

Surface Shop

STONE PANELS

Installation Guide for Stone Panels



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Surface Shop is a manufacturer and supplier of premium natural stone products for residential and commercial world markets. Established in 2006, The Surface Shop has forged its name by maintaining the highest standards in the industry for quality control, product design, and customer service. We're as passionate about your project as you are.

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Introduction to STONE PANELS

Stone Panels are distributed by The Surface Shop Inc., of the United States. For more information not contained in this document, contact your local Surface Shop distributor for assistance. STONE PANELS are designed to offer a large scale linear looking natural stone veneer option, open to being set in a variety of patterns. Stone Panels adhere to the following physical properties

STONE CLASSIFICATION: Limestone, Basalt, Quartz, or Lavastone

COLOR: Ochre, Charcoal, White Quartz, Ivory Quartz, Aztec,

SIZE: Each STONE PANEL is 6" Tall x 24" Long.

WEIGHT: approx 12.5 lbs per sq ft, or 30 lbs per set.

PACKAGING: Box Quantities range from 4 Panels/Box to 7 Panels/Box. Consult a Surface Shop Pro to confirm the exact packaging of your Stone Panels.

Estimating Stone Required

Determine the amount of the STONE PANELS to be ordered by measuring the area to be covered. Measure the length times the height to determine the square footage required. Subtract the square footage for window and door openings. Always allow a minimum of 10% for error and wastage when ordering.

Professional Installation Recommended

STONE PANELS can be installed by most home handyman with a limited knowledge of building and construction; however we strongly recommend they be installed by professional licensed tradesmen.

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Tools and Material Needed

[1] For cutting and modifying STONE PANELS, a quality tile **wet saw with a continuous rim diamond blade** is required and should **tilt** if miter cuts are necessary; these are usually available for hire on a daily basis from large equipment hire firms in your area. **[2]** An angle grinder may be used for around small protrusions in the wall such as pipes, steelwork etc. **[3]** Steel trowel, **[4]** 1/2" (half-inch) notched trowel, **[5]** large sponge, and **[6]** recommended tile thinset adhesive, meeting or exceeding ANSI 118.4 & 118.11 standards.

Optional materials that **may be required**, depending on the substrate and application include:

Metal Lath

Thick Bed Mortar
Waterproofing Membrane
Grout and Grout Spacers
Natural Stone Sealer

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Preparing Your Substrate for Installation

It is mandatory that local building codes be followed in the installation of STONE PANELS. Please consult your building authority with any specific questions relating to the local building codes.

Stone Panels weigh approximately 12.5 lbs per sq ft; therefore it is critical that they are fixed to an appropriate substrate to ensure a successful installation. Stone Panels may be applied over any masonry surface, concrete block, brick, cement, etc. Painted surfaces must be sandblasted, or otherwise stripped of paint. If a new wall needs to be built of a thinner and lighter substrate, cement board is the correct material to use. **STONE PANELS SHOULD NOT be installed over drywall or sheet rock.**

All walls should be checked for plumb and corrected as necessary to within 1/8" tolerance over 10' and no more than 1/16" tolerance in any 2'.

Installing Over Open Stud Walls

Stone Panels can be installed over open stud walls using either cement board or a combination of wood sheathing, metal lath, and scratch coat. First ensure the wood or steel frame is structurally capable of supporting the weight of the Stone Panels.

If using cement board, it must be a minimum of 1/2" thick to support the weight of the Stone Panels and must be securely fixed to the framework of either wood or steel. We suggest that the board be glued and screwed to the frame. First, cover the entire frame, where contact with the cement board is made, with a good quality mastic type adhesive and then fix the cement board to the frame, screwing at 24 inch centers using screws that are a minimum of 2 inches long. To ensure safety, strength and permanent fixing, this work should only be done by a qualified and licensed builder. If project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the cement board and the setting material.

If using wood sheathing, it must be exterior grade and covered with an exterior sheathing product such as 15 lb builders felt or 4 mil polyethylene. A 3.4# galvanized diamond wire metal lath is then to be affixed to the substrate per manufacturer's recommendations and then covered with a thick bed mortar mix. If project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the scratch coat and the setting material.

Please refer to Appendix A for detailed substrate drawings over open stud walls.

Installing Over Block, Brick, CMU, or Poured Concrete

First ensure that the surface is clean and free of any foreign agents, including paint that may interfere with the bond between stone and substrate. This may require light sandblasting or waterblasting.

