

Make your mark with Buechel Stone

In addition to quality building stone, Buechel Stone fabricates **cut stone** for design applications like arches, coping, sills, hearths and mantles. We also offer **landscaping stone** for retaining walls, steps, walkways, gardens, and poolside patios.

Make a statement with Buechel Stone, an innovative company passionate about quality, superior service ... and NATURAL stone.

Call us or one of the authorized dealers in our nationwide network. We're ready to assist you. To find the dealer nearest you, call (800) 236-4473 or visit www.buechelstone.com.

By taking active roles in valuable associations supporting the natural stone industry, we gain unique insights on industry advancements, enabling us to apply new production methods and provide our customers with leading edge products.



Buechel Stone provides strength and durability

Buechel Stone's natural dolomitic limestone rivals the hardness of granite.

Stone Quarry Source	Avg. Rupture Strength (psi)	Avg. Compressive Strength (psi)		Avg. Flexural Strength (psi)
		Parallel to Rift	Perpendicular to Rift	
Chilton Natural Stone	1,220	50,560	38,090	3,070
Fond du Lac Natural Stone	1,470	29,040	34,240	1,740

Shear Bond Strength Testing ASTM:C482

(Mortar mix: 1 part Portland cement, 3.3 parts of sand, 0.5 parts of water by weight)

	1	2	3	4	5	Average
Bond Strength, psi	140	194	364	263	232	239
Location of Failure	Between bond coat and mortar					



180 Knights Way, Suite 100, Fond du Lac, Wisconsin 54935-8080 (Corporate/Wholesale)
 N4399 Hwy 175 South, Fond du Lac, Wisconsin 54937-9266 (Retail/Showroom)

(800) 236-4473 www.buechelstone.com



natural
thin veneer
[NTV]

quality • beauty • durability



This Colorado residence achieves beauty and distinction through architect Thomas Epps' use of Fond du Lac Heritage Blend NTV on the home's exterior and landscaping.

Cover photo features Fond du Lac Kensington Blend NTV.

natural thin veneer

natural thin veneer ... a more affordable, high-quality building choice

A private residence featuring a rustic yet elegant look created with Chilton Heritage Blend NTV. Designed by Whiteford Associates, Inc.

Natural stone is a valued building material. Its beauty, durability, and quality cannot be duplicated. From our quarries, we uncover the earth's bounty and combine the unique textures and shades we discover into stunning blends appreciated and selected with pride by homeowners, architects, and designers.

While full veneer natural stone is still regarded as the premium choice for high-end home and building construction, Buechel Stone offers another natural product as a more affordable installation for those who prefer the appeal of natural stone. **Natural Thin Veneer (NTV)** is a lightweight alternative to full veneer and a higher-quality choice than manufactured stone. NTV is a natural stone cut at a wall depth ranging from three quarters of one inch to one and one-quarter inches as compared to full veneer which has a wall depth of three to five inches. Its lighter weight and thinner profile provide a number of advantages to architects, homeowners, contractors, and masons.



Fireplace featuring Byron River Rock NTV.



This beachside getaway features Gray Cobble Creek NTV with webwall.



This unique design for Quilceda Winery was created by architect Michael George using Fond du Lac Rustic NTV.



Full Veneer Natural Stone

Thin Veneer Natural Stone



natural beauty

The stone archways in this private residence were designed and created by Zach Builders using Chilton Rustic NTV.

Although equally beautiful and just as durable as full veneer natural stone, NTV has its own unique advantages. Its lighter weight and thinner profile make it easier for masons to handle. Installations can be completed in roughly half the time as that needed for full veneer stone thereby reducing labor costs. In addition, more NTV can be shipped per truckload than full veneer stone providing additional potential for cost savings on long distance transport.

NTV is available in many of the natural colors and blends found in our full veneers. Each piece of NTV is unique and there is no risk of having a repeating pattern on large installations, which is unavoidable with manufactured stone. Also, unlike manufactured stone, NTV can be custom cut and trimmed to meet your specifications. This includes corner pieces which can be cut in a variety of angles.

These advantages make NTV an affordable, yet high quality building choice.



