

GenStone®

Installation Guide

GenStone products are designed to provide a realistic look of stone or rock. Although installation of GenStone is much easier than traditional masonry applications, proper installation requires good planning and preparation.

Please keep in mind that each application varies somewhat, therefore we recommend you read this entire guide before beginning your project. When calculating the amount of GenStone you will need to purchase, remember that you will need additional square footage for unique cuts, such as gable end walls or areas around windows. A minimum of a 5% of additional square footage is recommended for timely completion of your job. It is also recommended that additional panels be purchased or some scrap pieces are kept in case a repair is needed.

When planning your work, here are some steps to consider.

- For the best results, you will want to create random patterns with even grout lines and staggered joints.
- When planning your pattern, keep in mind that there are 4 patterns of panels. The pattern number is on the right shiplap edge of the panel toward the top. You will want to avoid installing the same panel number either side-by-side or directly above or below the same numbered panel. You will want to sort panels and lay them out before starting each row.
- Now stagger vertical grout lines and check that horizontal lines are uniform in width and spacing between panels. Check for level with each row.

Tools Recommended:

Power circular saw	Framing square
Power drill/screw driver	Wood rasp
Hammer	Caulking gun (for 10oz tube)
Hand saw	Screw driver bits
Utility knife	Safety glasses
Chalk line	Gloves
Tape measure	Sponge
Pencil	Calking
Level	



Optional Tools:

Table saw, router or router table
Compound miter saw
Jig saw
Power sander (belt, orbital, oscillating)
Hammer drill for concrete or CMU

Fasteners recommended are exterior (coated) star drive or square drive screws.

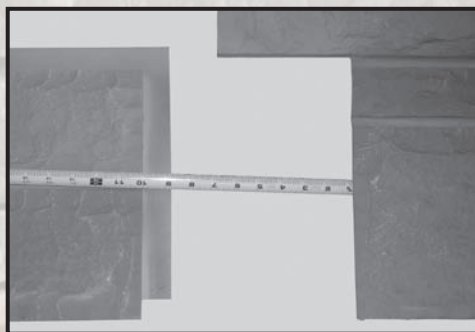
MAKE SURE to observe and obey all safety rules and recommendations set forth by tool manufacturers and local, state, and federal authorities for any building project including all applicable building codes.

- Be sure to use appropriate safety equipment when installing GenStone including gloves, eye protection and dust mask.
- Check local building codes for application.
- GenStone panels are intended to be used as an exterior siding product. If you are interested in an interior application, visit www.Enterrastone.com.



Measuring and Marking:

If you plan to use a circular or hand saw, it is best to measure and mark on the back, flat side of the panel. Use a level or other straight edge, pencil or marker, and a tape measure to mark the cut line. If you plan to cut using a table saw, it would be better to mark a point on the panel surface and use the flat side down on the table. Seal all cut edges with color matched caulk or touch up paint to protect from UV.



Cutting and Trimming:

After following the marking instructions above you are now ready to cut. To use a circular saw, cutting along the mark on the back, you will need to protect the face of the panel as you hold it in place on a smooth flat table. Placing the panel flat side down on the saw works best if using a table saw. For cutting of ledgers and smaller pieces a compound miter saw is best but a hand saw or jig saw will also work. For applications requiring cut outs for items such as hose bibs, electrical plates, or lights mark from the back and then cut out using a keyhole saw, jig saw, or a hole saw on a drill. Because GenStone products are handmade and go through a manufacturing process there are occasionally minor blemishes at the edge of the panels. These are easily corrected by slight trimming with a utility knife or by sanding.



Some installations may require a new negative ship lap edge be cut into a side. This can be done with a table saw, a router or router table, or if neither of these is available a circular saw preferably with a guide. Use a panel to determine the height (on a table saw) or depth (with a circular saw) to set the blade. This should be equal to the horizontal cut of the shiplap edge (approximately 1"). Once the blade is set, make the cut then reset the height (or depth) to match the depth cut of the ship lap edge (approximately 1/2") effectively cutting a rectangle of material out of the corner. A router or router table can also be used to remove this material leaving the new negative ship lap edge.



