

# Staining

BLEND, DECORATES AND RECOLORS MASONRY FOR A NEW FRESH LOOK | BY RUSSELL J. GRAY

When brick and block additions are built onto existing structures, exterior surfaces may have a different appearance even though a thorough attempt to match them is made. Until recently, it's been almost impossible to match the color of existing brick or block manufactured years ago with new materials from current production. This need led to the development of masonry staining.

Masonry stains have become the catalyst for architects and building owners to change the complete color of masonry. Stains are used to match masonry color, add new color or decorative accents and for complete color changes. Water based stains are absorbed directly into the pores of the substrate and do not just sit on the surface of the masonry as paint does. Stains can be used on brick, block or stone. Results are as permanent as the masonry itself. Both field and laboratory test data are available from the stain manufacturers. The industry has expanded to include custom applications such as the addition of gloss, iron spots, sand and metallic flecks. Selection of stain over paint provides more options as well as an extended guarantee for long-term permanency.

Two recent projects demonstrate the benefits of using masonry staining when planning additions and renovations to existing structures.

The school district of Carman-Ainsworth, MI, had the problem of matching their new middle school addition to the pre-existing brick exterior. The original school was built using golden-colored brick, while the new construction called for reddish-brown brick. The school district requested masonry stain to color the older brick and mortar to match the new brick and mortar, making the original building look like the addition. Using two lifts, 10 ladders and a crew of eight men, the project was completed within a month's time. In the case of the Carman-Ainsworth project, creating the colors took most of the first day and adjustments had to be done continually as work



Photo courtesy of THA



Photos courtesy of Nawkaw

Nawkaw stained the original (left) building's brick to match Carman-Ainsworth high school's new addition (above).



A Nawkaw Australian restoration and heritage project before and after staining.

changed from elevation to elevation. "We chose masonry staining over the alternatives for a variety of reasons," said Ron Campbell, AIA, Director of Business Development at THA Architects Engineers, the architectural firm in charge of the project. "It was easily the most cost-effective. It was not disruptive to the school at all. We also liked that it was ecologically friendly — from a green standpoint, we didn't add anything to a landfill. And we were very pleased with the results. Our goal was to pull the entire building together so it looked as if it had all been built at the same time. Once the stain was completed, it all matched perfectly."

The school district was pleased with the reasonable cost of staining the brick on this school, as well as the ability to work



## Learning Objectives

After reading this article, you will have learned:

1. Proper usage and application of masonry stain
2. The advantages of using masonry stain as opposed to paint
3. Required surface preparation steps prior to application of water-based masonry stain products

See page XX for test questions and answer form.



**Emmet Croke, National Sales Manager for Nawkaw, stains a sample board for M-Day observers.**

around the other crews and equipment. There was no impediment to access any of the school's facilities during the exterior renovation work. The superintendent of the school district recommended the process because of the products' guarantee and very low cost versus re-bricking.

A centuries-old School of the Arts Building in Australia was built in two parts, in 1895 and in 1915, and has aesthetic significance as a rare example of Late Victorian Classical and Federation Classical architecture. Restoration of the façade required cleaning the brickwork and architectural features to remove years of paint buildup. The old mortar was removed and re-pointed, even though some areas proved difficult because previous restoration work had been completed using cement-based mortars. After thorough surface preparation, the crew blended brick from the multiple construction phases using the masonry re-coloring technique. As with the Carman-Ainsworth project, city officials recommended the process because of the products' guarantee and very low cost versus re-bricking or re-painting on a required frequent schedule.

A number of different stain colors may be used to achieve the natural variations that can occur in a masonry wall. Base stain colors are invariably blended to achieve a total color change based upon requirements of the architect, builder or owner. All colors are custom-mixed on the job site to create the best match possible.

A hydrous, multiple polymer formulation of resin solids, color pigments and a specially formulated tint base provide an

extremely wide range of color capabilities. It is manufactured to exhibit characteristics of being light fast, U.V. resistant, penetrating, aspiratory, quick drying as well as resistant to mold, fungus, mildew and weather. It is environmentally friendly, water-based, non-flammable and complies with VOC and other appropriate government safety standards, legislation and regulatory requirements.

The application process consists of verifying that the walls are neutralized, if they have been treated with any form of chemical/acid wash; and that all brick, concrete block, stucco, stone and mortar are structurally sound and fully intact. Alkali or efflorescence is treated with proper neutralizing compounds, as recommended by the manufacturers of the affected masonry products before application of the stain. Application is possible at temperatures between 25° and 110°F. Masonry should also be surface dry before work begins.

When a project specifies waterproofing characteristics, a clear water repellent specially formulated with masonry stains is used. It is a water-based, penetrating repellent in a hydrous, multiple polymer formulation of resin solids. This product is light fast, U.V. resistant, aspiratory, quick drying and resistant to mold, fungus and mildew.

Generally, application is labor intensive with crews applying stain by hand to each individual mortar joint. For large coverage areas where the color of the mortar will be the same color as the masonry, a spray application process may be used.

The water-repellent stain has been developed as a dual-purpose product. It will add any desired color to masonry and prevents water from significantly penetrating a sound vertical masonry surface. It is applied in a one-step application process to the entire masonry assemblage to repel water and protect masonry against deterioration caused by air borne chemicals as well as acid rain. The stain allows water vapors to escape and, therefore, does not promote spalling or similar failure due to moisture trapped in the wall.

Masonry staining companies are helping to promote the use of brick for renovations and additions where brick colors can be matched to pre-existing masonry. Masonry stains have become an integral part of the initial building design process, helping enhance the beauty and architectural elements of buildings while at the same time helping to preserve these structures for future generations.

*Russell J. Gray, owner of Nawkaw Corporation since 1986, developed a system to stain existing masonry. The company now has 17 franchised locations in Australia, Canada and the USA. Gray was previously employed by Canada Brick Company in capacities ranging from part-time summer help to research and development of brick staining as a viable solution to symptomatic color problems. The University of Georgia has used Nawkaw Corporation as a study model and Gray has been a guest speaker to business classes on several occasions. In 2000, Gray was nominated for the Georgia Small Businessman of the Year award. 706-310-9339/www.nawkaw.com*