This fireplace features Palace Blend NTV with a Texas Cream surround and hearth.

available in a wide variety of hues and blends

This private residence was designed by Wunderlick Fine Architectural Design and features Chilton Rustic NTV.



natural warmth

natural thin veneer adds a unique look to your home ...

There is nothing like the real thing, and **NTV is real natural stone**. While manufactured stone — which is produced by pouring a combination of cement, aggregate and color pigments into molds — tries to imitate natural stone, there simply is no substitute for Mother Nature's creation. As a product of the earth, the colors and hues that characterize Buechel's natural stone

products are uniquely beautiful. From cool and charcoal grays to rich rustics and golden browns, there are a variety of colors to choose from and unlimited custom blend options to create just the right look, identity, or feel for your individual project.

Fireplace featuring Chilton Custom Country Blend NTV.



Fireplace featuring Full Color Castle Rock NTV.



Private residence designed by Dayton Home Design, Inc. featuring English Tudor NTV.

... and fireplace.

"We are very happy with the Natural Thin Veneer stone we selected for our home. The unique colors and shapes of the stone are very appealing and it gives the house a look that we are very proud of."

Bill & Joni, Homeowners

natural color



"The Natural Thin Veneer stone was a perfect choice for the large interior feature wall (in the Crossroads Mall) ... it helped us achieve our design goals given a tight budget and schedule parameters."

*William L. Miller, AIA
KKE Architects, Inc.*



natural texture

The main entrance to the Crossroads Mall in St. Cloud, Minnesota showcases Fond du Lac Cambrian Blend NTV with vertical installation of some of the stone and a blend of Buff Gray and Mill Creek Castle Rock.

natural thin veneer adds visual impact to commercial projects

Bacio Restaurant in Minnetonka, Minnesota was designed by Trellage-Ferrill using a custom blend of Full Color Castle Rock NTV.



This Colorado residence features Fond du Lac Heritage Blend NTV. Designed by architect Thomas Epps.



A Wisconsin office building created with Buff Gray Castle Rock NTV. Designed by Arch Design Limited.

NTV can be used effectively on the gable ends of a home, on zero-clearance fireplaces, archways, or anywhere else weight might be an issue. No ledge or expensive foundation is required on most projects, making it an affordable option for tight budgets with a quality focus. Of course, NTV and full veneer stone can be used on the same building project, because it is virtually impossible to

tell the difference. This opens up a variety of interesting design options. Even experienced masonry professionals can mistake Buechel's NTV for full veneer stone.



Natural stone wall constructed with Stratford Cross NTV.



*"Our design could not settle for a man-made stone ... we needed the authenticity and quality that only natural stone provides. We found NTV from Buechel Stone an ideal product to work with."
Shawn Trentlage,
Trellage-Ferrill Architects*

natural beauty



The archways in this cozy and inviting home are accented with English Tudor NTV. The home was designed by Dayton Home Design, Inc.

