



CASE STUDY

LUDOWICI®

Reynolda House Museum

Location: Winston-Salem, NC | Historic Renovation



Raising the Roof

Settled on the outskirts of Wake Forest University, Reynolda House Museum of American Art can arguably be classified as the centerpiece of Winston-Salem, North Carolina culture. Now on the National Register of Historic Places, Reynolda House remains the largest bungalow in the world. The 64-room historic house stands as one of the few well-preserved, surviving examples of the American Country House movement.

Originally built in 1917 as the home of Katharine and R.J. Reynolds, founder of the R.J. Reynolds Tobacco Company, the more than 34,000-square-foot home is the centerpiece of a 1,067-acre estate and model farm, including 40 support buildings designed by Philadelphia architect Charles Barton Keen. Reynolda House became a museum of public art in 1967 and has exhibited art from around the world, with the museum alone seeing about 40,000 visitors each year.

Charles Barton Keen's architecture conveyed a blend of Arts and Crafts style and Colonial Revival. Keen, already known for attractive country estates on Philadelphia's Main Line, specialized in homes that were luxurious without being pretentious, a style he carried over to the Reynolda project. Its low proportions with white stucco walls and a light green tile roof offer a welcoming façade. Recessed sleeping porches conceal an interior displaying some of the finest craftsmanship available at the time. Katharine Smith Reynolds proved to be vigilant in the design process. Involved in every decision, Katharine incorporated construction management into her everyday life, knowing the details of each building, the materials used, and their costs. She devoted much of her time ensuring that the work lived up to her standards.

The house was constructed with reinforced concrete and hollow clay tiles, materials favored for their resistance to fire, leading to the promotion of terra cotta tiles as the ideal roofing material. Manufactured by Ludowici in 1917, the original tile still sat atop Reynolda's roof until a renovation began a little over 100 years later. Keen used Ludowici Imperial tile in three shades of green: light, medium, and dark. From a distance, the shades blend into a muted green tone resembling the patina of aged copper. The complete roof system is made of a dozen different tile shapes, which lock together to fit the contours of the bungalow. Tile profiles include ridge, ridge terminals, hip, hip starters, hip terminals, hip rolls, hip roll starters, gable rakes, under eaves, and end bands. This specific green roof tile was used on the family's bungalow as well as many of the village buildings that tied the sprawling estate together, creating a uniformity throughout the property. Reynolda's green clay tile roof, a signature feature, proceeded to influence much of the architecture around Winston-Salem.



Charles Barton Keen

ARCHITECT:

Charles Barton Keen (original)

ROOFING

CONTRACTOR(S):

