

# Installation Guidelines For Halquist Thinstone Veneer



**HALQUIST**  
STONE

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## ESTIMATING THE STONE REQUIRED

Determine the amount of Halquist Stone products needed by measuring the area to be covered. Measure the length times the height to arrive at the gross square footage of flat stone needed. Subtract square footage for window, door and other openings. Measure the linear feet of outside corners to determine the amount of corner pieces needed. One linear foot of corner pieces covers approximately 3/4 of a square foot of flat area. Subtract the flat area covered by the linear feet of corner pieces from the square footage of flat stone required. You should obtain some extra stone to allow for cutting and trimming. In addition, be sure to verify whether the texture chosen is sold based on coverage with a 1/2" mortar joint or tight-fitted. Most texture coverages are listed for a 1/2" joint, the exceptions being custom ordered Halquist Thinstone for drystack. If you are installing a style of texture, which states coverage is for 1/2" mortar joint, in a tightfit application, increase stone by 10-22%.

### FORMULA:

*NOTE: All calculations should be done in feet*

1. Length x Height = Wall Area
2. Window Width x Window Height = Window Area
3. Lineal Feet of Corners Required x .75 = Wall Area Covered by Corners
4. Wall Area – Window Area – Wall Area Covered by Corners = SQFT Flats Required

### TIPS AND TOOLS:

Keep you and Halquist Thinstone clean during the installation process. Be sure to keep your hands clean throughout the process. It is important to allow excess mortar to dry on the face of the stone. **DO NOT** remove it prior to hardening. Use a stiff brush and clean water to remove the dull residue. If heavy cleaning is necessary after installation, a stone cleaner such as those manufactured by ProsoCo® can be used. Refer to manufacturer instructions for proper use.

To prevent mud or any other substance from blemishing the appearance of your natural stone, place straw or protective material on the ground where rain or water can cause mud to splash onto your natural stone.

**DO NOT USE ACID** to clean excess mortar from your natural stone. DISCOLORATION may occur if acid is used.

**ALL NATURAL STONE SHOULD BE APPLIED ACCORDING TO LOCAL BUILDING CODES.** Water infiltration can result in damage caused from incorrect installation or the absence of such things as caulking, flashing, water proofing, guttering and downspouts. Stone should be installed at least 4-inches above grade level to prevent water from continually saturating behind the stone and causing structural damage.

### RECOMMENDED TOOLS:

- Choose the tools required for your installation
- Safety Glasses and other personal protective equipment
  - Staple Gun or Hammer
  - Wheelbarrow & Hoe
  - Hock & Trowel
  - Mason's Trowel
  - Margin Trowel
  - Masonry, Circular, Table, Wet Saw or Grinder with Carborundum or Diamond Blade
  - Wide-Mouth Nippers or Hatchet
  - Dust Mask(1)
  - Level
  - Metal Jointing Tool or Wood Stick
  - Grout Bag
  - Whisk Broom



### WATER-RESISTIVE BARRIER

Depending on local building code requirements, barrier shall meet the requirements of ICC Acceptance Criteria 38 "Acceptance Criteria for Water Resistant Barriers." Note: Water-resistant barrier must be used on all exterior and interior mortar applications. Water-resistant barrier is not required for application over masonry or concrete. C. Flashing

1. To maintain the weather-resistance of the exterior wall on which stone products are installed, corrosion-resistant flashing, weep screed and a means of drainage shall be installed at all penetrations and terminations of the stone cladding. Flashing type and locations shall be in accordance with the requirements of the applicable building code.

2. For additional recommendations regarding flashing, refer to the following trade associations, standards, organizations and resources:
- a. ASTM E 2112
  - b. Asphalt Roofing Manufacturers Association (ARMA)
  - c. Brick Institute of America (BIA)
  - d. The American Plywood Association (APA)
  - e. Local building department
  - f. Architect or engineer

### METAL LATH

1. Minimum 2.5-lb. galvanized self-furring expanded metal lath meeting the requirements of ASTM C 847, or min. 18-gauge galvanized self-furring woven wire mesh meeting the requirements of ASTM C 1032.
2. For metal buildings and open stud construction—minimum 3.4-lb. 3/8" rib, paper-backed, expanded galvanized metal lath.
3. Or other code accepted mesh or lath.

## FASTENERS

Corrosion resistant fasteners are used to secure flashing and lath. A variety of fasteners are available such as staples, screws, and nails. For specific fastener selective criteria, refer to ASTM 1063 Sec. 7.10.2.