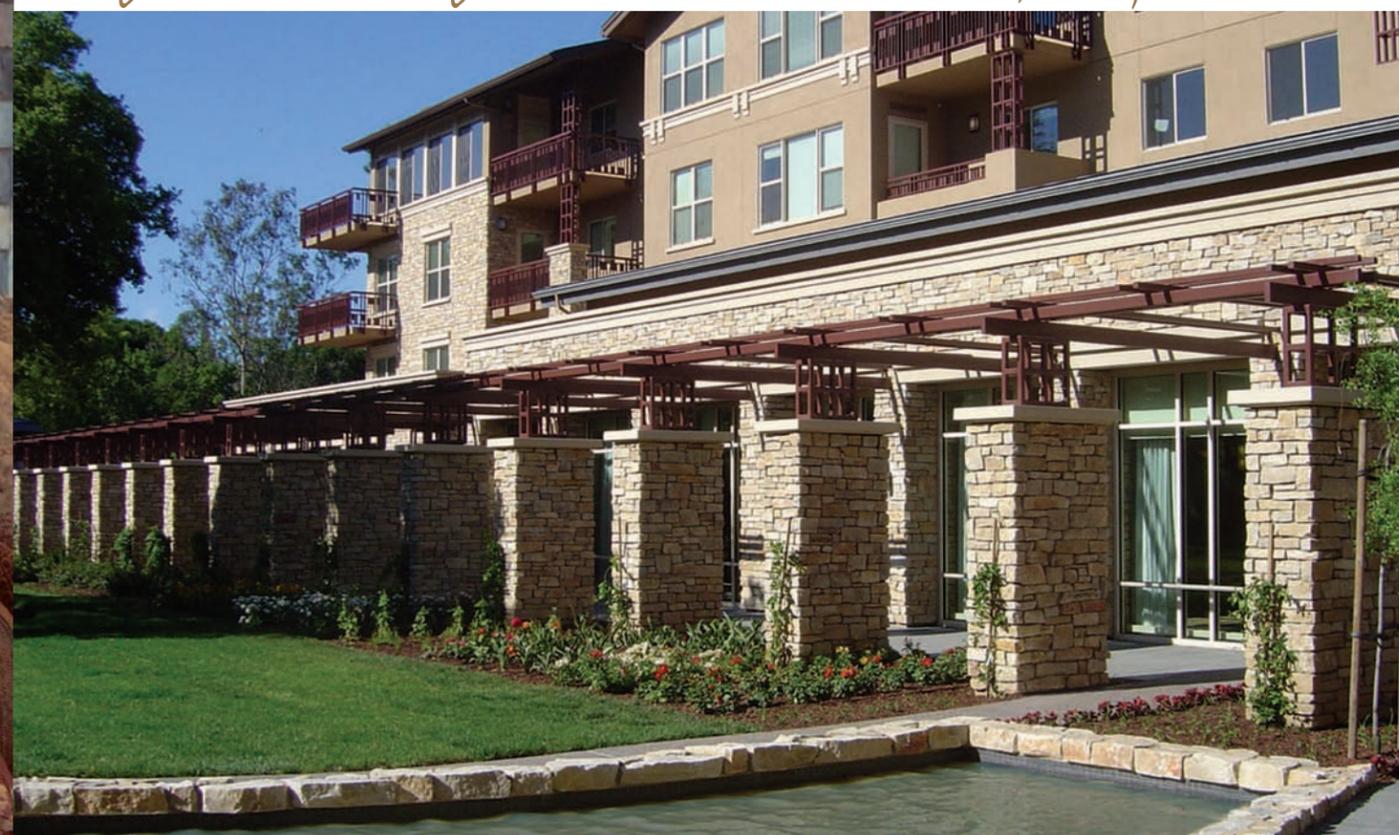
natural



Two-story home showcasing Fond du Lac Webwall NTV with Cream City River Rock corners.



lighter weight ... thinner profile ...



Designed by Steinberg Architects, this project features a custom blend of Chilton Rustic No Reds NTV and Fond du Lac Rustic NTV.

durability

Buechel Stone combines exceptional product ...

Buechel Stone has been quarrying and processing natural stone in northeast Wisconsin since 1964. We pioneered NTV production and have been committed to advancing the process ever since. We know great installations start with a great product and owning five quarries helps us control quality while offering variety.

Private residence in Michigan featuring Chilton Kensington Blend NTV, designed by JA Janiga.



Fireplace featuring Chilton Heritage Blend NTV.



... with exceptional service.

Buechel Stone's reputation is built on quality natural stone and superior service. This reputation is enhanced by our team of professionals including masonry and architectural consultants who are available to provide expert assistance, and a national distribution network that ensures materials and unsurpassed support are close at hand to effectively meet your needs.



Mill Creek Country Squire NTV fireplace.

natural appeal

Packaging

Buechel Stone packages our Natural Thin Veneer in these convenient corrugated plastic boxes. Corners are packaged in the blue printed boxes and flats boxes are printed in burgundy.

Small Boxes

Corners - 8 lineal feet per box - 20 boxes per pallet
Flats - 8 square feet per box - 24 boxes per pallet



Quantity Boxes

Corners - 50 lineal feet per box - 1 box per pallet



Flats - 100 square feet per box - 1 box per pallet



Create unique masterpieces with natural cut stone.

The exceptional visual appeal of cut stone immediately elevates the perception of your project. Using tremendous precision and detail, our expert craftsmen create custom stone arches, coping, sills, hearths, mantles and fireplace surrounds—whatever your project requires.



