



# **Installation Manual**

## **For**

# **Authentic Stone Veneer**

### **Please read carefully before installing:**

**This installation guide serves as a guide only and is not meant to act as a substitute for professional advice. As with any construction project, observe safety precautions when installing this product.**

Appalachian Stone Thin Veneer is packaged to allow for a ½” grout joint for coverage of the area. Dry stack applications will require additional stone for the desired coverage. An allowance of extra material is similar in quantity of full stone. However, the overall coverage area is according to application pattern, waste created by chipping, cutting and grinding the stones to create the look. Product should not be installed if the ambient temperatures are expected to drop below 40 degrees F within a 24 hour period after installation. For more information on cold weather construction, refer to ACI 530-05 Section 1.8C.

Install all Authentic Stone Veneer in accordance with ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures. All structures that Authentic Stone Veneer is to be applied to must meet the requirement of all relevant building codes.

All materials used to install Authentic Stone Veneer, including; sheathing, vapor barrier, expanded metal lath, fasteners and cement must meet the requirements of all relevant building codes. Mixing of masonry mortar should be done with Type S Cement and in accordance with ASTM C270. Use Concrete Bonding Agent in accordance with suggested manufacturer’s instructions. Application of Scratch Coat should be done in accordance with PCA Plaster (Stucco) Manual and local codes. Install flashing where necessary and as required by code. Flashing material should be non-corrosive.

When applying Appalachian authentic stone veneer to any exterior surface, a weather resistant vapor barrier is required to be installed first according to code. When applying authentic stone veneer to concrete or block wall be sure to clean the surface carefully. Walls that have been painted or other sealants applied must be sandblasted, water blasted, acid etched or wire brushed to remove all the treatment to insure a good mortar bond. Failure to remove this prior treatment may cause installation problems.

Never clean Authentic Stone Veneer with a metal brush or acid.

In order to guarantee correct installation of Authentic Stone Veneer for your specific project consult a professional contractor or engineer.



## **Suggested Accessory Materials:**

1. Weather Resistant Vapor Barrier that meets UBC Standard Code 14-1, or Asphalt saturated felt, ASTM D 226, No. 30. Also, a two ply moisture deflection and ventilation system or rain screen.
2. Expanded Metal Lath: Corrosion resistant meeting ASTM C847. Galvanized and self-furring.
3. Lath fasteners. All tie wire, nails and screws must be galvanized.
4. Concrete Bonding Agent. Use according to manufacturer's instructions and is suggested for use on all dry stack installation. (The bonding agent is not necessary in the scratch coat on the substrate).
5. Shims and setting buttons, made of lead or plastic.
6. Flashing, rigid non-corrosive.
7. Type S mortar complying with ASTM C270.

## **Material's Checklist:**

Tarp to cover area  
Weather resistant vapor barrier and moisture deflection wrap  
Staple gun  
Galvanized lath  
3/5" corrosion-resistant screws (preferred) or nails  
Electric screwdriver and hammer  
Heavyweight trimming shears or wire snips  
Large sponge  
Mortar ( per specifications)  
Bucket or wheelbarrow  
Hoe  
Point Trowel  
Chisel  
Saw or electric grinder  
Mortar/grout bag  
Joint tools  
Stiff brush ( not wire)  
Gloves  
Safety glasses and dusk mask



## Preparation and Installation

### Preparation and Installation on Rigid Wood-Related Sheathing, Wallboard, Paneling, Plywood, and Metal Panels:

**Note use of OSB board as a backing material may cause cracking.**

- Make sure rigid sheathing is sound and covered with weather resistant vapor barrier. All vapor barrier joints must be overlapped a minimum of 6”inches. Also, be sure that flashing has been installed where necessary according to local codes. Apply a 2-ply moisture deflection wrap or rain screen for added moisture protection.
- In accordance with local building codes and ASTM C1063, install the metal lath. Lath must be installed with joints overlapped a minimum of 1” inch. Fasten lath with galvanized fasteners with a minimum of 6” inches on center vertically and 16” inches on center horizontally. Fasteners must penetrate studs a minimum of 1”inch. Reinforce areas around corners and doors with extra lath.
- For installation over metal panels, surface preparation is the same as for other rigid sheathing except that metal lath should be applied with self-tapping screws with a 3/8” head that provides a 3/8” minimum penetration beyond the inside metal surface.
- Scratch coat can now be applied at a thickness of ¼ inch to ½ inch over metal lath surface. After applying scratch coat, there should be no metal lath exposed. Allow for the complete curing or drying of the scratch coat. Dampen the scratch coat when you start to apply the veneer stone.
- Lay out a good quantity of stone on a flat surface near your work area (25-50 SF minimum) before installing. Distribute different size, texture and color of stone as desired. When installing the stone, try to achieve a balanced pattern of shapes, colors, thicknesses, and textures by selecting and mixing various stones. Make sure surface to which stone will be applied is clean and free of all dirt, oil or loose material. Dampen Scratch Coat with water. If project requires Appalachian Stone Authentic Stone Veneers Corners, these should be installed in advance of the flat surface stone.