- Wood framing - Corrosion resistant staples, corrosion resistant roofing nails, or corrosion resistant screws and washers, all to be of sufficient length to penetrate a minimum of one inch into framing members with a 6d common nail with a 7/16 inch head.
- Metal framing or panels - Corrosion resistant, self-tapping screws with a 7/16 inch head with sufficient length penetrate 3/8 inch through metal studs or panels, with heads or washers large enough to not pull through lath.
- Masonry walls or panels - Corrosion resistant concrete screws or powder actuated fasteners (or cap fastener), which are shot into the wall surface.

## MASONRY SEALER

1. Silane-based breather-type sealer (if required). See "Sealers" in General Information section (page 6).

## SURFACE PREPARATION

Verify structural and surface integrity of existing wall prior to installation. Halquist Thinstone veneer must only be applied to structurally sound walls or other structures. Wall systems not mentioned below (e.g. structural insulated panels and insulated concrete forms) are outside the scope of this document and may require the need of a designed system. Wall systems shown in this document are wood frame with rigid sheathing unless otherwise noted. Other wall systems that can be successfully used with Halquist Thinstone include all standard wood and metal framing, rigid sheathing, and cementitious stucco scratch or brown coat that has not been slicked or burned.

Other wall systems are acceptable with qualifications.

- Masonry walls, poured-in-place concrete walls, and concrete tilt up panels must be free of dirt, waterproofing, paint, form oil, or any other substance that could inhibit the mortar bond. These surfaces must have a rough texture to ensure a mortar bond. Acid washing, sand/bead blasting, pressure washing, or a combination of these methods may be necessary to achieve the required bondable surface. If a bondable surface cannot be achieved, attach lath and scratch coat before installing Halquist Thinstone.
- Existing masonry surfaces must be evaluated for mortar and face integrity and must be free of dirt, waterproofing, paint, or any other substance that could inhibit the mortar bond. Surfaces may be cleaned by pressure washing, acid washing, sand/bead blasting, or a combination of these methods to achieve a bondable surface. If the surface cannot be cleaned, attach metal lath before applying the mortar scratch coat.
- Open studs, non-rigid sheathing and metal siding must be prepared with 3.4 lb paper backed lath with a minimum 1/2" thick scratch coat and allowed to cure for a minimum of 48 hours prior to Halquist Thinstone installation.

The following substrates are considered unacceptable and may require designed systems: existing siding in unsound condition; EIFS; deteriorating or unsound masonry surfaces.

## INSTALLING STONE AT GROUND LEVEL

Keep the finished edge of the Halquist Thinstone veneer a minimum of 4" above grade if earth or 2" above pavement. Use a 2" x 4" leveling strip (straightedge) or weep screed/flashing. Framed (wood or metal) applications are required by code in many jurisdictions to have weep screed or a weeped casing bead, at the base of the wall or foundation transition. This will:

- Provide drainage as required by applicable building code.
- Avoid possible staining of the stone by soils containing alkali or other minerals.

## PREPARE YOUR WORK AREA

Spread Halquist Thinstone wall veneer out at the job site so you have a good variety of sizes, shapes and colors to choose from. Plan for some variety and contrast in the overall design. Use small stones next to large ones, heavy-textured pieces next to smooth, thick stones next to thinner ones. Mixing Halquist Thinstone wall veneer from different boxes during application will allow you to achieve a desirable balance of stones on your finished project.

## Weather Resistant Barrier/Water Resistive Barrier (WRB)

When installing Halquist Thinstone veneer, in an exterior application requiring a WRB, two separate layers of WRB shall be used. Each layer of WRB should meet the requirements for Water Resistive Barrier (Grade D) as defined by ICC Acceptance Criteria AC-308. Installation of the WRB should follow instructions provided by specific manufacturer. When installing Halquist Thinstone veneer in an interior application, a single layer of WRB is recommended.

## INSTALLATION OF HALQUIST THINSTONE

Prior to commencing installation of Halquist Thinstone, ensure that the WRB and flashing are properly installed and integrated with each other. Before installing Halquist Thinstone, lay out a minimum of 25 square feet at the jobsite so that you have a variety of sizes, shapes, and colors to choose from. Mixing Halquist Thinstone veneer sizes, shapes, textures and color will allow for variety and contrast in your design to achieve the desirable finished project.

## Mortar Scratch Coat

After the lath is installed, apply a nominal 1/2" thick layer of mortar over the lath, ensuring the lath is completely covered with mortar to allow for scoring of the surface. The mortar should be applied with sufficient pressure and thickness to fully embed the lath in mortar. Once the mortar is thumb-print hard, scratch (score) the surface horizontally to create the mortar scratch coat.

Moist curing the mortar scratch coat will ensure there is minimal cracking and proper hydration. Before applying Halquist Thinstone, the mortar scratch coat should be dampened so that the surface appears wet but without free standing water.