Application and Prep:

GenStone products are designed to be applied to a variety of substrates. These include concrete wall, CMU (cinder block), brick, hard stucco, cement backer boards, OSB, plywood, flat board siding, and drywall. Regardless of the substrate, the surface should be clean and free of debris or loose pieces. If your

application includes adhesive on the back side make sure that the substrate is free from residues, oils, or any other substance that would cause poor bonding. It is imperative to use a high quality exterior grade screw with adequate composition or coating to attach the panel. GenStone panels have both a positive shiplap edge and a negative shiplap edge. The positive shiplap edge is the edge that protrudes from the panel forming a lip. The negative shiplap edge is an under cut in the panel forming a void that the positive edge fits into. The positive edge always needs to go up to the top side.



It's best not to sit panels in the hot, direct sunlight for longer periods of time prior to installation as this may cause expansion.

As you layout your wall, you will fit your GenStone panels to the building, which will rarely be square, true, or as a small modification to the panels (especially on your first/bottom row and corners) may be necessary. These compensations can be made by trimming with a utility knife or sander to ensure an accurate installation. To begin the layout, use a level to mark a line across the substrate at or above the top edge of your bottom row of panels. This will give you a reference as you run your panels and allow you to keep your installation square. Repeating these lines as you progress up the wall will allow you to make any necessary adjustments and maintain an accurate installation. Begin your installation in the lower left corner and proceed to the right down the wall with that row. It is critical that this first row be as true as possible because all other panels build from this point. If you are using GenStone corners start by fitting the corner first and then the panel next to it for your first row.

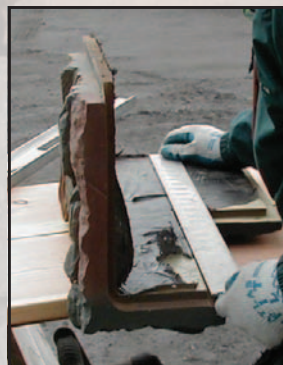


Outside Corners:

GenStone offers the following solutions for outside corners which are available to match all varieties of GenStone panels and are the best way to finish a corner. These include a “Z” shaped corner piece, left corner panel and right corner panel. When installing a corner piece mark a plum line on both sides of the corner far enough away from the actual corner so they are visible for reference when test fitting. Start at the bottom test fit and trim the first corner for the best overall fit on both sides keeping in mind that corners have a positive edge that goes to the top. Because corners are often out of true, this may include shaving minimal amounts from the back side of the panel, being cautious not to reduce the thickness too much. For some outside corners that are not 90 degree (such as 45 or 22 ½ degree turns) and for inside corners, mitering is an option. If possible, when mitering, it is best to miter closer to the middle of the panel as opposed to the end, thus achieving a more solid stone appearance. These corners can be lightly sanded and filled with either GenStone grout or a paintable exterior grade filler and then, if needed, touched up with Sherwin Williams Super Paint.

Install first corner piece at the bottom. With “z” shaped corner pieces, you may continue installation up the corner of the wall to the desired height. With corner panels, you will want to alternate left and right panels as you move up the wall in order to achieve a staggered, natural random pattern.

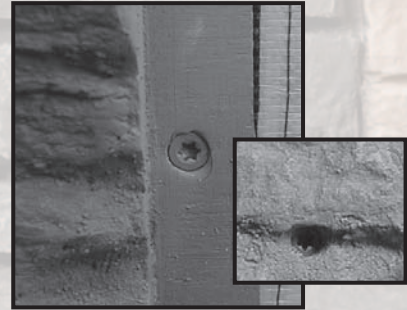
- Measure, mark and cut to length the first corner piece or panel to be installed at the lower left of the building or wall area.
- Fit the first piece using the chalk line as your horizontal guide. (Note: If using a wood rasp, it takes very little time to custom fit each piece to the wall.)
- Make sure to use adequate sealants and/or finishes when joining other products and around penetrations, windows or doors.



Installation of Panels:

Secure the top of the panel:

- Place screws in the positive ship lap edge every 8" near the bottom of the edge.
- Counter sink screws to a depth of up to 1/8".



Secure the bottom of the panel:

- Starting an inch or two above the bottom of the panel, place 3 or 4 screws evenly along the nearest grout line.
- If no grout line is available, you may screw into the face of the panel. Sink these screws in hard to see areas of the panel and hide these with color matched caulk.
- **Apply color matched caulk to screw holes using a glove-protected finger to blend in the caulk to match surrounding contours. Optional touch up paint kits are available to help blend caulked areas.**



Apply a 1/4" bead of GenStone color matched caulking or polyurethane construction adhesive to all positive edges to ensure a water-tight barrier. This positive shiplap edge should always be upright.