Baker Roofing
www.bakerroofing.com

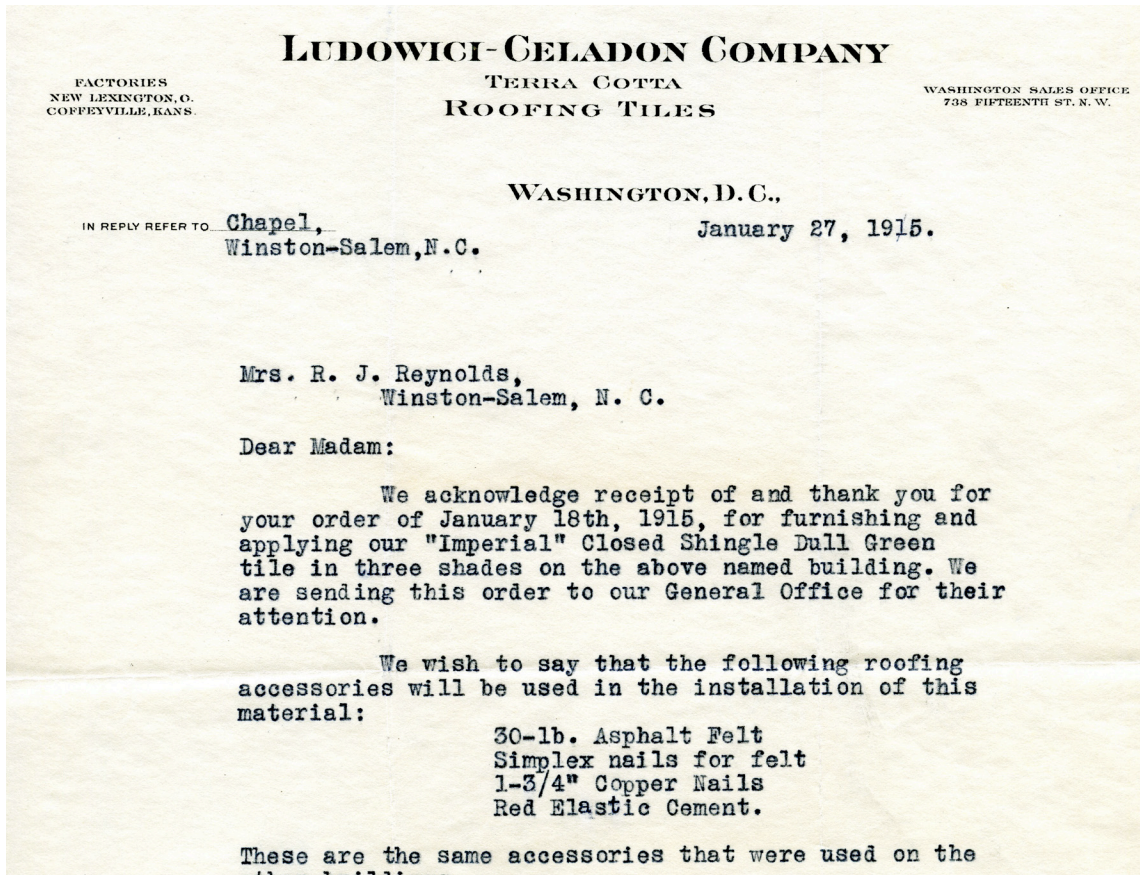
PRODUCT(S):

Morando Closed Shingle

COLOR(S):

Historic 3 Green Blend





Photography Courtesy of Reynolda



When the Reynolda House hit its centennial in 2017, the museum staff and historians began looking into the integrity of its roof condition and how well it had stood the test of time. All in all, the tiles weigh about the same as 13 full-grown elephants, or 42 midsize cars—replacing them would present quite the task. Ample funds were needed to replace the 77.3 tons of mint-green tiles and accompanying roofing materials that had been on the roof since World War I. Also under consideration was the number of phases needed to complete the project with the least amount of disturbance. Reynolda made the decision to campaign for restoring their historic roof.

They decided the best path forward to preserve the authenticity of the house was to use the original tile manufacturer, Ludowici, to replace the 30,000 shingles and maintain the same color and character. By 2021, Ludowici had manufactured the roughly 150,000 pounds of tiles needed. Getting the color right on the new roof was a collaborative effort led by Ludowici's senior color specialist. Custom-blended green with blue color misting approximates the original historic colors. This effect was enhanced by the way the tiles were assembled. A small crew employed by Baker Roofing moved strategically across the building with seamless color blending, allowing the museum to remain open and programs to continue.

The Reynolda team was very organized in their approach to decision-making. Together, they approved the mock-ups Ludowici provided. Good communication and collaboration made this selection process go smoothly. The entire community at Reynolda, the city of Winston-Salem, and Wake Forest University were invested in doing this project right since Reynolda is such an icon in the region.

An exhibition, Raise the Roof: Restoring Reynolda's Historic Roof, was on display for the duration of the rehabilitation project, providing updates on the roof's progress and detailing the scope of work. Photographs and manuscripts pulled from the Reynolda Archives offered an inside look at the roof's history, construction,



and rehabilitation, and aerial videography provided a bird's-eye view of the project. The Reynolda restoration project had been four years in the making, including a capital campaign to raise funds and obtaining a generous grant from the National Endowment for the Arts. Donors received a piece of Reynolda's history, a five-pound, green Ludowici roof tile which had adorned this historic house for 104 years.




LUDOWICI[®]

4757 TILE PLANT ROAD | P.O. BOX 69 | NEW LEXINGTON, OH 43764
800-945-TILE (8453) | WWW.LUDOWICI.COM