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## MORTAR JOINT THINSTONE VENEER APPLICATION

**Tip:** Prior to the application of mortar to the backs of the Thinstone veneer or the scratch coat, the back of the Thinstone veneer and the scratch coat should be moistened so that the surfaces appear damp but without free standing water.

The back of each Thinstone should be entirely buttered with mortar to a nominal thickness of 1/2". It is important to cover the entire back of the Thinstone, not just the perimeter.

Buttered Thinstone veneer should be firmly worked onto the scratch coat and slid slightly back and forth or with a slight rotating motion to set the Thinstone. With the proper mortar mix, moisture content, and scratch coat preparation, the installer will feel the mortar start to grab within a few seconds of the setting movement process. At this point, no further movement of that Halquist Thinstone should be made as bonding will be broken. If the Halquist Thinstone is inadvertently moved after initial set has begun, it should be removed, mortar scraped off the back of the Halquist Thinstone and scratch coat, and then reinstalled following the application process.

Grouting the joints should be completed only after there is sufficient cure time of the installation of Halquist Thinstone units, when mild contact will not break the bonding. Grouting may be done with a grout bag, filling joints to the desired depth, ensuring that mortar is forced into all voids. Grout should be "thumbprint" hard" before any raking is done. This curing time before the grout is ready will vary significantly with temperature and humidity. Use a wooden raking stick, or pointed tool to rake the joints to the desired depth. Extra precaution should be taken while raking so the surface of the Halquist Thinstone is not damaged. Clean off remaining grout debris on the Halquist Thinstone surface with a dry, soft-bristled brush.

To prevent mortar smearing, DO NOT use a wet brush to treat uncured mortar joints.

## TIGHT FITTED THINSTONE VENEER APPLICATION

The back of Halquist Thinstone and the scratch coat should be moistened with the surfaces appearing damp but without free standing water.

The back of each Halquist Thinstone should be entirely buttered with mortar to a nominal thickness of 1/2". It is important to cover the entire back of the Thinstone veneer, not just the perimeter. Buttered Thinstone veneer should be firmly worked onto the scratch coat and slid slightly back and forth to set the Halquist Thinstone. With the proper mortar mix, moisture content and scratch coat preparation, the installer will feel the mortar start to grab within a few seconds of the setting movement process. At this point, no further movement of Halquist Thinstone should be made as bonding will be broken. If the Halquist Thinstone is inadvertently moved after initial set has begun, it should be removed, mortar scraped off the back of the Halquist Thinstone and scratch coat, and then reinstalled following the application process.

Tight fitted Halquist Thinstone should be applied from the corners toward the middle of a wall, and from the bottom toward the top of the wall.

## Cold Weather Application

Applications should be protected from temperatures below 40 degrees F (4 degrees C). The use of anti-freeze admixtures to lower the freezing point of the mortar is not recommended. Accelerating admixtures shall comply with C 1384; accelerating admixtures containing calcium chloride are not recommended. Halquist Thinstone pieces containing visible frozen moisture shall not be installed. The installation area should be sheltered and heated to keep the temperature above 40 degrees F (4 degrees C).

## Hot Weather Application

If the environmental conditions during installation exceed 90 degrees F (32 degrees C) additional water may be needed on the scratch coated surface and the backs of the Halquist Thinstone being applied. Providing shade and/or frequent misting of the wall may be required. Consult with mortar manufacturer to determine if mortar mix hot weather mix options are available. Local building code hot weather methods should be followed.

## Caution

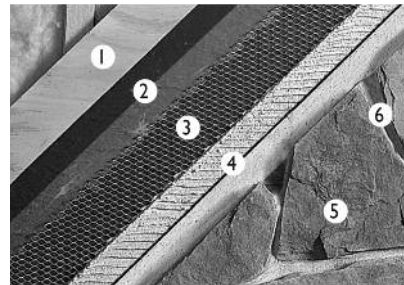
The following precautions should be taken to ensure a successful and durable Halquist Thinstone veneer installation.

- Do not subject Halquist Thinstone to direct water contact. For example, avoid allowing sprinklers to directly spray onto the surface. Also, downspouts or drainage pipes should be placed so that water is not constantly saturating Halquist Thinstone veneer.
- Do not subject Halquist Thinstone to contact with de-icing materials, salt, or other harsh chemicals. Prolonged exposure to these conditions may discolor Halquist Thinstone or may damage the surface.

