

JULY 2016 | ISSUE 1

# MODERN MASONRY

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DESIGNING WITH  
VENEERS**

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**ECHELON™**  
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From innovative manufacturing techniques to customizable design options, Artisan Thin Veneers push the thin veneer category to new standards.

## Letter from the Editor

I am excited to introduce the inaugural issue of Modern Masonry, the e-magazine from Echelon Masonry. Modern Masonry will be emailed biannually and include practical applications, category updates, and forward-thinking ideas from the Echelon Masonry team of experts, along with insights from designers, architects and more. I hope each issue will serve as a resource in your efforts to provide clients with designs that are both functional and innovative.

For our first issue, we are featuring masonry veneers, a product category that has seen much change and innovation in the past few years. Thin veneers are now stronger and more reliable than their predecessors — and even some natural stones — and offer a multitude of design opportunities. We discuss some of the advantages of thin veneers, give tips for selecting and working with them, share an architect's insight and experience, and detail a game-changing manufacturing process innovated by Echelon Masonry.

We are always looking for tips and best practices from architects so we would love to hear from you if you're willing to be a resource. We'd also like to know what topics or challenges you want to see addressed in future issues of Modern Masonry.

[SUBMIT IDEA](#)

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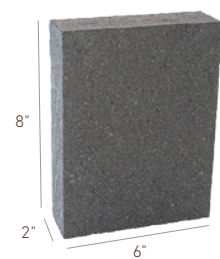
Echelon is the new consolidated brand for the masonry products and services of Oldcastle Architectural.



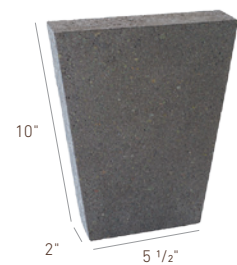
# ACCELERATING PROJECTS BEAUTIFULLY, WITH MANUFACTURED STONE VENEERS

Architects can bring projects in on time and on budget with beautiful options

Thanks to manufacturing innovations, veneers have the look, tone and texture of classic stone with superior durability.



TRIM STONE



KEystone



SILL

**High inflation and dramatic increases in materials and labor costs in the early 1980s popularized the process of fast-tracking commercial construction projects.**

Decades later, inflation now is at an all-time low and fewer commercial projects officially use the fast-track process established in the punk rock era. However, the speed-equals-savings approach remains. Short construction timelines are accompanied by tight budgets with the goal of speeding toward "open for business" profitability. Fortunately, some modern design and material innovations can achieve efficiencies in construction time and cost without sacrificing design or value. They can also compensate for the current shortage of highly-experienced skilled labor which, ironically, was forecast in the 1980s.

By specifying materials that can be installed more quickly and easily than traditional options, architects can help alleviate strain on the construction timeline and demand for highly skilled labor. These materials give high-demand craftsmen time to move quickly on the job, or to train their apprentices in installation techniques while they tackle parts of the project that require a higher skill level and experience.

One such product category is masonry veneers. The category has been in existence for decades but has only recently evolved to the extent that veneers represent the same design advantages as full stone but with a **much faster, easier installation process.**

The installation of a manufactured stone wall has the potential to save costs, time and labor over the costs of a natural stone wall.

The range of colors, sizes and textures of masonry veneers now on the market creates a nearly endless array of design possibilities to either make a stand-out statement or blend well with regional benchmarks. Accessory pieces such as keystones, trim stones and sills also make it easier to maintain the popular stone aesthetic.

Materials such as these can also help architects and developers keep construction costs down. **The installation of a manufactured stone wall has the potential to save costs, time and labor over a natural stone wall.** And, lightweight veneers can offer savings over a full depth veneer. Cost savings are derived from a variety of factors, among them reduced shipping costs. Lightweight veneers weigh less than 15 lbs. per square foot and are widely available throughout the country, even in areas that lack local sources of quarried stone. Additionally, veneers have the potential to save money with higher productivity provided by easy installation and the fact that increased supports, such as wall ties or footings, are eliminated.