- Working from left to right, follow the chalk line as you continue to build the first row.
- Remember to select and arrange panels by color and pattern to achieve the best overall appearance.
- Repeat the installation process by working left to right for the second and each remaining row.
- Custom fitting panels is accomplished by using a power circular saw, hand saw, jig saw, utility saw and wood rasp.



Fitting the last panel:

Measure the gap between the last installed panels from left to right. Measure from the inside grout line (for random rock) or from the inside product edge (for stacked stone) to the inside negative lip edge of the right end piece or corner. (Your tape will need to get behind the panel to accomplish this). This measurement represents the overall panel length cut off.

- Laying out and marking: Using a dark colored marking pen and square, mark on the back side of the panel the overall panel length cut off as measured in the previous step. Make sure you have measured from the points designated by the arrows. Check that you are measuring from the correct end of the panel.
- For the score cut (to provide a proper overlap) subtract the width of the positive lip from the overall panel length cut off measurement. Mark a second line parallel to the first line to indicate this measurement.

Score cutting and cutting the panel to length:

- Score cutting: Before making the first (score cut), set the rip depth to match the depth of the panel's existing negative lip depth.
- Cutting panel to length: reset your blade to the appropriate (manufacturer's recommended) through-cut setting so that you can safely cut the panel to length. (Please note: Follow all safety precautions provided by the manufacturer of the equipment or tools you work with. We show this model and rip depth adjustment style for illustration purposes.)

Score cut:

- The score cut should closely match the depth of the negative lip.
- Cut to length panel end.

Final cut:

- Stand the panel on end.
- Align the handsaw blade between the edge of the negative and positive lips at opposing top and bottom panel sides. Cut through until the section falls out.



Inside Corners:

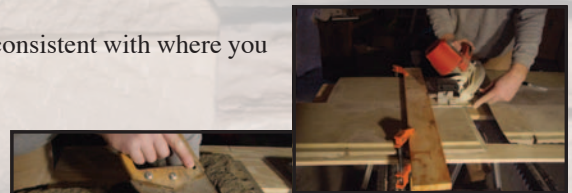
Using a framing square or straight edge, mark a line on the back of the panel consistent with where you want the inside corner to be.

Set your saw at 45°. Make your first cut, following the line previously marked in step one.

Keeping the same side up, rotate the panel 180°. Prepare to make your next cut, using the previous cut on the surface of the panel as a guide. Keep your saw set at 45°. You may choose to clamp a piece of wood or similar straight edge to use as a guide.

Now remove any burrs using a utility knife, sandpaper, or a fine tooth saw.

Place the newly cut pieces together and trim the joint as necessary to achieve a tight fit. This process is very similar to making miter cuts when doing trim work. Use caulk and touch up paint as necessary for the finer details to help achieve a finished, professional look.



Installing a Ledger:

To install a ledger piece apply adhesive to the back of the ledger and to the top positive shi lap edge of the panel that is already attached to the substrate. Then fit the ledger pieces' negative shi lap down onto the positive edge. Proceed by toe screwing (shooting a screw at an angle) the ledger piece from both ends being certain to counter sink the screw deep enough to where the screw head does not stick out which would prevent a tight fit to the next ledger piece. The screw used for shooting through the side will be longer than the others in order to provide good bite into the substrate. Continue by shooting a longer screw in the center of the ledger through the face counter sinking by about 1/8". Cover this and all holes with the grout.

Regardless of which variety of GenStone product is used, an available color matched grout or a clear PL Premium adhesive must be used between the shi lap edges to adhere the panels together. Applying the adhesive between the positive and negative ship lap edges ensures a good seal between panels.

Applying Over Cement:

This method of application would be used for CMU, brick, or any other cement product. Always keep the "positive lip" of panel up. Using PL polyurethane premium construction adhesive (widely available) on the back of the panels, apply approximately 3/8" vertical beads in a tight "s" pattern at 12" intervals starting at one edge. Apply GenStone's textured, color-matched caulk to the positive lip before anchoring. In conjunction with the adhesive you will need to use a cement screw such as a Tapcon. Roto-hammer the pilot hole before inserting or screwing concrete anchors. Then using a forstner type bit, countersink anchor hole. Screw heads should be counter sunk 1/8" and then covered with GenStone color match grout. These screws will hold the panel in place while the adhesive sets as well as increase the durability of the install. One screw in each corner of a panel is adequate. Screws should be of sufficient length to penetrate the panel and bite enough into your substrate to hold tight.