## DETERMINING THE CORRECT SURFACE PREPARATION:

### **SURFACE TYPE: Framed exterior wall including plywood paneling, wall sheathing, or flush metal siding**

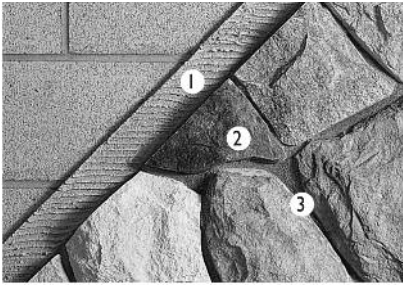
**SURFACE PREPARATION:** Cover surface with two layers of weather resistant barrier such as tar paper, be sure to lap joints 4-inches in a shingle fashion. In accordance with local building codes, install metal lath on top of the weather resistant barrier using galvanized nails or screws 6-inches on center vertically and 16-inches on center horizontally, penetrating the studs a minimum of 1-inch. Stop the metal lath 1-inch from the finished edges. Be sure to wrap all corners overlapping the metal lath at least 4-inches.



**PLYWOOD PANELING, WALL SHEATHING, OR FLUSH METAL SIDING**  
In sequence:  
(1) sheathing  
(2) two layers of water-resistant barrier  
(3) galvanized metal lath  
(4) mortar, scratch coat, setting bed  
(5) Halquist Thinstone  
(6) Mortar Joint

**SURFACE TYPE: Interior or Exterior Cleaned and Untreated Concrete Masonry or Stucco**

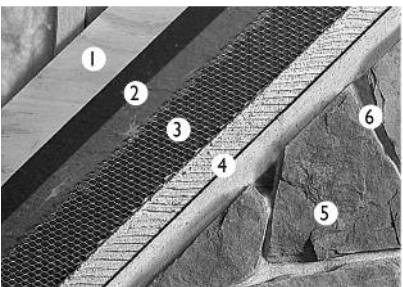
**SURFACE PREPARATION:** Be sure to inspect new concrete to insure there is no release agents (form oil) on the surface. If release agents are identified, etch the surface of the concrete with muriatic acid and rinse thoroughly and/or score with a wire brush. Surfaces that have been painted must be sand blasted or otherwise stripped of paint. To clean concrete, masonry or stucco, sand blast or water blast surface and remove any sand blasting dust by washing the surface thoroughly. If it is difficult to remove paint you may securely attach metal lath on the surface with concrete nails.



**UNTREATED CONCRETE, MASONRY OR STUCCO**  
In sequence:  
(1) Mortar applied directly to untreated, unpainted masonry, concrete or stucco  
(2) Halquist Thinstone  
(3) Mortar joint

**SURFACE TYPE: Framed Interior Wall including Plywood, Sheetrock, Green Sheetrock or Fiber Cement Board**

**SURFACE PREPARATION:** Cover surface with a weather resistant barrier such as tar paper, be sure to lap joints 4-inches in a shingle fashion. In accordance with local building codes, install metal lath on top of the weather resistant barrier using galvanized nails or screws 6-inches on center vertically and 16-inches on center horizontally, penetrating the studs a minimum of 1-inch. Stop the metal lath 1-inch from the finished edges. Be sure to wrap all corners overlapping the metal lath at least 4-inches. (It is not necessary to use expanded metal lath on fiber cement board unless required by local building codes.) *Make sure to tape all joints of Fiber Cement Board (when metal lath is not used).*



**PLYWOOD, SHEETROCK, GREEN SHEETROCK OR FIBER CEMENT BOARD**  
In sequence:  
(1) sheathing  
(2) two layers of water-resistant barrier  
(3) galvanized metal lath  
(4) mortar, scratch coat, setting bed  
(5) Halquist Thinstone  
(6) Mortar Joint

**SCRATCH COAT, MORTAR AND GROUT:**

Dry mix the sand and the cement together to avoid creating clumps in the mixture. Add water slowly to the mixture a little at a time, continually mixing until you have achieved the consistency of a paste or whipped potatoes. Mix a minimum of 5 minutes.

**MIXING AND APPLYING THE SCRATCH COAT:**

**Scratch Coat:** 1 part Type S masonry cement to 2 1/2 parts Sand  
If a scratch coat is necessary, use a masonry trowel to apply a 1/2" to 3/4" layer of cement over your metal lath. Cover the entire area of the lath, working the cement into the holes and scraping off any excess. Use a notched trowel to lightly rake horizontal grooves in the scratch coat while the cement is still slightly wet and allow to dry 24 hours.

**MIXING MORTAR AND APPLYING THE STONE:**

**Mortar with a bonding agent:**

**Option1:** 3 parts Type-S masonry cement to 7 parts masonry sand with bonding agent (according to manufacturer's directions) and add water slowly. **Halquist Stone highly recommends adding acrylic bonding agent to Type-S mortar because it enhances the flexural, adhesion, compressive, and tensile strength qualities.** It should be noted that extra care should be taken when using a bonding agent as mortar dropping that contain a bonding agent can sometimes be difficult to remove once they cure.