# THE MASONRY REVOLUTION STARTS HERE

Certain masonry wall systems combined with veneers provide added R-Value, moisture and mold resistance to a building and have long-term low-maintenance.

In fact, some veneers can be installed on wood core walls at heights up to 30 feet tall without additional footing. Waste is also reduced because modern masonry veneers are crafted to fit efficiently.

Further savings can be measured by taking the wall system approach, which focuses on efficient installation methods and meeting the energy codes for continuous insulation. The EnduraMax™ High Performance Wall System from Echelon Masonry, for instance, is comprised of three components — a framework of pocketed and profile-molded EPS insulation panels that attach directly to the structure, masonry stones or bricks, and pumped mortar. All combine to speed installation and provide a continuous insulation barrier with an R9.2 steady state, along with improved water management and acoustical comfort.

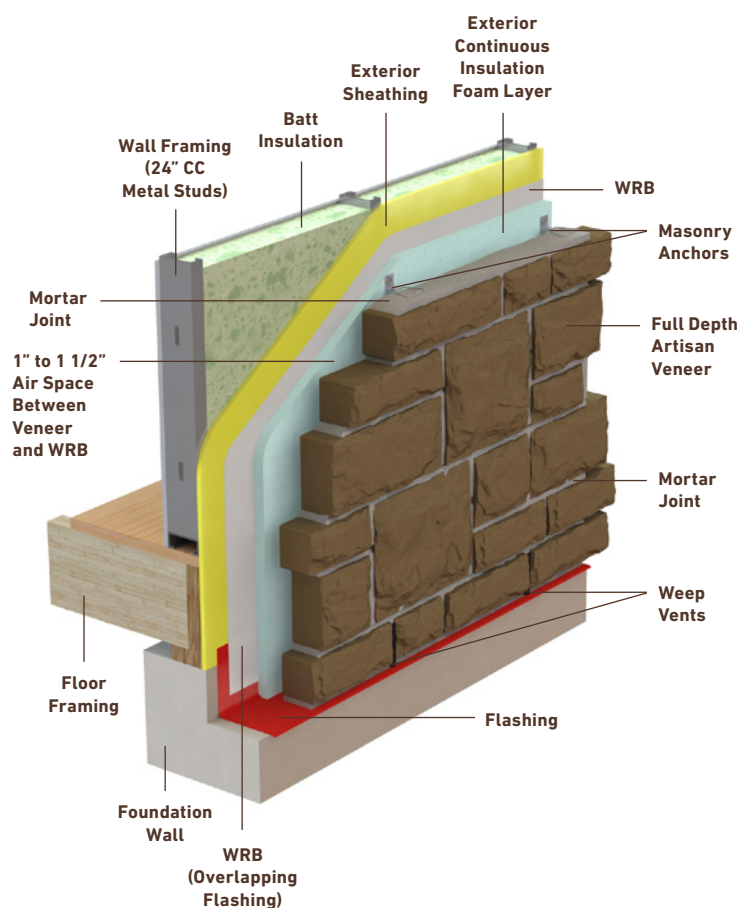
By specifying materials that can be installed more quickly and easily than traditional options, architects can help alleviate strain on the construction timeline.

In terms of overall lifecycle costs, masonry veneers provide added R-Value, moisture and mold resistance to a building and have long-term low-maintenance.

The use of materials such as these, which can be installed more quickly and by less experienced workers, can be a critical part of an overall solution to reduce both construction-related costs and the timetable. In the case of commercial buildings, this means a shorter span from groundbreaking to profitability — and a satisfied client. ■

## Installation Diagram

When combined with other building materials, veneers offer functional properties that aid in the integrity of a structure, including water retention, while offering enhanced aesthetics. With ever-evolving building codes, veneers are a proven building product that meets demand.



