

Vinyl Siding Exceeds Architect Expectations for New Medical Office Building

By Brian Kirn

Architect Derek Veilleux had never worked with vinyl siding until his firm was tapped in 2013 to design Southern Maine Health Care's (SMHC's) new Edward J. McGeachey Medical Office Building in Biddeford, Maine. What he found surprised him. Not only did the siding fit his client's needs, it proved to be an exceptional element of the facility's exterior wall system, adding both form and function to the overall design.

PLAYING WITH DESIGN

SMRT, Inc., the multidisciplinary architectural and engineering firm for which Veilleux works in Portland, Maine, was tasked with designing the 41,000-square-foot medical office building in Biddeford's Robert G. Dodge Business Park. The firm was directed by SMHC to strike a balance



Figures 1 and 2 – Panelized walls were framed, insulated, sheathed, and fit with a vapor barrier and windows off-site. They were then transported to the jobsite, where they were raised in about three weeks. Almost as soon as the building was enclosed, heavy snow started falling. The siding and its accessories were installed in the spring. Photos by Ouellet Associates, Inc.



Figures 3 and 4 – Ouellet Associates’s team installs vinyl siding in a woodgrain texture finish and 7-inch polymer staggered shingles onto a self-adhering air and moisture-barrier membrane. To complete all of the flashing, trim, trim panels, and siding, it took a crew of six to eight men approximately nine weeks.

between cost and long-term low maintenance with the exterior cladding. Further architectural restrictions came by way of existing design guidelines dictated by the business park, which, among other stipulations, required that the structure have a soft, residential look.

“A precedent had been set. The office park consisted of several small-scale buildings, each of which had a residential feel to it. The challenge for us was to design a large medical office building that fit into the aesthetic and design requirements of the business park and for it to not feel out of place,” said Veilleux, noting that the medical office building would by far be the largest structure in the park.

He discussed a variety of cladding options with SMHC, including brick, metal panels, and cementitious siding; but in the end, the group chose CertainTeed vinyl and polymer cladding for the vast majority of the project. These low-maintenance siding materials provided a surprisingly high level



of design flexibility per the variety of profile, texture, and color options available on the prefabricated pieces. In addition, they were affordable. Ultimately, a mix of 4,600 square feet of modified polypropylene copolymer Perfection straight-edge shingles and 9,100 square feet of vinyl-lap siding were

specified. The texture chosen was that of a woodgrain finish, which was molded from cedar boards to replicate the look of real wood.

Veilleux used the design features of the cladding to his advantage and played them up by incorporating 6,500 linear feet of

decorative cellular PVC trim into the design. The trim was fashioned to provide a smooth transition between the shakes and vinyl clapboard siding, as well as create an overall polished curb appeal. For added interest, he juxtaposed the vinyl siding with areas of brick and curtain wall.

The value of the vinyl and polymer cladding was evident in its ability to meet the design requirements of SMHC and the office park, but it was also a good choice for the contractors, who ultimately were the ones working with the material to make it look and function at its best.

INSTALLING THE CLADDING

As any installer in snow-prone zones knows, winter imposes a construction timeline far stricter than any general contractor. When harsh weather hits, hammers don't. Because this project was underway in late fall, David Lawrence, senior project manager with Ouellet Associates, Inc., of Brunswick, Maine, recommended panelized walls for the job (Figures 1 and 2). Veilleux agreed. The panels, which were 10- by 28-feet tall on average, were framed, insulated, sheathed, and fitted with a vapor barrier and windows offsite. They were then transported to the jobsite, where they were raised in about three weeks' time. Almost as soon as the building was enclosed, heavy snow started falling. The siding and its accessories would have to be installed in the spring. It worked in the contractors' favor, then, to work with vinyl and polymer cladding. These panels could go up quickly on the panelized wall system.

Lawrence says it took a crew of eight men about nine weeks—May to July—to complete the flashing, trim, and siding (Figures 3 and 4). While he and his crew had worked with vinyl and polymer siding before, it had been on smaller-scale projects. The large surface area of this job meant his crew had to manage large quantities of materials, including extra-long lengths of siding. As such, they worked diligently to ensure the joints and seams on the siding were consistent. Lawrence explained his crew also anticipated the natural expansion and contraction of the vinyl and polymer material and coordinated their work to maintain proper margins.

"Due to the large areas of siding and vast areas of trim, we followed the sun with our work, staying in the shade as it was installed. This allowed the materials to be installed with the most consistency," he said.



Figure 5 – Combined with vinyl trim and cellular PVC trim, the end result was a clean aesthetic that replicates the look of real wood, but is virtually maintenance-free.