Always keep the "positive lip" of the panel up.



Apply polyurethane adhesive designed for use with concrete to the back of the panel.



Apply GenStone's textured, color-matched caulk to the positive lip before anchoring.



Roto-hammer the pilot hole before inserting or screwing concrete anchors.



Photo showing a forstner type bit for countersinking anchor hole and one of many types of concrete anchors.



Drive concrete anchor to a depth of 1/8" below flush.



Apply GenStone's textured, color-matched caulk to the anchor hole.

Important Note on Caulking:

Surface Prep: Clean all surfaces. Joints must be clean, frost-free, and free of oil, grease or any other contaminants. Avoid contact with alcohol and other solvent cleaners during cure. Use open cartridges the same day. Priming is not necessary for the application of caulking to Genstone panels.

Application: Recommended temperatures are 40-100 degrees Fahrenheit. For best performance Sika Flex should be gunned onto the positive shiplap edge of the panels not to exceed 1/2" of thickness. Caulking is to be applied between panels on the positive shiplap; therefore will not be seen. For covering up screw heads both caulking and a Genstone paint kit would be needed. When installing ledgers the caulking will be gunned in between the joints of connecting pieces, again not to exceed 1/2" of thickness.

Applying Over Wood:

This method of application would be used over plywood, OSB, or any other wood siding product. If applying over a siding it must be a relatively flat panel. Many lap sidings may have too much height difference at the lap joint. After applying a moisture barrier (per manufactures' instructions) you can use an exterior grade screw to attach the panel. Screws should be placed about every 8" on the positive edges of each panel. Take care not to place the screw too close to an edge of the material. This should be about 1/2" from a single edge and 1 1/2" from a corner. In addition you will need to place 3 screws on the bottom part of the panel. When placing these screws locate them in the grout lines a few inches up from the bottom edge. Also one screw should be placed in the horizontal grout line in the middle of the panel about 6" from the left edge. These screws should be countersunk 1/8" and can then be hidden with the application of the grout.

Applying Over Exterior Gypsum Board:

When using GenStone on an exterior gypsum board with the use of adhesive proceed as in the above described procedure for application over cement. Screws must be long enough to penetrate the panel and bite into the stud behind.. Additional screws are needed as well where the panel overlaps a stud. It is possible depending on the stud layout of the wall that you may only cross over two studs but if available shoot screws in each stud that the panel overlaps. At each stud a screw should be placed in the positive ship lap and at least one in the grout joint on that same stud.

Applying to a Steel Building:

To apply to a steel building a backer board must be used. This provides a buffer between the building and the GenStone. This is necessary because of the properties of a steel building. This substrate needs to be plywood or OSB of at least 1/2" thick. This board needs to be attached securely to the building using a construction adhesive and screws. Once the board is attached you can follow the same above procedure for applying to wood.

Windows, Doors and Roof Lines:

1" deep trim or J-channel is recommended around all openings. You may also use the GenStone trim pieces. Secure panel deep enough to protect edge and cover exposed edges with color matched caulk or touch up paint.

For outlet or fixture holes, mark the backside of the panel and cut desired opening with a jig saw or hole saw. Seal cut edges with caulking and touch up paint.

Repairing:

Minor damage to GenStone products can be repaired by painting over the damaged area with our convenient paint kits. Caulking or an exterior grade filler can be used on larger areas needing repair. If the area is larger or more severely damaged a section can be removed and replaced by another section. Cutting a section off the wall can be done with a sharp blade or a rotary saw. Scrape the area clean and use the old piece as a template to cut out the new piece. Screw and or glue the replacement section in and paint and caulk as necessary making sure that all areas are covered.

Panel Replacement:

- Loosen panel and surrounding panels by locating the fastener heads and backing out screws.
- Remove panel to be replaced.
- Replace panel with matching panel.
- Fasten all loose panels and apply color matched caulk.

Maintenance and Cleaning:

GenStone panels require very little maintenance and should be cleaned using water or warm water, or warm water and a mild soap. Water pressure from a garden hose and the use of a soft bristle brush will be sufficient. Do not use a pressure washer, particulate or sand blasting device, or harsh chemicals (bleach, acids, and detergents.) Removing all that is possible and then using touchup painting can take the place of excessive abrasion methods to rejuvenate the look.