**Option2:** 3 parts Portland Cement to 2 parts latex thinstone mortar (according to manufacturer's directions) with 7 parts masonry sand and add water slowly.

**Mortar without a bonding agent:**

**Option 1:** 3 parts Type-S masonry cement with 5 to 7 parts masonry sand and add water slowly.

**Option 2:** 2 parts Portland Cement with 1 part Lime and 5 to 7 parts Masonry Sand and add water slowly.

Mortars mixed with higher amounts of sand will tend to be less workable. Mortar mixed with higher amounts of cement will provide a greater bond strength but may be prone to increased dry-shrinkage cracking. Type N mortars are generally easier to grout with than Type S. For the scratch coat, installation of Halquist Thinstone, and grouting, Type N or Type S mortar meeting the above requirements are acceptable.

Before applying the stone, it is a good idea to lay the stone out flat to determine the sizing and colors of each individual piece, how they will be laid out for your project and if any trimming is necessary.

If cutting the stone is necessary, a skillsaw with either a dry or wet cut diamond or masonry (carborundum) blade will work. You may also want to use a masonry hammer to break the stone, giving it a more natural appearance. A nipper can be used to trim small amounts off the stone. Be certain that the surface of the stone is free of dust, dirt or any loose particles. If necessary, wash the stone completely and allow to dry. Use a masonry brush to dampen the back of the stone, but do not saturate it. This prevents the stone from pulling moisture away from the mortar allowing it to dry naturally and with a stronger bond. To lay the stone, use a masonry trowel to butter the back of the stone with 1/2" to 1" layer of mortar. Using your trowel, create a ridge around the outside back of the stone, this will create suction when putting the stone in place which will help to hold the stone until the mortar sets up. Lay the stone against the wall, pressing and rotating slightly, forcing some of the mortar to squeeze out freely. When laying stone, attempt to keep joints a consistent height and width. Normally vertical and horizontal joints should be staggered to prevent long unbroken lines that may draw the eye to a particular area. Halquist Stone recommends installing all corner pieces first, alternating short and long lengths as they are stacked.

Stone over 5" in height should be scored on the back with a saw to provide additional structure for adhesion. Shims may be used during setting. Remove before grouting.

#### **APPLYING THE GROUT:**

**Grout:** 1 part Type S Masonry Cement to 2 parts Sand Use a grout bag or trowel to fill all joints. If using a grout bag, cut a hole approximately 1/2" in the tip of the bag. Fill your grout bag about half full with your grout mixture. Twist the top end of the bag and squirt a small amount into a bucket to prevent air pockets. Fill all the joints between the stones with about a 1/2" layer of mortar, more or less depending on the desired effect. As the grout stiffens, tool to the desired depth. Brush the joints with a whisk broom to smooth them out and clean away any loose mortar. Grout is ready for finishing when it crumbles away like sand when brushed. If the grout smears or falls away in large chunks, it is still too wet for brushing or striking. Finally, after the grout dries, use a soft bristled brush to sweep the dust off the stone. Refer to Tips & Tools for information on cleaning the stone in case mortar or grout gets on the surface of the stone.

#### **GENERAL INFORMATION**

##### **CLEANING**

Dirt, etc., may be removed by using a strong solution of granulated soap or detergent and water with a bristle brush. Do not use a wire brush as it will cause damage to the surface. Rinse immediately with fresh water. For help with serious cleaning problems, contact your local dealer. Do not attempt to clean using acid or acid-containing products, power-washing, sandblasting or wire-brush cleaning. *Halquist Stone recommends you test the cleaning in a small hidden area before cleaning the entire project.*

##### **SALT AND DE-ICING CHEMICALS**

Because all concrete and masonry are vulnerable to damage by salt, Halquist Thinstone veneer is susceptible to damage from salt or other chemicals used to remove snow or ice. Do not use de-icing chemicals on areas immediately adjacent to a Halquist Thinstone veneer application.

##### **SCUFFING**

Scuffing occurs on all natural stone. Occasionally some scuffing will occur on the surface of Halquist Thinstone Veneer. This can enhance the natural appearance of your Thinstone veneer installation. Some scuff marks can be removed by cleaning as described above.