**** Special note for pre-fabricated concrete tilt up construction – all release agents must be removed from concrete surfaces prior to STONE PANELS.**

Next, in all installations over brick, or over other concrete substrates with uneven surfaces, a thick bed mortar mix is troweled onto the substrate to even out any inconsistencies in the substrate and provide a mortar base with which to adhere the setting material to. If the project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the mortar bed and the setting material.

Please refer to Appendix A for detailed substrate drawings over concrete substrates.

Installing Over Steel

First ensure that the surface is clean and free of any surface contamination, such as rust, dirt, paint, and manufacturing oils. **Refer to the steel manufacturer's guidelines for adequately removing all manufacturing oils as to not interfere with the bond between Stone Panels and substrate.** If possible, tack weld a wire lath onto the steel in accordance with ANSI A108.0 – 3.3 standards. Once the lath is in place, a thick bed mortar mix is troweled onto the steel to fully cover the lath and form a suitable bonding substrate with which to adhere the setting material to. If the project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the mortar bed and the setting material.

Alternatively, Stone Panels can be adhered directly to a contaminant-free steel substrate using an epoxy based tile adhesive meeting or exceeding ANSI 118.3 standards. This method should only be used when tack welding wire lath and creating a mortar bed on the steel substrate is not feasible. A waterproofing / anti fracture membrane is not required in this method.

Please refer to Appendix A for detailed substrate drawings over steel.

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Installing the Stone Panels

Make certain the back of each tile is free of dirt, sand, or loose particles. When necessary, wash them completely. If the back of the tile is dry, dampen it first with a wet sponge, but do not saturate. This prevents the natural stone from pulling the moisture from the adhesive, allowing it to cure naturally and with a stronger bond.

Select a tile thinset adhesive that meets or exceeds ANSI 118.4 and 118.11 standards, and mix per the manufacturer's instructions. When laying Stone Panels it is necessary to

start the bottom row on a level line in order to maintain consistent levels in each row **as you work up the wall**. Always start installing STONE PANELS at the bottom row, and **start each row at an outside corner** if one exists. It is also important that they rest on a secure base such as a concrete floor or footing to help carry the weight until the thinset has fully set.

Stone Panels can be laid in a variety of patterns to suit the design of the project. Most typical is a **randomized, staggered fashion**, in an effort to minimize any vertical seams lining up from one course to the next. However, the loose nature of this tile product allows for it to be laid in many other patterns including straight stacks, symmetrical / asymmetrical columns, vertically, herringbone, and many others. It's recommend to lay out the pattern in a large area before installing on the wall to ensure the desired look is achieved.

When fixing the tiles to the wall use a generous amount of recommended tile thinset adhesive and apply it to the back of each tile and to the wall. Screed the tile adhesive on to the wall using a 1/2" square notch trowel and then lightly back butter the back of each tile as its being set. By applying the adhesive to the back of each tile and to the wall, this ensures the maximum possible adhesion to your wall surface, as all the gaps, voids and cracks are filled.

Press each tile into the adhesive, rotating slightly, forcing some of the adhesive to squeeze out freely. Any adhesive forced out beyond the finished joint or on the panel surface itself must be removed before the adhesive is allowed to set. Be sure not to allow any adhesive to harden on the face of the panels as this will help in the cleanup process. **Tight joints will provide a neat appearance**, but Stone Panels can also be set using a grout joint between the tiles to achieve a different look.

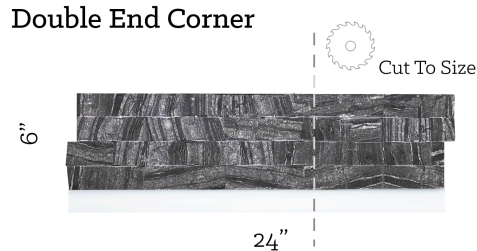
How to Address Corners

Outside 90 degree corners can be handled either by **[1]** using Surface Shop pre-fabricated finger jointed corner units or **[2]** miter-cutting individual flat panels. Corner units provide for a smooth, finished look, and are easier to install, but are appropriate for 90 degree corners only. Miterring provides for a nice clean edge at the corner, however do require a higher level of skill to fabricate on site. Miter-cuts should be used in all off-angle (45°, 60°, etc) corner applications.

