



DETERMINING SURFACE PREPARATIONS FOR INSTALLATION OF BUECHEL STONE'S NATURAL THIN VENEER (NTV)

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 manufactures 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 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 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.

*EMC-3639 is a weep system that is recommended by Buechel Stone Corp. to be installed on any exterior framed back up wall (see Figure 1 & 3). Buechel Stone is one of the few quarries that provide a weep system for their thin veneer products.

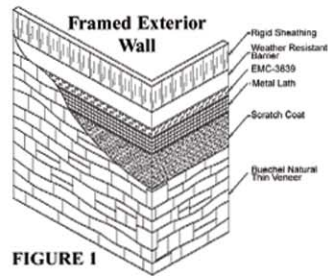


FIGURE 1

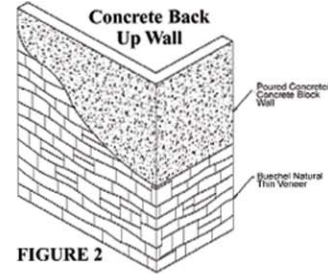


FIGURE 2

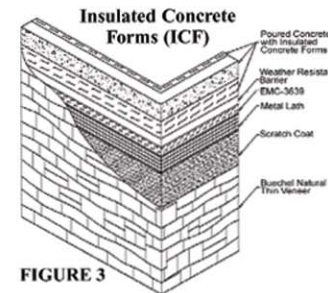


FIGURE 3

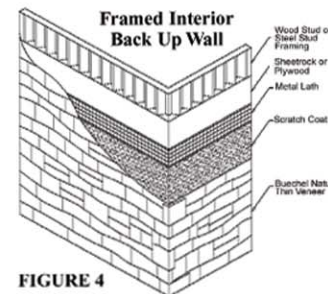


FIGURE 4

INSTALLATION REQUIREMENTS (Read Prior to Installation)

All exterior surfaces are required to have a water resistant barrier installed and it is required by Buechel Stone Corp. to install NTV material correctly. This vapor barrier must at least 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.

Applications that use an expanded metal lath must use a lath that is corrosion resistant meeting ASTM C847. 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 C1063.

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 type is use for installing NTV, complying with ASTM C270.

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 the 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.

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