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# DESIGN PERSPECTIVE

**Matthew Middleton**  
 CNNA Architects, Inc.,  
 Atlanta, Georgia



**CNNA Architects, Inc. is a world-class architectural and design firm with a diverse range of design projects, including a high-rise in Buckhead, Georgia, and the recent “rustic meets modern” Indian Creek Lodge at Georgia State University.** The firm, according to Matthew Middleton, senior project manager, has a 20-year history of relationship-based service to its clients, having completed assignments such as commercial mixed use buildings, retail strip malls, shopping centers, restaurants and custom projects like the GSU lodge. Located in the heart of downtown Atlanta, CNNA recently completed the Atlanta Center for Medical Research, the largest facility of its kind, and a renovation of the old Macy’s 1926 location at 200 Peachtree. Middleton, who

lives in Smyrna, Georgia, said CNNA takes on remodels and economic rehab spaces anywhere their customers need them, and are soon to be registered in all 50 states.

Middleton has a diverse design background, including prototype manager for The Home Depot as well as civil engineering experience, and has seen a lot of mixed use commercial applications. He said that mixed-media and multi-textured exteriors are the most dramatic trends in recent years, whether the project is rustic or ultra-modern.

“Key to those design treatments are today’s stone veneers, which are being manufactured with more strength, realism, varied color palettes and styles, as well with energy and insulative values.”

“Their use typically arises organically, as the project’s exterior design comes together and the customer looks at style and color considerations. You also have to consider the mix of exterior materials — the geometry, siding and stone combinations.”

## Waterford Stone™



## Lamina® Stone



**Two of his preferences are Oldcastle’s Echelon® Waterford and Lamina veneers.** Waterford has a hand-chiseled, antique look, while Lamina suits the modern, clean look of stacked stone. “The style of the veneer has to seamlessly complement the type of project and blend in with the environment,” said Middleton. **He added having dozens of styles and colors to choose from makes that matching process much easier.** Their R-values, sound attenuation and regional manufacture of stone veneers also contribute to the LEED v4 points established in 2013 by the U.S. Green Building Council.

Middleton said he used stone veneers for a recent strip mall in Bluffton, Georgia, and was able to meet the design aesthetic the customer wanted, as well as budget and

jurisdiction requirements. In addition to realistic color choices, stone veneers are now being offered in thinner profiles, which further improve their ease of use and accommodates less structural wall support systems. “Wall weight is a big issue in structural engineering and the lighter veneers allow us to use lighter steel members, so it is more economical in the long-run.”

Noting that many skilled masons left the industry during the downturn, bringing projects in on time and on budget often relies on being able to find good labor. “There is a learning curve with new technology in masonry products,” explained Middleton. “It’s important to get the workforce up to speed on the new systems and their proper installation.” Noting the one-on-one support he gets from Oldcastle, such as when the sales representative recently took time to explain a new wall system in person, he said, “Manufacturers need to balance training and field support with their investment in new products.”

As the new thin veneers become the go-to material for commercial projects and a solution to structural and energy issues, they are also emerging as a realistic, attractive, budget-friendly material. These systems, says Middleton, are a value-added for any project as the perfect accent material.

“I’m excited about the new innovations in stone veneers. They are more available, economical, have good performance ratings and price points and are more modular so easier to install.” ■



# TIPS AND TECHNIQUES

## Choosing Between Thin and Full Veneers

**Advances in stone veneers have made both full and thin varieties suitable replacements for natural stone in many residential and commercial applications.** Both varieties are strong, widely available throughout the country, easier to install than natural stone and come in an array of colors and textures to serve as a versatile design element. When choosing between thin and full veneer for a project, factors to consider include the specific attributes of each veneer type, associated costs and installation options.

Combining the right veneer with the right installation method can positively impact a project's cost, look and durability.

