

## STONE INSTALLED WITH A GROUT JOINT

### 1. Job/Environmental Conditions

#### 1.1 Summer Installation

It may be required to mist or spray the dry scratch coat with water. This will prevent the scratch coat from absorbing too much water from the mortar. Not enough water in the mortar will result in a weak bond.

#### 1.2 Winter Installation

When the air temperature is below freezing, the work area must be sheltered and heated. Maintain material and ambient temperature in the work area above 40°F (4°C) prior to, during and after the completion of work for a minimum of 48 hours. The mortar must not freeze. Freezing of the mortar will cause the bond to break and the stone may fall off later.

### 2. Substrate/Surface Preparation

#### 2.1 Wood Frame Construction

Boulder Creek Stone is designed to be applied over wall surfaces of interior plaster, interior drywall, plywood any exterior sheeting or stucco. In all cases, a metal lath and scratch coat must be installed prior to the installation of stone. A scratch coat of mortar is applied into and over the lath. Lath fasteners require 1" penetration into framing members. Exterior applications will require a weather resistant barrier; consult your local building codes.

#### 2.2 Masonry Construction

Boulder Creek Stone may be directly applied to a masonry surface: poured walls, tilt-up panels, or CMU walls, provided a bondable surface is assured. All dirt, debris, sealers, paints and or form oils must be removed if present. Cleaning by power washing, sand blasting, acid washing, or combination of these methods may be necessary to achieve a bondable surface. Light wetting of the surface, bonding agents, and or a wet cement dash bond coat may help achieve the 50 lb per sq. in. shear bond, as required by AC 51 standards. Weather resistant barriers, while not required on masonry walls, should sufficiently lap over the transition joints. The option of attaching lath and scratch coat to the masonry surface may be preferred in some cases.

#### 2.3 Metal Stud Construction

Boulder Creek Stone may be applied to metal stud construction, which is a minimum of Number 18 gauge galvanized metal. Metal studs shall be covered with sheeting material for interior or exterior application as needed. Metal lath shall be secured to the studs

spaced a maximum of 16" on center with corrosion resistant Number 8 self-tapping metal screws spaced 6" on center. The screws are to penetrate into the metal a minimum of 1/2". A scratch coat of mortar is applied into and over the lath. Exterior applications will require a weather resistant barrier; consult your local building codes.

### 2.4 Sheet Metal Construction

Boulder Creek Stone may be applied to a No. 18 gauge galvanized sheet metal wall surface. Metal lath shall be secured to the studs spaced a maximum of 16" on center with corrosion resistant Number 8 self-tapping metals screws spaced 6" on center. A scratch coat of mortar is applied into and over the lath. Exterior applications will require a weather resistant barrier; consult your local building codes.

## 3. Material Specifications

### 3.1 Lath

Galvanized, corrosion resistant 2.5 lb or 3.4 lb per square yard metal lath

### 3.2 Weather Resistant Barrier

Two layers – Grade D Kraft Waterproofing building Paper as described UBC standard No. 14-1  
OR

Two layers of No. 15 asphalt felt type 1 complying with ASTM D 226

### 3.3 Lath Fasteners

Use 1 3/4" galvanized roofing nails or staples

Use corrosion resistant, Number 8 self tapping screws

### 3.4 Sand

Use clean, washed sand. (Masonry sand)

### 3.5 Scratch Coat and mortar for laying stone

Mix    1 part cement (Type I Portland)  
       2 parts sand

An alternative to mixture listed above is to use a pre-mixed mortar that meets the AC51 requirements for shear bond testing. An example is Spec Mix Stone Veneer Base Coat #8540 or equivalent. Bonding agent recommended. Be careful here as most pre-mix mortars have too much sand and do not meet AC51 shear bond requirements.

The correct consistency of mortar mix should have the consistency of oatmeal and can be tested by scooping a small amount onto a trowel and holding it almost vertically.