Corner Units are installed by forming the corner on site, cutting the returns down to size as necessary, and adhering the stone to the substrate in the same manner as a flat panel.

SPECIAL NOTE:

For the **Pro Panel Line**, our Pre-Fabricated Corners come as a single "Double End Corner panel." These special corners allow the installer to measure and precisely cut their corner panel into two opposing pieces, which are designed to lock back into one another to form the corner.



For the **Standard Series**, **XL Series**, **Slim Line Series**, and **AKSENT™ Series** all come as pre-cut two-part interlocking, corner units stand 6 inches tall, and are comprised of two sides: one approximately **8 inches**, and the other approximately **16 inches**. Special care should be made to **alternate the returns** as the installation progresses up the corner so as to prevent any patterns forming in the wall which may lead to the appearance of vertical seams.

Corner Set



To use a miter cut for an outside corner, select one rock panel and mark the point where the join should be, which is determined by the position of the adjoining panels. Once you have marked where to make your cut, make a straight cut to separate the panel into two pieces; once the panel has been cut into two separate pieces, cut each on a 45 degree miter to form a right angle. **NOT** making a straight cut (or separating the panel) prior to the mitered cut could render the thicker pieces on the opposing panel vulnerable to direct attack from the saw blade, so it is important to designate and separate the panel prior to mitering it.

Special Note on Moisture Rich Environments and Freeze Thaw Climates

Natural stone is an excellent choice of building material for any environment and climate, be it interior or exterior, adjacent or completely submerged in water, desert hot or polar cold. Certain products should be used and procedures followed in some of these environments, as noted below:

Moisture Rich Environments – It is critical that a waterproofing membrane meeting or exceeding ANSI 118.10 standards be applied between the substrate and tile

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adhesive to form a waterproof barrier. This will ensure moisture will not reach the substrate material and potentially degrade its ability to support the tile installation.

Pool Applications – It is especially important to **thoroughly seal** your pool application; note that you may be required to **re-seal** your pool application more frequently than other areas of your project. **We recommend re-sealing your pool application every 18-24 months**, or sooner if you notice your sealer has worn off or any adverse affect to your stone.

Freeze / Thaw Climates – Stone Panels will not be affected at all by the normal freezing and thawing of the climate which they are exposed to, however, the same cannot be said about the substrate to which they are applied. It is critical that a waterproof / anti-fracture membrane meeting or exceeding ANSI 118.10 standards be applied between the substrate and tile adhesive to form a water and fracture proof barrier, capable of resisting substrate movement during freeze thaw cycles.

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Special Note on Control Joints on Exterior Façade Installations

Natural Stone is a stable building material and will not move on its own. All buildings however will move over time, settling in response to applied loads, foundation settlement, traffic vibrations, and changes in temperature and humidity.

In determining if and where movement joints may be needed as part of a stone veneer installation, consideration should be given to where differential movement is expected, for example at the intersection of different materials or at transition points between two different type of wall assemblies. Movement joints should be included as part of the building envelope by the structural engineer, and their location and should be clearly indicated on the building elevations.

Stone veneer installations should not be installed directly over top of existing movement joints. The installation should stop at the movement joint, and restart on the other side of the joint with a backer rod and **color-matched sealant** used to fill the movement joint gap.

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Additional Installation Instructions for Grey & Ebony Basalt AKSENT™ Panels

Please note the following special considerations when working with Grey or Ebony Basalt materials, which should be considered in addition to the installation guides found on our Installation Guide Pages:

Setting Materials

1. Please use only our recommended thinsets for Grey or Ebony Basalts. Those are as follows:

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- Laticrete 254 Platinum – White Color
 - Mapei Ultralite S2 – White Color
 - Custom Versabond – White Color
 - An alternative premium level Polymer Modified Thinset that meets or exceeds ANSI 118.4 and 118.11 standards and is designed for thinset applications only in White Color. Avoid thinsets that are classified for LHT (Large Heavy Tile) or those that can be used for medium bed applications (>1/2" thick setting bed)
2. Note that setting materials should not be "over-watered" – Refer to the manufacturer's instructions for the ratio of water for thinset.

Application & Setting Bed

1. **Before applying** Basalt Veneers to the wall, please **wet the back** of each material with a moist sponge during the installation process (before skim coat).
2. Setting bed must be **no thicker than 3/8"** when finished.
3. Using a 0.5" x 0.5" square notched trowel, start by screeding thinset onto the wall, then combing it down with notched side of trowel.
 - a. Combing the thinset ensures that the starting thickness for setting bed is no greater than 0.25" thick.
4. Finally, Skim Coat a thin amount of adhesive onto the back of the Basalt veneers using the flat back of trowel (do not comb), then apply material to wall.