##### **EFFLORESCENCE**

Efflorescence is a water-soluble salt that is deposited on the surface of stucco, concrete, brick and other masonry products by the evaporation of water from the wall. On rare occasions efflorescence will occur on Halquist Thinstone veneer. To remove efflorescence, allow the stone to dry thoroughly, then scrub vigorously with a stiff bristle brush and clean water. Rinse thoroughly - do not use a wire brush. For more difficult efflorescence problems, scrub thoroughly with a solution of 1 part white household vinegar to 5 parts water. Rinse thoroughly. For unusually difficult cleaning problems, contact your local Halquist Stone dealer.

#### **SEALERS**

Sealers are not necessary on Halquist Thinstone veneer. However, some customers use sealers to help prevent staining in applications prone to smoke, soot, dirt or water splashing. If you choose to use a sealer, make sure it is a silane-based, breathable sealer. Take note that sealers may darken the color of the stone. A sealer may also slow the natural movement of moisture out of the stone and increase the possibility of efflorescence and/or spalling. For information regarding actual performance or application of sealers, contact the manufacturer of the sealer directly.

#### **USE OF HALQUIST THINSTONE VENEER BELOW WATER LEVELS**

The use of Halquist Thinstone veneer below water level, in which the water is chlorinated, treated with chemicals or dirty will likely cause discoloration as it would on any concrete, natural stone or other materials. Pool chemicals which contain acid, such as muriatic acid, may cause damage to Halquist Thinstone veneer. Halquist Thinstone veneer, concrete and many natural stone materials are subject to potential damage from adverse freeze thaw conditions. For that reason, water should be drained below susceptible materials prior to freezing temperatures. Pressure and abrasion from constant fast flowing water may cause some surface deterioration as it would on natural materials. The surfaces may be affected by exposure to extensive salt-water conditions. Halquist Thinstone veneer should not be considered a waterproof material.

#### **INCORPORATE GOOD BUILDING PRACTICES AND BUILDING CODE REQUIREMENTS**

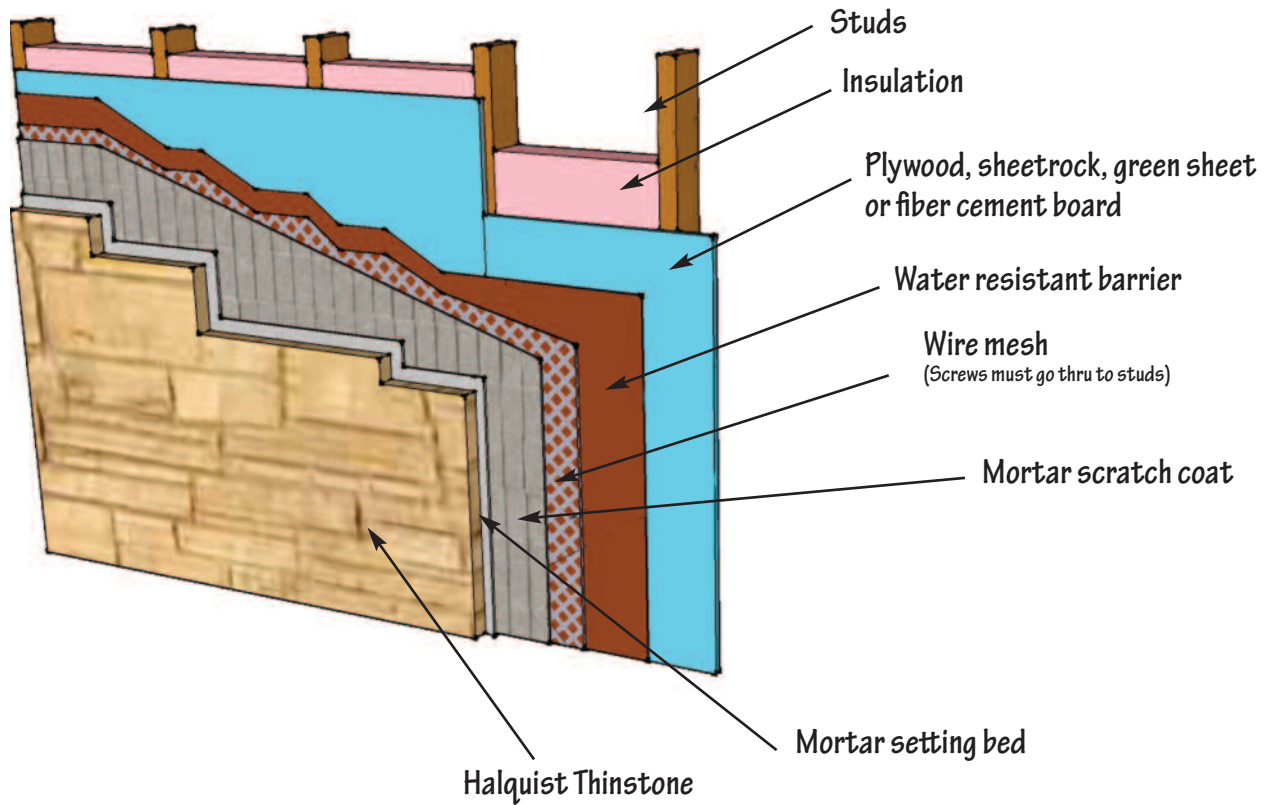
Building code requirements vary from area to area. Check with local authorities for building code requirements in your area. Carefully read all Installation Instructions before proceeding with your Halquist Thinstone veneer application.