Thin veneer's primary advantage over its full counterpart is undoubtedly its lighter weight requiring less structural support. This makes it less expensive to ship, easy to haul and handle on the job site, and easier to cut, trim and set. Most varieties are available with cut corners that make it look like a full stone, as well as specialized pieces such as keystones and sills. As a design element, thin veneer can be essential for bringing stone to non-loadbearing walls and, as such, is perfect for interior applications

such as fireplaces, accent walls and even upper-story installations.

In the case of full stone veneer, moisture is less likely to penetrate (if installed correctly) because the joints are often sealed to the depth of the veneer which is, on average, four to six inches. As with thin veneers, manufacturing advances have made full depth veneers consistently sized and modular for less cutting and waste at the job site. And, when the devil is in the details, full stone veneer can also present an advantage over its thinner counterpart.

**Many full-depth veneers can help create a stunning end-effect because they come in a choice of sizes and shapes; textured ends available in some brands allow for a finished end look without additional cutting.** They can easily accommodate various joints and dry stack styles and can help fulfill last-minute client requests for details such as corbels, lintels or keystones without losing time or going off-budget. These pieces are readily available with many of the thin veneers on the market but have to be ordered in advance to fit within timelines. They can usually be cut from full veneer pieces already on site.

**Ultimately, there are more opportunities than ever to match material and installation method to the scope and budget of the building project.**



Thin and full-size masonry veneers can fit with the latest trends for sustainable, repurposed and/or natural-look materials while positively impacting cost, R-value, and mold and mildew resistance. Many designers are choosing to mix products to create varied elevations for a more interesting, contemporary look that has migrated from urban centers to within residential settings. With advancements in form and function, masonry veneers have become a valuable tool in advancing design. ■

## Submit Your Tips and Techniques

No one knows better about a product than those who have come to trust and rely on it for their projects. If you have a tip or technique to share for designing and working with masonry veneers, we'd love to share it in a future issue of Echelon Modern Masonry. Submit your tips here.

[SUBMIT TIPS](#)

### THIN VENEER



#### FEATURES

- Lighter weight
- Less expensive to ship
- Easier jobsite handling
- Requires no structural footing
- Can be utilized in virtually any setting
- Saves on installation time and costs

### FULL VENEER



#### FEATURES

- Variety of brick shapes and sizes
- Often feature textured ends, meaning there's no need for additional corner pieces
- Modular format reduces cutting and waste
- Moisture is less likely to penetrate
- Easily accommodate various joints and dry stack styles

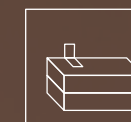
# Installation Options with Thin Veneers

Installation options abound with thin veneers so it's easy to choose the one that suits the requirements of the project and overall budget. There are four systems worthy of consideration based on ease of use, cost and added advantages:



## ADHERED

Setting the veneer in a bed of mortar that simply adheres to the backing. In this application, it is critical to design for proper drainage of the understructure as well as use of a waterproof backing system for the veneer.



## MOUNTING SYSTEM

Use of a customizable, lightweight panel system that provides mechanical support. Ties interlock the masonry veneer to the panel, which is anchored to the wall. Mounting systems help create a positive masonry lock between the mortar and panel and reduce footing and lintel requirements, labor and installation costs.



## TRACK SYSTEM

Brackets are mounted onto walls as support for masonry panels. In this system, the engineer must determine if the backing wall can withstand the load imposed by the system and other applicable conditions; furring may be necessary. Additionally, building wrap or other sheathing materials should be properly installed to the wall surface as needed to assure an adequate moisture barrier.



## INSULATED WALL SYSTEM, OR FOAM MASONRY PANEL SYSTEM

These total cladding systems can offer an R-Value as high as R-13 outside the framing, wind resistance in excess of 110 mph, increased sound reduction, and fire resistance. They consist of foam panels, stainless steel screws or anchors and mortar and can accommodate a variety of masonry units. ■



# REVOLUTIONARY DRY-CAST MANUFACTURING

Stronger, More Beautiful  
Products Start to Finish



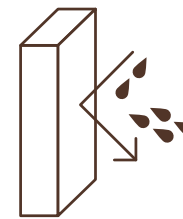
**Thin stone veneer has traditionally been manufactured through a wet-cast process using latex molds.** At one time innovative, this method has since revealed its limitations in both process and resulting product. A revolutionary dry-cast manufacturing method has recently streamlined production and created a superior product that is stronger, easier to install and better looking.