Basalt is a moisture sensitive stone and can experience natural tonal variation as the setting bed and stone dry out post installation.

Post Installation Guidelines

Cleaning

Work carefully and meticulously, to avoid adhesive dropping onto the tiles during installation. Should some thinset find its way onto the face of a tiles, allow it to dry until it is crumbly, then pick it off carefully, and use a soft bristle brush to lightly clean the spot where the adhesive may have left a slight mark.

Excess dirt and film may be removed using clean water and a soft bristle brush. It is important not to allow excessive adhesive to dry on face of the tiles. Carefully remove it with a damp rag prior to it hardening.

WARNING: Acidic cleaning agents must not be used under any circumstances as this will cause unnecessary damage to natural stone and void any warranty.

Sealing

Natural Stone products must be sealed with a good quality penetrating sealer for all exterior applications. Surface Shop also recommends sealing interior applications of Grey Basalt and Ebony Basalt STRATA to assist in keeping these polished finishes clean and smudge free. Always test the sealer on an off-cut or in an inconspicuous place on the finished stone wall before applying to the entire stone surface.

Follow the manufacturer's instructions regarding the application of the sealer. Sealed stone may be easier to keep clean than unsealed stone and certain sealers also repel stains. However, sealers must be periodically reapplied, especially on exterior applications, and could alter the natural coloring of the stone.

If you've installed Stone Panels in a pool, it will be important to re-seal your application periodically. We recommend every 18-24 months, or whenever you notice that your sealer has worn off. This maintenance will ensure the stone stays stable and in good condition.

Ongoing Maintenance

Though natural stone will last many lifetimes, routine maintenance may be required from time to time. Depending on the application – as with any wall finish - various types of scaling or build-up may occur. Should you experience a need to clean your Stone Panels please adhere to the following recommendations:

1. Regular dusting for interior applications and hose washing for exterior applications is recommended.
2. In the event that cleaning agents are needed, please select a natural detergent that is non-corrosive and non-acidic to remove build-up in problem areas. Test your detergent in an inconspicuous place to verify compatibility and results.
3. In some cases, a low grade pressure wash may be used. However, the stone should never be exposed to a direct angle of attack from the nozzle. Note that up-close attack from a pressure washer may corrode the stone, so please stand a minimum of 5 feet away when pressure washing.

WARNING

Please DO NOT:

1. Acid wash the stone.
2. High-Pressure Wash the stone (directly or indirectly).
3. Use any sharp object, such as a steel scraper, knife, or screwdriver, to remove stubborn deposits from the face of the stone. This can result in damage to the natural texture of the product.

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Disclaimer

This Installation Guide is intended for general informational purposes only and should not be considered as professional technical or legal advice. It is designed as a reference only and shall not be construed as a substitute to seeking professional advice relevant to your particular circumstances to evaluate its accuracy, completeness and relevance for your specified application, or employing professional and licensed contractors to install Surface Shop Products. Therefore The Surface Shop does not take any responsibility for any error or misinformation that may be contained within this guide.

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Warranty

The Surface Shop, INC, Surface Shop Companies & Distributors, Rassan Trading Inc. — Limited Warranty

Subject to these terms and conditions, The Surface Shop, Inc and all its subsidiaries and affiliates ("Surface Shop & Companies") warrants its products for a period of 12 months from the date of original purchase from Surface Shop & Companies against manufacturing defects when used on a structure which conforms to all building codes and regulations and when installed in accordance with Surface Shop & Companies' instruction, specifications and guidelines. In the event of a defect, Surface Shop & Companies will credit the cost of the products purchased or, at Surface Shop & Companies' option, repair or provide new products to replace any products determined to be defective. This warranty is limited to the original purchaser and may not be transferred to any subsequent owner. This limited warranty does not cover damage from: a) settlement of the building or improvement or other structural movements; b) contact with chemicals or paint; c) deterioration or discoloration due to airborne contaminants; or d) staining or oxidation. This limited warranty covers only manufacturing defects in Surface Shop & Companies products. Surface Shop & Companies are not responsible for labor costs in removal and replacement of defective products.

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