#### **EXTERIOR APPLICATIONS**

Make sure that the application of Halquist Thinstone veneer and the structure they are being applied to incorporate good building practices. Rigid, corrosion-resistant flashing shall be installed at all wall penetrations. Flashing type and locations shall be in accordance with the requirements of the applicable building code. On exterior applications, the incorrect installation or absence of flashing, cant strips, gutters and downspouts may result in diversion of water run-off onto finished surface areas. Masonry and other building products subjected to these conditions may develop staining and, when combined with severe freeze-thaw conditions, may eventually cause damage. The application of Halquist Thinstone veneer under these conditions are not recommended.

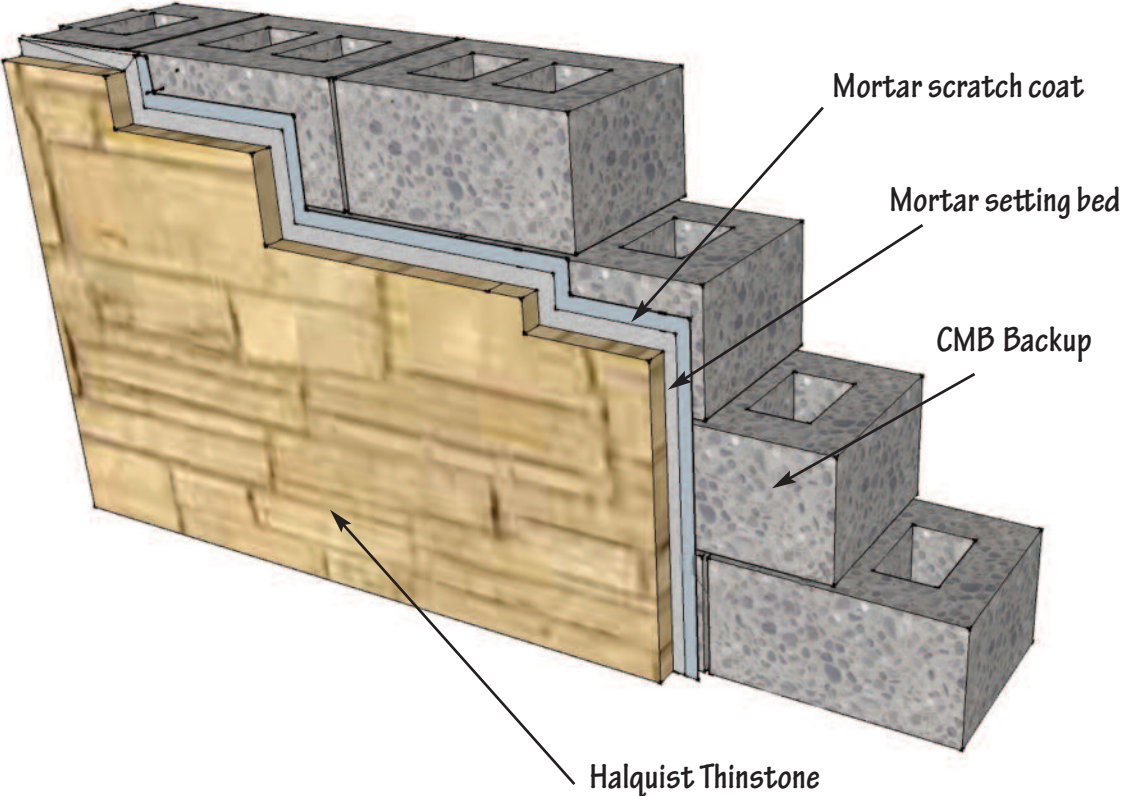
# Framed Exterior Wall

*Includes Plywood, Sheetrock, Green Sheetrock*



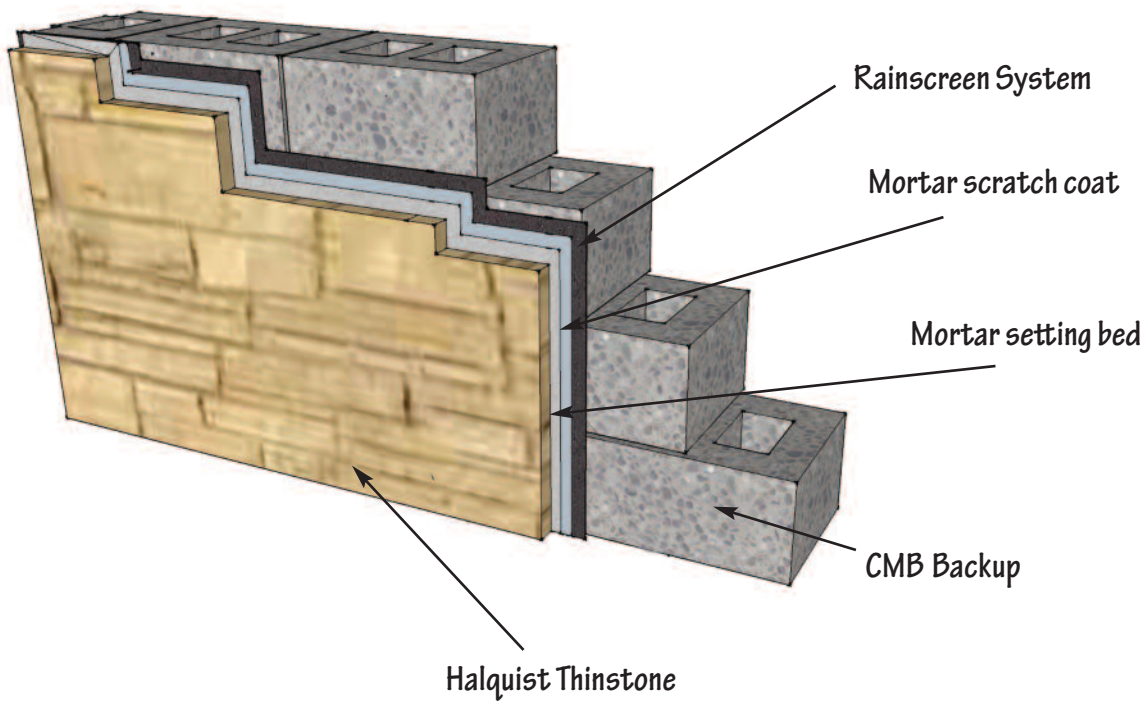
# Interior Or Exterior Concrete

*Includes Cleaned and Untreated Masonry*



# Rainscreen System

*Shown: Masonry or Stucco Wall System*



## RAINSCREEN STATEMENT

Some building codes require a rainscreen behind cladding materials, including natural stone veneer. If you are installing natural stone veneer in one of these jurisdictions, or are concerned about extreme weather conditions, it is recommended that you choose a rainscreen system that can achieve the following:

- The system should create a space with a minimum depth of 3/16" (10mm) and maximum depth of 3/4" (19mm).
- The materials should be corrosion and rot resistant.
- Unless otherwise designed to manage moisture vapor, the system should be vapor open.