Through wet-casting, natural stones were arranged in a pattern and latex was sprayed on the stones to create a mold. When it was time to cast the veneers, these molds were hand painted with the colorant specified for the particular variety of stone. Wet concrete was then poured into the mold, vibrated and stored to set and cure. When finished stones were pulled from the molds, the process began anew.

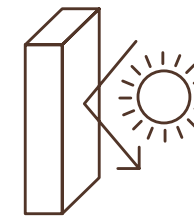
The resulting thin veneer stones only contained color on the outermost layer. If the stones were chipped accidentally, or purposely cut during installation, the non-colored aggregate on the interior was exposed. Specialized corner and trim pieces were needed to obtain finished, real-stone looks without sacrificing color consistency.

Thin veneers manufactured through dry-casting offer a PSI strength that is two to three times stronger than traditional thin veneer and have color integrated throughout the unit

**The dry-cast method uses new mold technology with a significantly longer life span than latex or rubber molds** (which can become fragile and tear over time and use). Dry casting begins by scanning natural stone through a new process and turning those scans into patented mold technology. A low-moisture mixture of fine aggregates, cement, admixture and integrated colorant are densely compacted into the molds, then stripped from them and cured in a high-humidity environment.



**Resists freezing-thawing and water**



**Resists fading**

Thin veneers manufactured through dry-casting offer a PSI strength that is two to three times stronger than traditional thin veneer and have color integrated throughout the unit, which eliminates the need for special corner pieces and reduces waste caused by chipping. Additionally, **dry-cast stones resist freezing-thawing, water and fading.**

With successes achieved thus far, the dry-cast manufacturing method promises to revolutionize the industry by setting higher expectations for thin veneer looks and performance. ■

*Thin veneers manufactured through dry-casting have color integrated throughout the unit*





ECHELON

# PRODUCT SPOTLIGHT

## Artisan Masonry Veneers®

From innovative manufacturing techniques to customizable design options, Artisan Thin Veneers push the thin veneer category to new standards.



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Each product carries the look, tone and texture of classic stone in a variety of ways. Yet, each is also designed to perform better than stone — with superior durability, proven energy efficiency, streamlined installation and long-term low maintenance. The manufacturing process combines all-natural aggregates to deliver consistent color throughout the block, including at the end, for an effect that will last over time.

The Artisan Thin Veneer line comes in many color ranges and blends (including regional varieties), accent colors

and finishes such as ground, smooth or chisel face. All varieties allow for use of grout in a variety of mortar joint size options, or a dry-stack application. Accessories like keystone, sill and trim stone make it easier to bring Old World stone aesthetic in a modern, innovative solution.

For customizable design needs, the Cordova and Franklin Stone varieties can be shaped, cut and tooled in a multitude of ways.

Created using an innovative dry-cast manufacturing method, **Kensley™ Stone Thin Veneers offers a new texture and upscale look while minimizing install time and cost.** The lightweight veneer weighs under 15 pounds per square foot and boasts a traditional ashlar pattern with a 3/8" mortar joint. It is designed to emulate natural limestone with a tight dimensional tolerance. Hillcrest™ Stone also comes from the dry-cast method and is a modular system designed to create the rustic finish of stacked stone. Between Kensley and Hillcrest, designers have six varying choices for single-field options or distinctive blends. ■



**CORDOVA STONE**  
Alabaster



**HILLCREST STONE**  
Alpine



**FRANKLIN STONE**  
Congress Tan



Made Smarter



Lasting Beauty



Streamlined Installation


To view color palettes and specifications for all products, contact your Echelon representative to obtain an Echelon Design Guide and Sample Board or visit our site.

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