

## Installation Guide

For additional detailed information please see the RealStone System Architectural Specification document at [www.realstonesystems.com](http://www.realstonesystems.com)

### Jointless or Dry-Stacked Installation

The Realstone System is a jointless / dry-stacked installation that fits the panels and corners tightly together without grouted joints.

#### 1. Estimating Stone Quantities Needed

Panels (flats) and Corners are used for all installations. Panels are applied to the flat wall surface and are ordered per piece. Each piece is one square foot (6" x 24"). Corners are applied to outside corners and are also ordered in square feet. Each corner comes in "two pieces". Piece one is 6" x 8". Piece two is 6" x 16". The two pieces, combined equal one square foot.

- I. Determine the total project square footage by multiplying the length by the height of each surface area to be covered and then deducting the area of all openings such as doors and windows.
- II. Determine the lineal footage of corner stones needed for the project by measuring the lineal feet of outside corner areas to be covered including any doorways, indents, notches, etc that will require corners.
- III. Determine the square footage of corners required for the project by multiplying the lineal footage of corner stones by two. (One lineal foot of corners equals two square feet of RSS corner panels).
- IV. Subtract the corner square footage from the total project square footage (point 1). This will give you the square footage of panels (flats) required. However, some extra quantities of flats is desirable for best fitting and for cutting and trimming

#### 2. Preparation of Surface

**a. Clean:**

Always make sure that the surface that RSS will be applied to is clean.

**b. Weather Resistant Barrier: (where required)**

All exterior surfaces require a water/weather resistant barrier before installing RSS panels. This barrier must meet local building codes, UBC Standard Code 141 regarding waterproof building paper or asphalt saturated building felt. Rigid noncorrosive flashing is required for exterior wall use.

**c. Lath or Wire Mesh: (where required)**

Install a 2.5 lbs diamond mesh expanded metal lath or an 18 gauge woven wire mesh: Exterior applications will require a galvanized metal lath,

however a non-galvanized black metal lath may be used for interior applications. Overlap lath sides by not less than 3/8 in. and lath ends by not less than 1 in. Attach the lath using galvanized nails or staples 6 in. on center and 16 in. horizontally, penetrating studs to a minimum of 1 in. Continuously wrap metal lath a minimum of 16 in. around all outside and inside corners

**d. Scratch Coat:**

Apply a 1/2 in. thick scratch coat of mortar over the metal lath and allow it to set.

**e. RSS Panel:**

Always make sure that the back of each RSS panel is clean and free from stone dust. This can easily be done by wiping the back of the panel with a damp rag. Cutting RSS panels will create dust and should be worked on outside. Clean the back of all panels after cutting them. Only cut RSS Panels with a wet saw.

Note: Type S mortar (see Architecture Specification document for additional information) is used for to create a thin scratch coat. For additional bonding use a manufacturer recommended additive. Follow the bonding agent instruction and be careful using bonding agents because they can sometimes be difficult to remove once they cure. It is recommended that the scratch coat dry for at least 24 hours. Certain weather conditions may require that the scratch coat is moistened prior to the installation of the RSS panels.

**3. Installation of RSS Panels:**

- a. **Always follow and check your local Building Code requirements.** RealStone should only be applied to structurally sound surfaces incorporating good building practices. 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
- b. **Install the corner pieces first.** Start from the bottom and work up. The corner pieces come in 8" and 16" lengths. You should alternate these in opposite directions on the corner. It is also recommended to lay out the RSS Panels to make sure that the pattern will meet your needs.
- c. **Using a mason's trowel,** cover the back of all panels with a 1/2" thick even layer of mortar.
- d. **The stone needs to be pressed firmly** against the scratch coated wall to ensure a sound bond. 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.
- e. **Wetting the stone and Substrate..** under certain conditions, the stone and substrate may need to be wetted. If the stone is being installed onto a very

hot /dry surface or in a hot/dry climate, the stone and wall surface should be wet to prevent excessive absorption of moisture from the mortar. This can be done by spraying water on the wall surface and back of stone.

