EcoStar Sheds Light on Historical Preservation

A mile offshore Newport, Rhode Island, in Narragansett Bay, stands 'the little lighthouse that could.' The Rose Island Lighthouse, originally established in 1870, operates as a fully functioning independent and energy-efficient light station, maintained by the non-profit Rose Island Lighthouse Foundation (RILF).

The Rose Island light station is the epitome of self-sufficiency – with no public water, electric, sewer, phone or cable television. The only fresh water available on the island is that produced by rain clouds or carried to the island from the shore. The minimal amount of electricity that is necessary for the station's operation is provided by a wind turbine located on the island.

Built on the remains of an 18th century fort, the Rose Island Lighthouse served as a navigation aid until it was abandoned in 1971. The lighthouse deteriorated from the effects of vandalism and exposure to the elements until 1984, when the RILF came to its rescue.

The RILF was organized by a group of Newport residents in an effort to restore the light station to its 1912 appearance and create a landmark that promoted a clean, healthy environment and aided in the preservation of the natural wildlife that inhabits the island. A second but equally important goal was to establish the light station as a historical education site that would benefit the general public.

As part of the RILF's mission to restore and preserve the environmental integrity of Rose Island, the organization decided to construct several new outbuildings and replace the roofing systems on the existing outbuildings of the light station. While the lighthouse itself was re-roofed with natural slate as part of its restoration, the roofs of the outbuildings were well worn and in need of replacement. Begun in 1998, this phase of the restoration effort is still in progress.

The geographical location and environmental conditions of the light station made it ideal for an experimental project. The Rhode Island Historical Preservation and Heritage Commission granted an allowance to the RILF for the purpose of conducting this project, which would incorporate various construction products in order to test their performance.

After conducting extensive research on various products, the RILF chose to use EcoStar® midnight gray Majestic Slate™ tiles as the ideal product for the roofing component of this project, which included both restoration and new construction.

Rose Island Lighthouse

Location:

Newport, Rhode Island

Application:

Majestic Slate™ Traditional Tiles

Manufactured from 80% post-industrial recycled rubber and plastic, EcoStar's Majestic Slate tiles are an environmentally friendly alternative to traditional slate roofing products. The tiles were installed on four of the light station outbuildings, including the newly constructed public restroom and garden shed as well as an existing workshop and underground cistern, covering an approximate total of 1,000 square feet.

On the existing workshop and cistern buildings, the EcoStar tiles replaced rolled asphalt roof systems that were installed in 1992 and 2005, respectively. The EcoStar tiles, installed by RILF, were formed into a hip roof on the restrooms and gable roofs on the garden shed, the workshop and the cistern.

There were three determining factors that led to the decision to use the Majestic Slate product: its similar appearance to natural slate, the enhanced sustainability of the product and the environmentally friendly characteristics of its recycled content.

Majestic Slate tiles offered RILF the environmental safety that was necessary for a project that involved the preservation of both historical integrity and wildlife habitats. The recycled composition of these tiles also provides sustained durability, which was an important consideration for the continued historic maintenance of the buildings.

"We loved the fact that EcoStar products are manufactured from recycled rubbers and plastics from the automotive industry," said Charlotte Eschenheimer Johnson, executive director of the RILF. "This fits perfectly with our motto: reduce, reuse, recycle. We all agreed that EcoStar was the best option on the market."

Aesthetic appearance was another important factor in the decision to use EcoStar's Majestic Slate tiles. As the original slate roof on the lighthouse was to remain intact, the RILF needed a product that would help to maintain a consistent appearance throughout the station buildings. Available in nine colors, all of which emulate the appearance of natural slate, Majestic Slate tiles offered the design flexibility that was needed for a consistent appearance on all of the light station buildings.

"We wanted to match the newly re-roofed buildings with those that had historic slate, the lighthouse being one of them, and EcoStar was the best fit," said Johnson. "The thickness and appearance of the tiles was absolutely excellent. EcoStar tiles had a better mold and better color than all of the other products we looked at - they have a depth and character that other roofing tiles just do not have."

"The EcoStar tile is absolutely beautiful," Johnson explained. "We tell people that it is made from recycled materials, and they say 'No way!'"

Not only did the roofing system need to provide natural, sustainable beauty, but it also needed to withstand the harsh elements of Rose Island. "As a historic site in the middle of Narragansett Bay, we were interested in a good-looking product that would hold up in a severe environment like ours," Johnson said. "On the coast, we regularly experience winds between 60 and 80 miles per hour, as well as severe temperatures, both hot and cold."

Other hazards to the light station buildings include the flocks of seagulls that continuously fly over the station. "The gulls are always dropping clams to break them open on the roofs, so we needed a product that would withstand the impact without cracking," said Johnson. "The slate on the lighthouse is always being mended from damage caused by both the gulls and the elements. I tested an EcoStar shingle by placing it in my freezer overnight. The next morning I hit the frozen shingle really hard with a hammer and nothing happened! I was sold!"

With superior flexibility, EcoStar's Majestic Slate tiles provided the necessary protection, offering enhanced resistance to cracking, hail, driven rain and wind. Featuring class 4 hail resistance, class A fire ratings and a 110 mph wind warranty, Majestic Slate tiles provide extreme strength and protection with no additional weight. The unique composition of the tiles help to reduce the problems associated with freezing or thawing in extreme temperatures.



EcoStar tiles are also available with a 50-year material warranty, offering the strength, durability and performance necessary for the continued, long-term preservation of this historical landmark. This long-lasting protection enables the RILF to further its mission to "preserve the historic and environmental integrity of Rose Island, to maintain and operate its lighthouse and to provide education and public access to all people."

Always seeking to improve the efficiency and environmental sustainability of the Rose Island light station, the RILF continues to follow a plan for transitioning from "green to greener" in its capital campaign, which includes plans to rebuild the Bergey 1500 windmill, install solar panels and convert back-up diesel generator and heating system to bio-fuels. The RILF also plans to install interior window shutters to retain solar heat, invest in a composting system, restore the basement cistern and re-roof two more buildings.

The RILF has received a significant donation of EcoStar tiles, which they plan to use for the re-roofing of these buildings. "The EcoStar product has been a real joy; we are extremely happy with their performance. We have recommended them to a number of people, and would be more than happy to use them for future projects," said Johnson.

With its continued use of sustainable products such as EcoStar roofing tiles, the Rose Island Lighthouse Foundation will continue to establish itself as a leader in environmental and historic preservation, sustaining Rose Island as a historical landmark and propelling the global pursuit of energy efficiency and environmental sustainability.

rose island lighthouse

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