloosa City Schools; Jordan Morris, architect and project manager with Ward Scott Architecture; Brenda Parker, Principal of The Alberta School of Performing Arts; Deborah Roy, interior designer; and Brian Short, representative for QuestMark Flooring, a division of CentiMark.

LEED CERTIFICATION

“Being part of this rebuilding effort for the community was very exciting,” said architect Jordan Morris. The project was also eligible for Leadership in Energy & Environmental Design (LEED) certification from the U.S. Green Building Council.

“This is a LEED building, one of our first LEED school buildings,” said Jeff Johnson.

Polished concrete flooring can contribute to potential LEED points in at least two categories. In the Energy and Atmosphere category, polished concrete could contribute to LEED points because they don’t employ VOC materials and because the sheen actually increases the room’s ambient light. In the Materials and Resources category, the technology increases the life span of the already existing concrete floors.

COLORFUL DESIGNS & THEMED GRAPHICS

Polished concrete color dyes gave the school’s designer the ability to add graphics into the finished floor. The designer worked closely with Principal Brenda Parker to create the design. Since the school includes kindergarten through eighth grade along with a large performing arts department, this use of color and design played an important role in the flooring project.

“When I saw the kind of color that could be brought to the building—with the ease of maintenance—that made it a great fit for an elementary school,” said Parker.

Floors in the performing arts



COLORFUL & DURABLE

Dyes used are colorfast and resistant to UV.

areas feature themed graphics, such as theatrical masks, twirling dancers, and musical notes, all dyed directly into the polished concrete floor. In the elementary school areas, primary colors brighten the halls, while softer colors are used for the middle school areas.

“You want elementary to have some pop to it, some color,” said Johnson. “We were able to do that. That was something special to us.”

The floor inside both lobbies features a logo twelve feet in diameter.

Dyes used are colorfast and resistant to UV. “The dyes are getting better,” said interior designer, Deborah Roy. “My first thoughts were the color is great. They got the depth of the color I wanted—it exceeded my expectations.”

Johnson added that the color and designs set into the concrete gave uniqueness and character to the building.

SEVENTEEN MONTHS, START TO FINISH

The school was built in just under seventeen months. “The flooring went fast, but so did everything else on this project,” said Morris.

The build timeline was aggressive. The design, dyeing and polishing of the concrete floor took three months.

“We were given six to eight weeks from design development, to my AutoCAD, to making the templates,” said Roy.

INDUSTRIAL-GRADE DURABILITY

The sustainable, industrial-grade floor was a good fit for the high-traffic needs of a school, and the school found the durability of polished concrete appealing.

“It’s essentially a product that will last indefinitely, it just takes wear

MECHANICALLY-POLISHED CONCRETE SYSTEMS PRODUCE ATTRACTIVE, SUSTAINABLE FLOORS.

This is achieved through a multi-step, progressively finer grinding system using industrial fine-diamond tooling to hone and polish a concrete surface.

and tear perfectly,” said Morris.

“Children go outside during the day, then bring in dirt when they come in,” said Principal Parker.

“That maintenance is not an issue, but it would be if we had waxed floors or carpeting or other surfaces.”

A mechanically polished concrete floor can be honed to a variety of finishes, from matte to highly reflective. It can retain its initial brilliance longer than a manufactured floor such as vinyl composition tile, or VCT, even under heavy-duty traffic or industrial use. Polished concrete is also not susceptible to warping due to hydrostatic pressure caused by moisture under tile.

LOW MAINTENANCE, EASY MAINTENANCE

Both architect Jordan Morris and school director Jeff Johnson said that the polished concrete floor offered a distinct maintenance advantage.

“It’s easy to maintain,” said Johnson. “All you have to do is use a light detergent to clean it. You can use an auto scrubber.”

The reduced maintenance also eliminates interference with the operation and scheduling of school classes and activities. “You

can clean early in the morning,” said Johnson, “it dries within twenty minutes—it’s dry before the kids get there.”

Furthermore, as Roy explains, “Vinyl composition tile has to be waxed and re-waxed and then stripped and re-waxed again.”

The polished concrete floor eliminates that work.

“Since we don’t have to strip and wax our floors over the summer,” said Principal Parker, “it is really going to save us a lot of money every year.”

UNIQUE, CUSTOMIZABLE LOOK & SHINE

While polished concrete offers a rich shine, it also has a unique look. “It’s like buying a stone,” said Johnson. “It has a more natural look to it.”

The look is achieved through a multi-step, progressively finer grinding system using specialized equipment with industrial-fine diamond tooling to hone and polish a concrete surface.

QuestMark Flooring, a division of CentiMark, was selected to install their DiamondQuest polished concrete floor in the new school. Their dust-free polishing process transformed the poured concrete

floor surfaces into a finished floor with a stunning sheen and the ability to inhibit water or contaminants from penetrating the surface.

The DiamondQuest system also incorporates a penetrating concrete densifier and surface protectant, ensuring durability throughout the life of the facility.

“They just seem to maintain their beauty and suffer abuse of moving chairs and desks,” said Parker. “It just makes it an all-around perfect fit for an elementary school, or any school.”

The color and graphics were applied after the concrete was poured. Designs were cut into rubber stencil templates to mask the concrete one color at a time. The floor was poured early in the construction process. Once completed, the polished concrete floor was temporarily protected with felted vinyl sheeting until construction was completed.

SUPPLEMENTAL SYSTEMS

Carpet was specified in several locations, primarily for acoustic purposes. Ceramic tile was specified for the bathrooms due to the harsh chemicals used for sanitization.



DECORATIVE ELEMENTS

Floors in the performing arts areas feature themed graphics, such as theatrical masks, dancers, and musical notes, all dyed directly into the polished concrete.

EXCEEDED EXPECTATIONS

Eneref Institute found the stakeholders interviewed to be satisfied with the outcome of the flooring project.

“We were very pleased,” said architect Jordan Morris. “What we wanted more of was some vibrancy of the colors, and it exceeded expectations.”

“We think it’s beautiful,” said Principal Brenda Parker.

The school board’s feedback was equally emphatic. “They loved it,” said Executive Director of Facilities Jeff Johnson. “It’s a good product. I’m pleased with

the result. I got what I expected, and then some.”

The community, still recovering from the devastation of the tornado, responded very positively.

“Parents loved the school. The kids were all excited,” said interior designer Deborah Roy. “I don’t think we are going to have any unhappy campers.”

“We have had lots of visitors because it is a new school,” said Brenda Parker. “We are complimented almost daily on the beauty of the floors.”

Research and reporting compiled and provided by Eneref Institute. Additional information generously provided by QuestMark Flooring, Ward Scott Architecture, Tuscaloosa City Schools, and The Alberta School of Performing Arts.