Indiana Buff



Silverdale



Texas Cream



Buechel Stone blends state-of-the-art technology with true craftsmanship, producing breathtaking results.



Silverdale fireplace surround.



cut stone



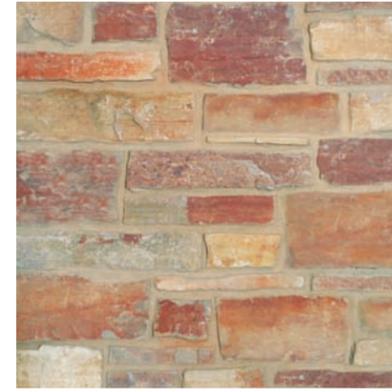
Chilton Country Squire



Fond du Lac Country Squire



Mill Creek Country Squire



Chilton Sedona Rustic / Buff Mortar



Chilton Rustic / Buff Mortar



Fond du Lac Rustic / Buff Mortar



Stratford Cross



Tennessee Splitface



Whispering Pines Ledge



Full Color Castle Rock



Full Color Country Castle Rock



Buff Gray Castle Rock



Stratford Cross Cobble Creek



Charcoal Cobble Creek



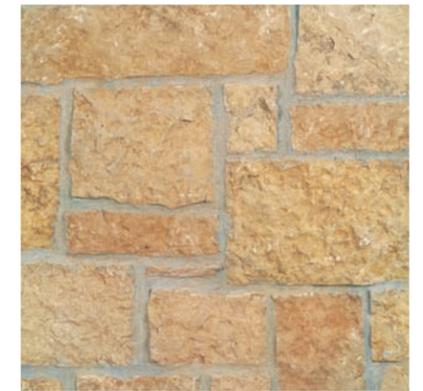
Gray Cobble Creek



Fond du Lac Castle Rock



Fond du Lac Country Castle Rock



Mill Creek Castle Rock



Highland Brown / Buff Mortar

*create your design statement
with our range of choices*

archetypes



English Tudor / Buff Mortar



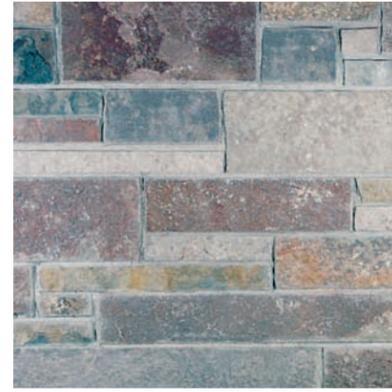
Chilton Cambrian Blend



Fond du Lac Cambrian Blend



Chilton Custom Country Blend



Chilton Tailored Blend



Fond du Lac Tailored Blend



Mill Creek Tailored Blend



Chilton Heritage Blend



Fond du Lac Heritage Blend



Fond du Lac Custom Country Blend



Chilton Tailored Blend 50% Rockface



Fond du Lac Tailored Blend 50% Rockface



Indiana Dimensional



Chilton Kensington Blend



Fond du Lac Kensington Blend



Mill Creek Colonial Blend



Chilton Colonial Pavers



Fond du Lac Colonial Pavers



Splitface Granite



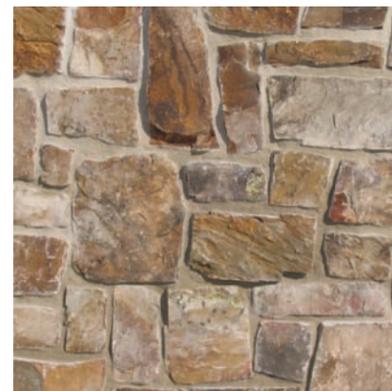
Chilton Woodlake Blend



Fond du Lac Woodlake Blend



Whispering Pines Pioneer Blend



Arkansas Fieldstone Straights



Arkansas Fieldstone



Pine Log / Buff Mortar



Chilton Webwall



Fond du Lac Webwall



Mill Creek Webwall



Colonial Gray River Rock



Cream City River Rock



Cabin Creek River Rock



Chilton Antique Webwall



Fond du Lac Antique Webwall



Texas Bronze / Brown Mortar



Victorian Blend River Rock



Palace Blend River Rock



Splitface Granite River Rock



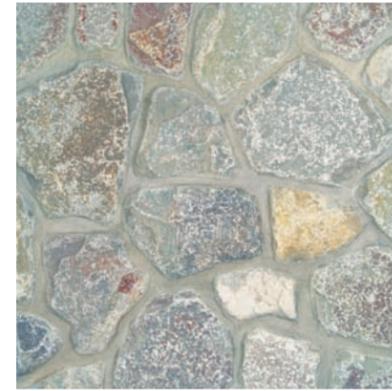
Pennsylvania Fieldstone



Whispering Pines Fieldstone



Chestnut Chunks / Buff Mortar



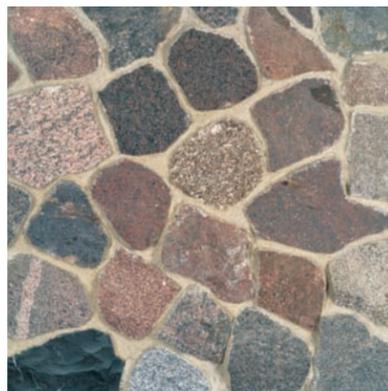
Blue Ridge River Rock



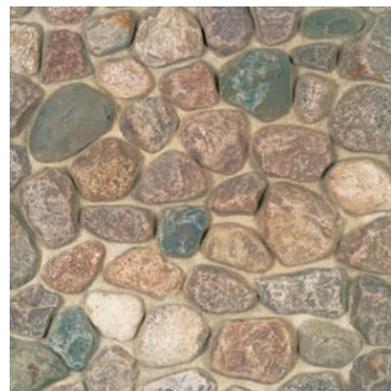
Byron River Rock



Glacier River Rock