- If rainscreen space is created with a material other than solid strapping/ furring attached directly to framing, the following must be considered. Lath fasteners must be capable of supporting the weight of the finished wall cladding system considering the unsupported/cantilevered portion of fastener that is equal to the thickness of the rainscreen materials.

## OVERHEAD APPLICATION

Overhead, horizontal or sloped applications are not included in our building code evaluation reports or acceptances. These applications often require special approval/inspections by local building code inspectors. Contact your architect or engineer for assistance designing these installations.

## INSTALLATION OVER THICK FOAM

Installation over foam board thicker than 1/2" may require special fasteners. Consult your architect or engineer for assistance designing a thick foam installation.

## CAPPING OFF THE EXPOSED TOP OF EXTERIOR WALLS

To achieve a finished architectural look on horizontal or sloping top areas of exterior walls, piers, retaining walls or other surfaces, Halquist Capstones must be used to provide adequate run-off protection to the wall areas. Caps should extend approximately 1"-2" beyond the finished stone surface. Halquist Thinstone corner pieces or flat pieces should not be used to cap walls.

## RETAINING WALLS

All retaining walls must be waterproofed at the fill side. Wall construction should incorporate proper use of granular backfill and provisions for good drainage. A continuous longitudinal drain along the back of the wall set in drain rock is recommended. Thinstone is not designed to have moisture penetrating from the back.

## Chimney Cap

All chimney chases must be capped with a one-piece cap that extends 1" to 2" beyond the finished stone surface to prevent water from entering the wall system. Chimney or chase construction should incorporate proper flashing.

