

PROJECT PROFILE

Westminster Presbyterian Church, Piqua, OH

Maintenance: The Key to Growing Old, Gracefully

One of the secrets of a good anti-aging skin care routine is maintenance. The same can be said of a good anti-aging program for buildings. While dermatologists employ the use of microdermabrasion and chemical peels to prevent and repair the appearance of aging skin, building restoration contractors use power washers, masonry cleaners and sealers to remove grime and protect structures from future deterioration.

Jamie Giguere specializes in building restoration technology. As part of the team at Midwest Maintenance, he has spent many years employing a broad range of building restoration and maintenance techniques and products. Giguere's "patients" may have stone faces. But they no less benefit from his complete understanding of the delicate process needed for building cleaning, masonry repair and restorative maintenance.

Giguere reflects Midwest Maintenance's dedication to restoration as a way to retain the emotional ties of people to a community. As a skilled craftsman focused on historical preservation, he is challenged daily on how best to maintain stones that are often impossible to replace. One recent challenge was deciding the best way to seal the 20,000-square-foot exterior of Westminster Presbyterian Church once he had completed some planned routine maintenance. Not only was the Piqua, Ohio church 125 years old, the stone façade was constructed using three different types of local stones.

Westminster Presbyterian Church at a glance

Location:
Piqua, OH

General Contractor:
Midwest Maintenance

Project Type:
Routine Maintenance Repair

Carlisle Coatings & Waterproofing Products:

- Clear Penetrating Sealer



PROJECT PROFILE

Westminster Presbyterian Church, Piqua, OH

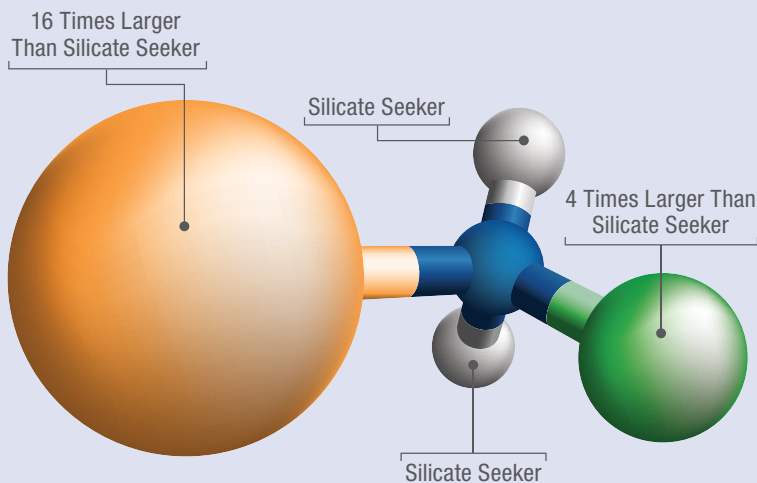
“The river stone foundation was constructed using stones from a local quarry,” Giguere said. “Cleveland sandstone was purchased for the front of the building and Miami Valley blue limestone was purchased for the back walls. This accounts for the difference between two corners of stone at the southeast part of the circular chapel in the back of the church.”

The restoration of quarried stone has traditionally been accompanied by a search for the appropriate products. The most commonly used products are either film-forming water repellants or penetrating water repellants. Film formers are blends of different resins such as acrylics, stearates and some silicone polymers. Film formers deposit their water repellent component on the surface of the substrate. Penetrating water repellants are silanes, siloxanes or combinations of the two that react with the silicate minerals in the masonry substrate to produce a chemical bond. Penetrants enter the pore structure of the substrate and deposit their water-repellent component on the walls of the pores.

While both types of products are effective for preventing water intrusion, film formers tend to darken or create a sheen on the substrate. Film-forming water repellants are also vulnerable to UV radiation, heat and abrasion and must be reapplied every few years. In addition, the most effective sealants are solvent based, which creates a number of issues including heavy fumes and odor as well as damage to vegetation, glass, metal and other non-masonry surfaces. Contractors must take special precautions to make sure the product doesn't overflow into streets or onto vegetation. That means time-consuming tarping and taping of landscaping and windows.