- f. **Lay the panels in an offset fashion.** I.e. different lengths of panels and staggered joints as this will reduce the appearance of the vertical joints. Avoid laying the panels in a ‘stretcher bond/brick’ fashion, as this will emphasize the vertical joints of the panels.
- g. **For Cold Weather situations,** applications should be protected from temperatures below freezing, so the mortar may set up properly as recommended in section “2101.3 Cold-weather construction” of the International Building Code.
- h. **Cleaning:** After 36 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. **DO NOT USE ANY TYPE OF ACID.**

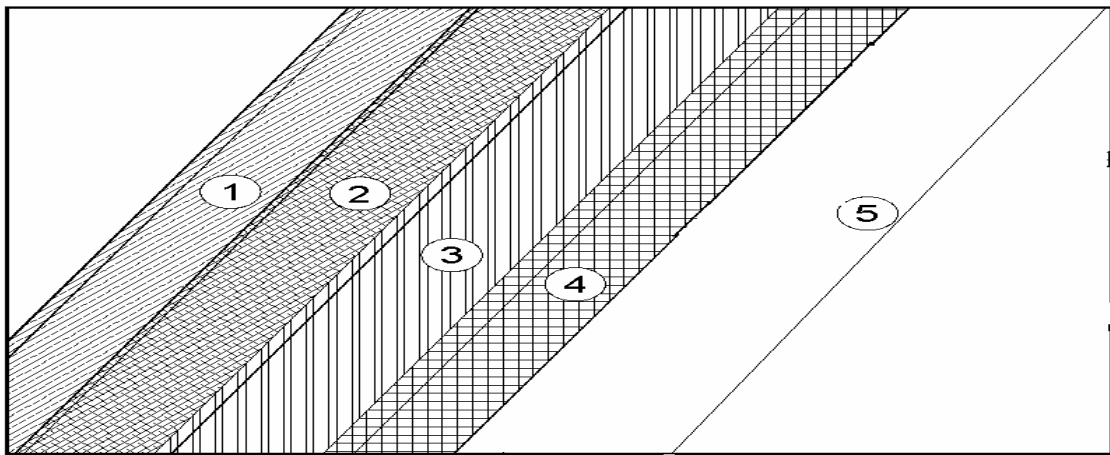
#### **4. Completion**

- a. Stone is a natural product that “breaths”. It does absorb oil, water and other substances that are in contact with the stone. Sealing is not necessary but may be desirable for attaining deeper and enhanced colors. Sealants are recommended for interior use where water, oil, food stuffs may be in contact with the stone.
- b. The sealer should be tested on small loose “trial” pieces prior to a large area application.

**Exterior Framed Back up Wall** (Includes wood stud and steel stud framing) – See Figure 1 below

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, and rigid composite board and flush metal siding. Cover sheathing with weather resistant vapor barrier.

Figure 1



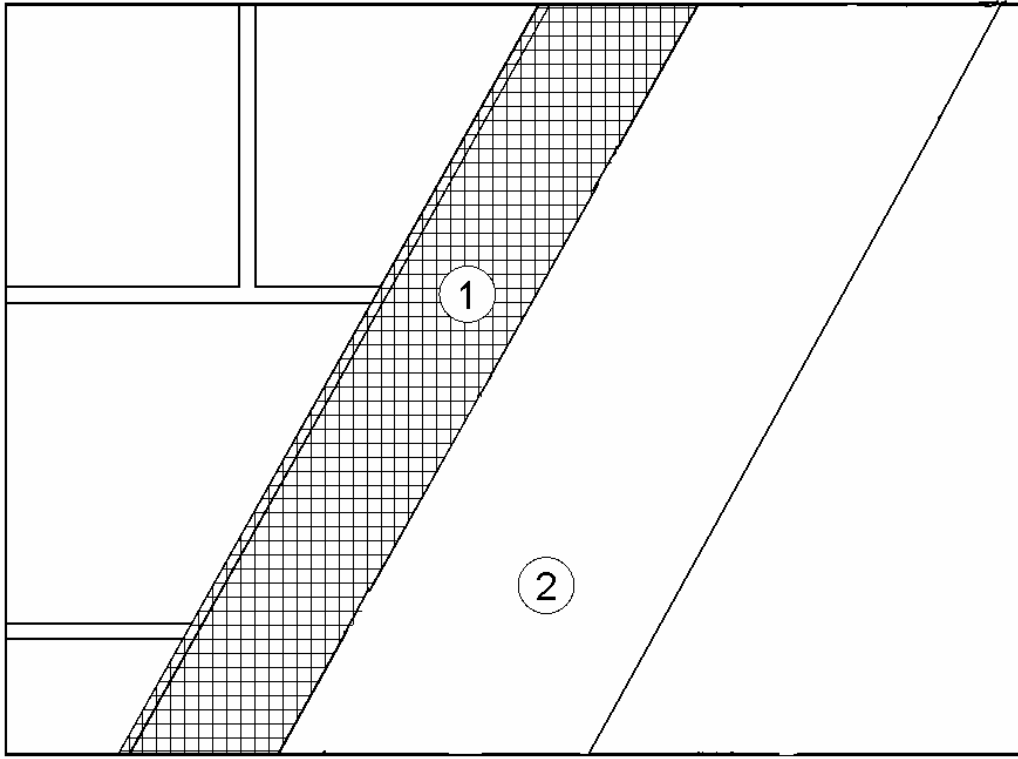
1. Sheathing 2. Weather resistive barrier 3. Galvanized metal lath 4. Mortar 5. Realstone