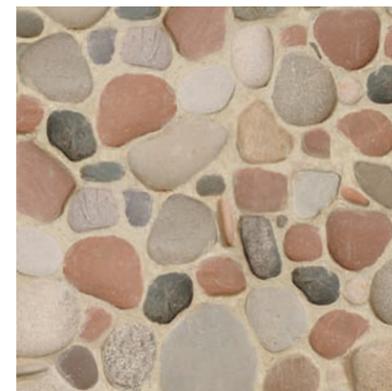
Split Granite Fieldstone



Granite Cobbles



Door County Cobbles



Mountain River Jax



Pearl Gray

Determining Surface Preparations for Natural Thin Veneer (NTV) Installation

Exterior Framed Back up Wall (See Figure 1)

(Includes wood stud and steel stud framing. Material, size and spacing needs to be in compliance to local building codes and/or any manufacture's structural requirements that may apply.) An exterior sheathing is required to provide a base for the application surface. This sheathing must meet local building codes for use as an acceptable exterior product which can include plywood, green treated plywood, rigid composite board and flush metal siding. Cover sheathing with weather resistant vapor barrier. Lap vapor barrier at the joints by a minimum of 4 inches.

Then, Buechel Stone Corp. recommends that you apply *EMC-3639 weep matt with galvanized nails or staples and the corrugated plastic side toward the vapor barrier. There is a fabric flap that is provided at the bottom of each roll of *EMC-3639 to lap over the seam as you work up the wall with this material. End to end joints of this material are installed to create a butt joint. No overlapping is required.

Then, in accordance with local building codes, install expanded metal lath with galvanized nails or galvanized screws. Fasteners should be installed at a minimum of six inches on center vertically and 16 inches on center horizontally. It is important to note that at a corner application, the expanded metal lath needs to wrap the corner completely and overlap the expanded metal lath that is applied to each adjacent flat wall surface a minimum of 4 inches. Apply 1/2" to 3/4" thick scratch coat, and your NTV can now be applied.

New Concrete Masonry Wall (See Figure 2)

(Includes new concrete block or newly poured concrete wall.) No special preparation is required for a concrete block wall. When working with a poured concrete wall, it is important to take extra time to examine the entire surface as it may have areas of form release agents on the concrete surface. To remove this oil, apply and etch areas with muriatic acid, rinse thoroughly and/or score the area with a wire brush. After these surfaces are cleaned, rinsed and allowed to dry, the NTV material can be installed directly to the concrete wall.