Staying out of the sun during installation helped to lessen the panels' movement caused by Maine's fluctuating daily temperatures. While this effort was helpful, Lawrence said his crew also relied quite a bit on the temperature gauges located on each shingle-style panel to help them determine how much gap should be installed between panels. This practice gives siding the room to expand in warm weather, contract in cold, and still look good on the wall.

Further, each panel has either fastener indicators or integral installation guides that helped align nail slots precisely with the construction standards of 16-inch and 24-inch on center. Reinforced nail slots are also inherent on the polymer shingle siding, which has ribs on the backside of its panels for additional structural stability to help protect against warping, cupping, and distortion over time. A locking mechanism on the perimeter of each panel also helps create the desired seamless look by holding panels securely together.

Once the cladding was up, the crew got to work on the trim. This project called for a cellular PVC trim rather than one made of standard vinyl in an effort to create a more upscale, wood-like appearance (Figure 5).

Like the cladding, the trim was cut and installed out of the sun. "It was more work, but the look came out perfect. It's not easy

to see the building is vinyl unless you get really close to it," said Lawrence, who noted the materials came with very specific installation instructions, and his crew followed these directions to the letter to create a well-constructed cladding.

Veilleux, too, is pleased with the installation. "We very intentionally designed all of the trim boards to hide the vinyl trim accessories. We also designed the exterior envelope to limit the number of seams in the vinyl by placing trim boards at intervals coinciding with the maximum length of the vinyl siding. The contractor did an exceptional job constructing these details," he said.

WHY VINYL AND POLYMER

Vinyl and polymer siding are not often top-of-mind for commercial construction, but for projects like the Edward J. McGeachey Medical Office Building that require a softer aesthetic, they can be great choices.

For one, textures now mimic the appearance of real cedar boards to create an on-the-wall look that makes it hard to tell the difference between wood panels and its low-maintenance vinyl and polymer counterparts. Further, color technologies have advanced in such a way that dozens of hues—even darker ones—are now offered with a protective coating that ensures they



Figure 6 – The exterior combination of brick, polymer staggered Perfection shingles, vinyl panels, and cellular PVC trim helps to create a warm and inviting building entryway. Photo by SMHC, Inc.

Figure 7 – A mix of 4,600 sq. ft. of double 7-in. polymer staggered Perfection shingles, 9,100 sq. ft. of vinyl panels, and 6,500 linear feet of decorative cellular PVC trim were specified to create the appropriate curb appeal for the building and surrounding neighborhood. Photo by SMRT, Inc.



won't fade. There are literally hundreds of color, style, and texture combinations with which to play, and the affordability of these materials is tough to beat. Beyond curb appeal, the upkeep these materials require is minimal, requiring only occasional washing with soap and water.

It's good practice, of course, to work with brands that are third-party tested for a multitude of variables such as impact resistance, color correctness, surface consistency, ability to endure the elements, and consistency in length and width of panels. Independent sources such as Architectural Testing, Inc. help ensure building materials like vinyl siding meet or exceed ASTM standards. By specifying a solid, quality-assured siding and constructing with proper installation practices, low-maintenance vinyl and polymer siding should look good for many years.

IN THE FINAL ANALYSIS

The vinyl and polymer siding and cellular PVC trim really worked for this project. It fit the client's aesthetic, low-maintenance, and budget requirements. It also aligned with the office park's design guidelines requiring residential-style curb appeal (Figures 6 and 7).


And because the exterior walls were panelized and installed before winter set in, the siding went up quickly in the spring, helping the project stay on schedule. In fact, the building was occupied by September.

In the end, both the architect and gener-

al contractor were pleasantly surprised with just how well the building's exterior aesthetics came together, as well as the quick and easy installation.

"SMHC tasked us with financially delivering a building that looks good and is easy to maintain. The vinyl products specified were good solutions for both aesthetics and cost. The shingles available today look phenomenal, and the way we broke up the structure and hid seams with trim details was a nice solution. The building really does look handsome," said Lawrence.

Veilleux concurs. "The siding performed surprisingly well," he said, noting its rigid, durable construction. He was also pleased with the selection of profiles, textures, and colors.

The litmus test, however, is would he use these materials again? "Yes, I would," said Veilleux. 



Brian Kirm

Brian Kirm is the senior marketing manager for CertainTeed Siding Products and has worked for the company for ten years. Kirm is responsible for all marketing activities associated with vinyl siding, polymer shakes

and shingles, and weather barrier product lines. His key focus is to be the voice for customer feedback, identify market needs, and deliver innovative products in response. He is also a LEED Green Associate and champion for sustainability.