



For the Business of Visual Communications

Featured Project: Gatorfoam Plays Major Role in Hawaiian Stained-Glass Mural

[SDG Staff](#) November 17, 2016



The 52-foot long stained-glass mosaic mural entitled “Na Wao A’O Pi’ilani” (The Life Giving Forests of Maui) was installed at Maui’s Pukalani Elementary School in Pukalani, Hawaii, in September 2016. Big Island conservation artist Calley O’Neill developed a unique design/installation process for this mural utilizing Gatorfoam graphic display board not only to

*create the detailed mosaic pattern but to work on with the glass pieces, allowing her to improve detail, accuracy and ease during installation.
(Photo by Kealoha J. Gardener)*

[Gatorfoam](#) graphic display board, made by Statesville, North Carolina-based [3A Composites](#), a graphic display rigid substrate manufacturer, plays a key role in a large art project done at an elementary school in Pukalani, Hawaii.

Done by local conservation artist [Calley O'Neill](#) and her longtime glass partner, Lamar Yoakum, the project is a stained glass, forest-inspired mural that was installed at Maui's Pukalani Elementary School. The goal was to inspire children to nurture their connections to nature. Meanwhile, it gave the artists a chance to experiment with a new design/installation process the two developed.

The 52-foot long stained-glass mosaic mural, entitled "Na Wao A'O Pi'ilani" (The Life Giving Forests of Maui), was commissioned by the Hawai'i State Foundation on Culture and the Arts as part of its Art in Public Places collection. Installed on an exterior wall at the school, it features an interior mosaic comprised of 3,350 pieces of stained glass and measures 14 feet tall at its peak. A mural border created with 25,000 small glass tiles was worked on by nearly 260 Pukalani community members, including teachers and approximately 185 students in the elementary school's fourth- and fifth-grade classes.

O'Neill and Yoakum, a Waimea-based master stained glass/mosaic artisan, share a combined 55-plus years of experience in creating stained-glass windows, stained-glass paintings and mosaic murals, skylights and fine art. They previously had created their stained-glass murals following traditional design methods on a concrete

substrate. Stained-glass mural pieces would be covered with mosaic tape, lifted up and installed into thin-set mortar directly on the wall.

“Some artists use a grid during installation and spacers to produce all grout joints evenly, but this process doesn’t have the organic fluidity that I wanted,” says O’Neill, who has been painting her fine art easel paintings and interior murals on Gatorfoam for more than 25 years. “People love detail. I knew Gatorfoam could allow me to design a mural that would be invisibly installed.”

Gatorfoam, which consists of polystyrene foam bonded between two layers of wood-fiber veneer laminate, is lightweight yet warp-resistant, and its surface is smooth and strong enough to offer dent and scratch resistance.

O’Neill wanted to use Gatorfoam not only to create the detailed mosaic pattern but to work on with the glass pieces, allowing her to improve detail, accuracy and ease during installation.

Additionally, the Gatorfoam was designed to protect the stained glass during shipment by both truck and barge from her studio on the Big Island of Hawaii to the school.

The artist had three full-sized, 52-foot long cartoons of her original forest-themed mural master plan printed showing the numbered clear pencil line drawing that she had originally executed at quarter-scale on vellum. The first mural cartoon was preserved intact as the blueprint and base pattern upon which to place the mural each time it was fitted on a gym floor.

The second mural cartoon was adhered to ½-inch thick white Gatorfoam panels with a temporary adhesive and jigsaw-cut into a giant puzzle of 75 segments that had been sandwiched with lightweight cement-based building panels. An additional 95

Gatorfoam segments were cut for the children's mural border. All Gatorfoam segments were installed on the school's exterior wall. The third full-sized cartoon was printed on thin polyester-sheet material and hand-cut with pattern shears into 3,350 pieces as glass-cutting patterns, leaving 1/8-inch of space between each piece.



Each Gatorfoam piece installed on the school's exterior wall was removed as its matching stained-glass segment, adhered to cement-based building panels, was set into place with thin-set mortar. Mural installation was completed in one week by a four-person craftsmen team working under the direction of Isaac Homza from [Higher Standard Tile and Stone](#) of Lahaina, Maui, with the artist and her son assisting.

“Gatorfoam allowed us to have artistic freedom,” says O’Neill. “The mural could be installed flawlessly. We were able to create the design on Gatorfoam and check it on the gym floor twice before installation. While the completed stained-glass pieces on the cement building panels are heavy, we were able to construct the design on Gatorfoam panels that are super lightweight yet rigid and resistant to water. We could easily carry these pieces around our shop and on to the wall. The Gatorfoam protected the stained-glass pieces during transport and produced a fail-safe installation.”

O’Neill, who spent two years on the project, says reactions of community residents, teachers and students to the installed mural have been “wonderfully gratifying.” She says she designed it to symbolically reflect old Hawaiians’ ecological practices and to promote the restoration of Hawaii’s native forests today. “Some people cry when they see it,” said O’Neill. “We’re very happy with the results and with the technique we developed with Gatorfoam.”