- Wipe any dust off the back of each stone and apply mortar with a trowel. Stones must be 100% covered with a minimum of ½ inch of mortar. Press the stone firmly against scratch coat. Apply pressure and movement to ensure a strong bond. Do not attempt to move stone after initial setup. Use shims as required for maintaining uniform joints. Joints may be filled as necessary to create the desired style.
- Control and expansion joints should be incorporated according to local codes. Leave appropriate sealant recess joints where masonry meets doors, windows, etc. Coordinate sealant recess joints in accordance with codes.
- As work progress keep stone face clean of mortar by using a rag or sponge and water. Allowing the mortar to dry on the face or edges of the stones may change the final look of the product and is hard to remove. After mortar has dried for several days a mild solution of masonry detergent mixed with water can be used to clean the stone face.
- A sealant is not required but can be applied to enhance the longevity and look of the stone. Make sure to test the sealant on extra stones before apply to the stone to determine the color change or outcome.

## **Preparation and Installation**

### **On Concrete Masonry:**

- Thoroughly check surface that the stone is to be applied to and confirm that it is in good condition and structurally sound. Make sure surface is clean and free of all loose materials or oil residue and covered with weather resistant vapor barrier. All vapor barrier joints must be overlapped a minimum of 6” inches. Also, be sure that flashing has been installed where necessary according to local building codes.
- In accordance with local building codes and ASTM C1063, install metal lath. Lath must be installed with joints lapped a minimum of 1” inch. Fasten lath with galvanized concrete nails with a minimum of 6” inches on center vertically and



16” inches on center horizontally. Reinforce needed areas (corners, around doors, etc.) with extra lath.

- Over clean, unpainted, unsealed, untreated brick, block or concrete or other masonry surface, no surface preparation is necessary. However, for added insurance to minimize cracking or bond failure, use a metal lath and scratch coat. Newly poured concrete surfaces need close examination to determine if surface contains form oil or other release agents. One method to determine their presence is by spraying with water and the water will bead or run off the wall. If you determine there is a release agent on the surface use acid etch, wire brush surface, or use a metal lath and scratch coat. It is imperative that the concrete or masonry surface be free of for release agents to ensure a proper bond, otherwise you must use the lath and scratch coat.
- Over painted, sealed or treated brick, block or other concrete masonry surfaces. The surface must be cleaned back to the original surface by water blasting, sand blasting, acid etching or wire brushing. Otherwise, have a metal lath attached using corrosion resistant concrete nails with a scratch coat applied over the metal lath.
- Scratch coat can now be applied at a thickness of ¼ inch to ½ inch over metal lath surface. After applying scratch coat there should be no metal lath exposed. Allow for the scratch coat to completely dry or cure.
- Lay out a good quantity of stone on a flat surface near your work area (25-50 SF minimum) before installing. Select and mix stones from different pallets throughout the entire installation process for a balanced effect of color.
- Distribute different size, texture and color of stone as desired. When installing the stone, try to achieve a balanced pattern of shapes, colors, thicknesses, and textures by selecting and mixing various stones.
- Make sure surface to which stone will be applied is clean and free of all dirt, oil or loose material. Dampen the scratch coat with water.
- If project requires Appalachian Stone Authentic Stone Veneers corners, these should be installed in advance of the flat surface stone.
- Apply mortar to the back of each stone. Stones must be 100% covered with a minimum of ½ inch or mortar. Press the stone firmly against scratch coat. Apply pressure and movement to ensure a strong bond. Do not attempt to move stone after initial setup.



- Use shims as required for maintaining uniform joints. Joints may be filled as necessary to create the desired style.
- Control and expansion joints should be incorporated according to local codes. Leave appropriate sealant recess joints where masonry meets doors, windows, etc. Coordinate sealant recess joints in accordance with codes.
- As work progress keep stone face clean of mortar by using a cloth or sponge and water. After mortar has dried for several days a mild mixture of masonry detergent and water can be used to clean the stone face. Pressure wash cleaning methods should be avoided.

## **Fitting, cutting and trimming the stones**

Stones should be installed with a uniform size grout joint. A consistent ½” or less space around the stone is desired for the best outcome. Long, straight, unbroken joint lines should be avoided. When installing horizontal styles, special attention should be given to keep the work level. Chalk lines snapped every 8” to 12” as a guide will aid in achieving a level look on completed job. Also, frequently stagger the joint lines both vertically and horizontally.

Trimming the stone can be achieved by using a mason’s hammer, wide mouth nippers, or mason’s trowel edge. Straight cuts are made with a diamond or carbide saw blade. Cut edges should be turned so they are not as visible at eye level (turn the stone down when below eye level or up if above eye level). To conceal cut or broken edges, cover them with mortar when grouting.

Wetting the Stone and Substrate: Under certain weather conditions, the stone and substrate may need to be moistened. If the stone is being installed onto a very hot/dry surface or in hot/dry climate, the stone and wall should be moistened to prevent excessive absorption of moisture from the mortar. This can be done by spraying water onto wall surface and back of stone. Allow the stone and wall to dry for a few minutes to eliminate excess surface water. For jointless/dry-stack installation, it will be necessary to wet the stones regardless of the weather conditions.

Cleaning the Stone. To clean the dirt from the stone, use a granulated type detergent or masonry detergent mixed with water and a soft bristle brush. If efflorescence occurs, it is usually caused by excessive moisture migrating through the substrate. Once the moisture is on the surface it will evaporate, depositing the dissolved salts in the form of efflorescence. This efflorescence should disappear in time. You can clean the stone



immediately with a soft bristle brush and a solution of 1 part white household vinegar to 5 parts water.

Sealing the stone is not necessary. However, it may be desirable to attain deeper colors of minimize staining from soil at the surface level. Use only good quality masonry sealers that are breathable such as Silane or Siloxane based. Always test the sealer on several loose stones to determine color changes.

For more information about Appalachian's Authentic Stone Veneers contact us at 423-894-7300 or at [www.appstone.com](http://www.appstone.com).