An additional consideration for Giguere was choosing a product formulated for each of the different stone substrates. To meet the unique restoration challenges of limestone, sandstone and river stone, he would have to purchase three different products.

Fortunately, Debbie Welling, of Welling Inc., told him about a new product introduced by Carlisle Coatings & Waterproofing (CCW) that could not only effectively seal each of the substrates for 10 years, but could also address the shortcomings of existing products.



Much like a magnet attracts metal, patented CPS nano-silane molecules are re-engineered to seek silicate first over other compounds in the substrate. This “primary attraction” is more selective so that less product is needed to coat most common substrates.

Clear Penetrating Sealer is a breakthrough in masonry sealer technology. It is a water-soluble, reactive nanotechnology similar to the lotus leaf, nature's only self-cleaning organism. When rain falls on lotus leaves, nano-scale, hair-like structures cause water to bead up, roll off and collect dirt, creating what scientists call the lotus effect.

That same technology has been incorporated into Clear Penetrating Sealer, creating the only masonry sealer that will not harm metal, plastic, glass and other common vegetation. And unlike competitor products, it can be applied to damp surfaces. Clear Penetrating Sealer's patented no-tarp, no-tape formula works on the most common types of substrates, eliminating confusing product choices.

Clear Penetrating Sealer vs. Traditional Sealers

Clear Penetrating Sealer is also cost effective as it has no run-down requirements and can be applied to a damp substrate immediately after cleaning, eliminating the need for additional mobilizations. Traditional sealers can quickly add to labor and equipment costs. That's because a crew must:

1. Mobilize a swing stage or man lift;
2. Power wash the substrate;
3. De-mobilize the swing stage or man lift;
4. Wait three days for the substrate to dry

Clear Penetrating Sealer saves time and as much as \$0.57 per square foot over leading competitors.* (See chart)

At the time Welling introduced Giguere to Clear Penetrating Sealer, it had not been used on many projects. However, his 15-year relationship with Welling and her thorough understanding of sealant technology convinced him that Clear Penetrating Sealer was a good bet. The building owner, with whom Giguere had worked for 10 years, quickly agreed to the new product application.

Welling travelled to Piqua and she and Giguere applied Clear Penetrating Sealer to some discreet areas on each of the substrates and then tested water repellency using a Rilem Tube. After observing each successful test, Giguere was convinced the product was as good as Welling claimed. He was particularly impressed by the fact that Clear Penetrating Sealer can be applied to damp surfaces, has virtually no odor and he didn't have to protect vegetation or windows.



Products	Drops Required	Raw Labor Cost	Turnkey Raw Cost
Clear Penetrating Sealer	5 drops at \$1,000 per drop = \$5,000	14 days @ 8 hrs = 112 \$25/hr labor rate = \$2,800	\$9,140 or \$.91 SF
	10 drops at \$1,000 per drop = \$10,000	14 days @ 8 hrs = 112 \$25/hr labor rate = \$2,800	\$14,800 or \$1.48 SF

\$.57 SF Savings

PROJECT PROFILE

Westminster Presbyterian Church, Piqua, OH

Several weeks following the product test, Giguere and his crew began Westminster's routine maintenance. First, they cleaned the church using a low-pressure power washer. Then they re-pointed loose masonry joints.

"Once the new mortar was installed, we had to wait five days before cleaning the mortar," Giguere explained. After the cleaning process, we were able to apply Clear Penetrating right away without having to wait for the surface to dry. That saved us additional days of rental and set-up time for the crane. Being able to apply the material to a damp surface is a real cost saver."

Giguere was also impressed with how well Clear Penetrating Sealer performed on each of the substrates. "I have a lot of building contracts that have multiple substrates and having one product simplifies my life. I like that we don't have to protect windows and vegetation when we use the product. That saves a lot of time and labor. The fact that it has no odor and is environmentally safe is another huge benefit that will help my business comply with the ever-stringent EPA laws. Clear Penetrating Sealer is a winner in my book."