**New Concrete Masonry Wall** (Includes new concrete block or newly poured concrete wall.) See Figure 2 below

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 RSS material can be installed directly to the concrete wall

Figure 2

**MASONRY OR CONCRETE:**



- 1. Mortar applied directly to untreated masonry, concrete or block**
- 2. RealStone panels**

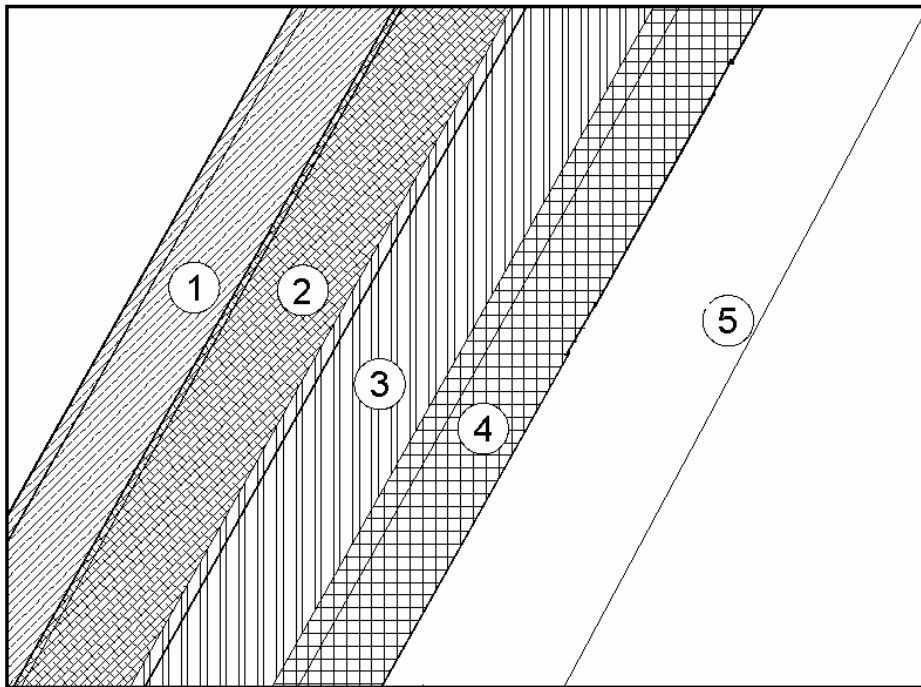
**Existing Concrete Masonry Wall** (Includes sealed/painted concrete or brick work.) See Figure 2 above

Sandblast the surface to remove any paint or sealer. Rinse thoroughly. Once the surface has dried, RSS 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.

### **Rigid Insulation See Figure 3 below**

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" thick scratch coat.

Figure 3



- 1. Rigid insulation board**
- 2. Weather resistive barrier**
- 3. Galvanized metal lath**
- 4. Mortar**
- 5. RealStone**