Existing Concrete Masonry Wall (See Figure 2)

(Includes sealed/painted concrete or brick work.) It is important to verify with a builder or engineer that the existing wall is strong and sound. Sandblast the surface to remove any paint or sealer. Rinse thoroughly. Once the surface has dried, NTV material can be applied directly to the clean surface. If this application is not reasonable, another option is to apply expanded metal lath to the painted or sealed surface with concrete screws or nails. Then apply 1/2" to 3/4" thick scratch coat.

Insulated Concrete Forms (ICF) (See Figure 3)

Apply vapor barrier, then *EMC-3639. Install the expanded metal lath as specified by the manufacturer's Insulated Forms. Concrete fasteners that secure the expanded metal lath to the wall need to be long enough to penetrate clear through the insulation and secure into the cured poured concrete wall. Apply 1/2" to 3/4" thick scratch coat.

Framed Interior Back Up Wall (See Figure 4)

A wall board is required to provide a base for the application surface. This wall board must meet local building codes which can include sheetrock, green sheetrock, concrete board, or plywood. Install expanded metal lath over wall board with recommended galvanized nails or screws. (It is not necessary to install expanded metal lath over concrete board unless local building codes require it. NTV can be mortared directly to soundly installed concrete board.) Fasteners should be installed at a minimum of 6 inches on center vertically and 16 inches on center horizontally. It is important to note that at a corner application, the expanded metal lath needs to lap over the expanded metal lath that is applied to each adjacent wall surface a minimum of 4 inches. Apply 1/2" to 3/4" thick scratch coat. Your NTV can now be applied.

INSTALLATION REQUIREMENTS (Read Prior to Installation)

All exterior surfaces are required to have a water resistive barrier installed, and it is required by Buechel Stone for proper installation of NTV. This vapor barrier must meet the UBC Standard Code 14-1 regarding waterproof building paper or asphalt saturated building felt. See ASTM D-226. All exterior wall applications need to be properly flashed with rigid non-corrosive flashing. Local building codes need to be followed.