### 3.6 Grout

Mix 1 part cement (Type N, Masons)  
2 parts sand

### 3.7 Storage and Handling

Store units off the ground on materials that will not stain the stone. If long term storage is necessary, cover with polyethylene or other non-staining waterproof material.

## 4. INSTALLATION INSTRUCTIONS

A quality installation is a determinant factor on the final appearance of the stone. Therefore, it is important to exercise care not to get mortar on the face of the stone during installation. Keep hands clean. Clean any mortar off the face of the stone at once. NEVER USE ACID on the face of the stone. When installing the stone on an exterior surface, check with local building codes regarding manufactured stone veneers in regards to grade levels. Building codes vary from area to area. The absence of proper waterproofing, flashing, kick-out tins or cant straps, may result in water infiltration and can cause damage in later years.

### 4.1 Weather Resistant Barrier

Two layers of Grade D paper shall be applied horizontally over an exterior sheeting surface before applying the lath. The paper shall be overlapped by 2" on horizontal joints and 6" on the vertical joints.

### 4.2 Lath

Cover the entire surface with 2.5 lb or 3.4 lb galvanized metal lath. The sheets are installed horizontally across the wall. Overlap the sheets by 2" on the horizontal joints and 6" on the vertical joints. The sheets should end on a stud. The wire diamonds in the lath form pockets and these pockets must be turned up to catch and hold the mortar. To check this, run your hands down the lath from top to bottom. It will feel fairly smooth running down and rough going up.

It is very important that the lath, at outside and inside corners, be creased and run well beyond the corner so that the vertical seams are at least 16" away from any corner. NEVER have a vertical seam on a corner. The vertical seams of the lath must also be overlapped just like the horizontal seams are overlapped. The lath must be nailed on both sides of the corner stud, every 6" in the vertical direction. Connect the lath using appropriate fasteners making sure they go through the wall surface and into the stud at least 1". Fasteners should be every 6" vertically down each stud. The lath must be kept flat against the wall, no sags or bulges. A hammer stapler using 1/2" staples can be used to tighten the lath between studs. Staples should

not penetrate the back side of the sheeting.

If applying to masonry, use appropriate masonry fasteners.

#### 4.3 Scratch Coat

Using a trowel, apply an even layer of mortar into and over the wire lath obtaining complete coverage. Work the mortar into the holes in the lath and scrape off the excess making certain to not re-expose the wire lath.

While the mortar is still slightly wet, use a soft bristled brush to rough up the scratch coat. Virtually no mortar should be removed within the brushing process.

#### 4.4 Laying Out Courses

After the scratch coat has cured, snap chalk lines or level lines to insure that the stone courses remain level. Lay stones starting at the top and working downward.

#### 4.5 Back Buttering the Stone

Using a trowel, apply  $\frac{3}{8}$ " to  $\frac{1}{2}$ " of mortar to the back of the stone. Make sure the entire back of the stone is covered.

#### 4.6 Setting the Stone

Work the stone in by moving the stone piece back and forth to create suction that will hold the stone in a permanent position. Once set, further movement or bumping the stone may break the bond. Sufficient mortar should be used on the back of the stone to create a slight excess that will be forced out at the edges of the stone. Remove this excess before installing the adjacent stone.

#### 4.7 Expansion Joints

Provide expansion joints in the stone to coincide with expansion joints in the mating surface or as required by architect or engineer specifications.

#### 4.8 Grouting

The stone may be grouted on the same day that it is laid. If grouting is to be delayed to the following day, make sure that all joints are left clean of excess mortar and that the surface of the stone is free of any splashed mortar.

Use a grout bag for grouting.

When grout joints become firm, they should be raked with a wood stick or a non-metallic jointing tool. Use a masonry brush to sweep off any excess grout.

#### 4.9 Cleaning and Protection

Make sure that the stone is cleaned of any excess mortar at once. Do not let the mortar set. A damp rag or sponge is used to clean mortar off the face of the stone. Never use acid on the face of the stone. A masonry brush is used to clean dust and sand particles from the stone and the grout joints. To prevent mud from splashing onto the stone during rainfall, put down hay or straw.