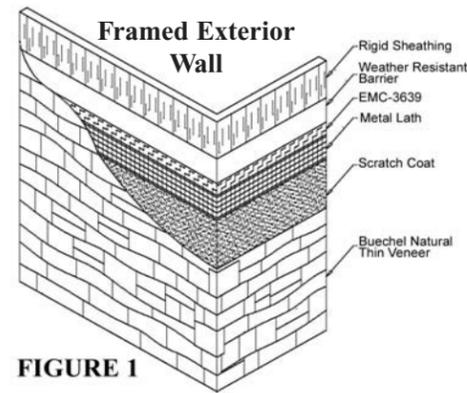


FIGURE 1

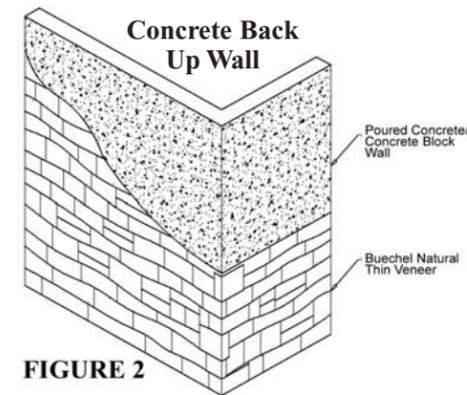


FIGURE 2

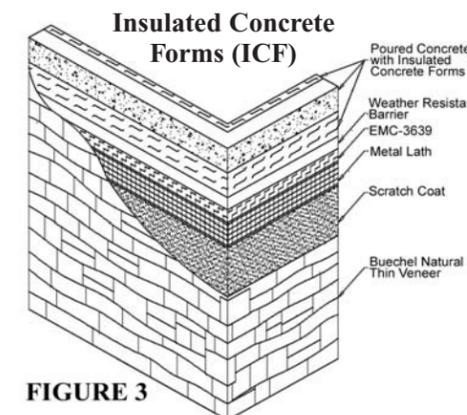


FIGURE 3

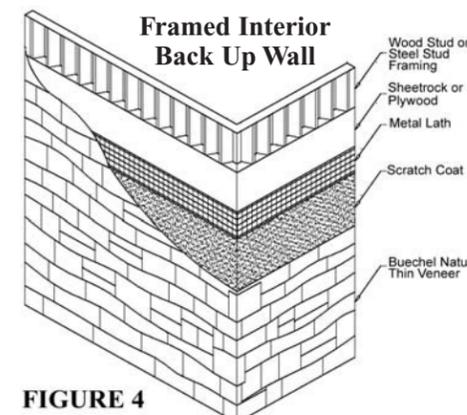


FIGURE 4

Applications that use an expanded metal lath must use a lath that is corrosion resistant meeting ASTM C-847. It is recommended that a dimpled expanded metal lath be used which provides the correct stucco depth and provides "dimples." When each "dimple" is filled with a wall fastener, the correct installation of the expanded metal lath is complete - meeting expanded metal lath installation spec ASTM C-1063. Buechel Stone Corp. recommends a stucco coat to dry for at least 24 hours.

Safety glasses and a dust mask should always be worn when cutting and trimming any NTV material. It is important to note that cutting this material will create dust and should be worked on outside.

All NTV material is washed clean before it is packaged. However, it is wise to make sure that the back of each stone is clean and free from stone dust, to allow mortar to reach its absolute bond with the stone. This dust can be easily removed with a cloth or a damp rag.

Type S mortar is used for installing NTV, complying with ASTM C-270.

When using expanded metal lath in your application, a scratch coat must be created. NTV that has mortar "battered" on the back of each stone is not to be applied directly to a clear expanded metal lath cavity.

It is required that 100% of the back of each stone is to be covered with a least 1/2" of mortar. A bit more mortar can be added toward the center of the back of each stone. As each stone is pressed into place, this extra mortar oozes out around the edge of the stone. This extra mortar will fill in around the stone creating your grout joints. The stone needs to be pressed firmly against the scratch coated wall to ensure a sound bond. If you choose not to use this method to fill the joints, the joints can be filled with grout after the stone is installed with a grout bag and/or a tuck pointing tool. It is suggested to keep the stonework free from mortar dropping and mortar smears as much as possible. Mortar droppings can be removed with a damp cloth.

The use of a bonding agent mixed in with the mortar is recommended by Buechel Stone Corp. when installing NTV to add bonding strength to the installation. Please refer to the selected bonding agent instructions for recommended mixture quantities. It should be noted that extra care should be taken when using a bonding agent as mortar droppings that contain a bonding agent, can sometimes be difficult to remove once they cure.

Buechel Stone recommends that if corner pieces are required for the application, the corner pieces be installed before any flats are installed. This will provide a better benchmark for your pattern to continue around the corner. Most corner pieces will have a long end and a short end. These pieces should alternate in opposite directions, as they are stacked, one upon the other.

It is recommended by Buechel Stone Corp. that the use of an epoxy, or thin set and/or construction adhesives to install NTV should only be used in an interior application. It would be helpful to this application to use plastic shims during installation making sure that no shim becomes "glued" to the back-up wall.

After the stone has been installed for at least 48 hours, it is suggested to wet the stonework down with water and then apply a mild cleaning detergent with a soft bristle brush to remove any dirt or mortar smear left from the installation. If there is an intense amount of clean up needed, please refer to our website, www.buechelstone.com, for suggested cleaning solutions. **DO NOT USE ANY TYPE OF ACID.**

Buechel Stone is proud of the many different installation options that can be created using NTV. Please note that the assistance of a professional contractor or engineer may be needed to evaluate your installation or the soundness of your installation back up wall. A contractor or engineer can also provide important information regarding local building codes, seismic building codes, institutional building codes and installations over twelve feet high.

*EMC-3639 Weep System

EMC-3639 is a weep system that is recommended by Buechel Stone Corp. to be installed on any exterior framed back-up wall. (See Figures 1 & 3). EMC-3639 separates full and thin veneer natural stone from structural back-up walls while creating a percolation system that allows moisture to travel down to weeps that are installed at the base of the wall. The water is then directed out and away from the wall.

Buechel Stone is the natural stone industry leader in recognizing the importance of this technology as part of the natural stone veneer installation process.

For more information on EMC-3639, please contact a Buechel Stone representative.

