



GRIDWORX™

Mechanical Stone Hanging System

Installation Guide

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(Architectural elements: doors, windows, electrical outlets)	

Gridworx is a revolutionary mechanical stone hanging system that combines patent-pending wall anchors to support kerf-cut thin stone. The end result produces the natural beauty of stone at a fraction of the cost of full bed masonry stone walls.

The system is pre-engineered for use with wood frame, steel stud, CMU block or concrete walls.

Gridworx vastly simplifies the installation process. The step-by-step instructions in this guide and the Gridworx Installation Video will help ensure an efficient and successful installation.

We recommend viewing the **“Installation Video”** provided through your dealer or contact Precision Wall Systems, Inc. at support@gridworxwalls.com for your complementary 15 minute installation DVD.

Before beginning you should review the materials required for the job.

Gridworx uses thin-cut stone panels and a patent-pending aluminum wall-anchor system.

A kerf groove is pre-cut into each stone to accommodate Gridworx’s unique wall anchoring and wall system. The stone is just 3 centimeters thick (1 3/16”).

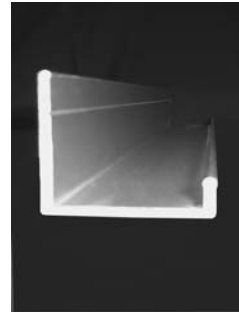


Gridworx Wall Hanging System consists of the following patent-pending components:

Starter J Course Anchor

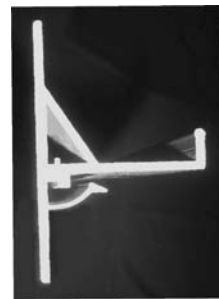
Supplied in continuous twelve-foot sections that are easily modified in the field with standard miter saws.

The Starter J anchor should be set first around the perimeter of the project. This anchor, along with the Standard T can be chopped into one or two inch segments for hanging specialty items.



Intermediate T Anchor

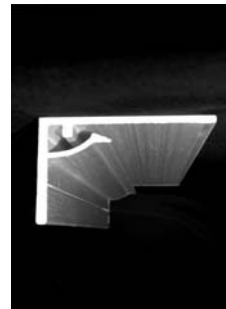
This anchor is used in the central field courses. It is supplied in continuous twelve-foot sections.



Top Course J Anchor

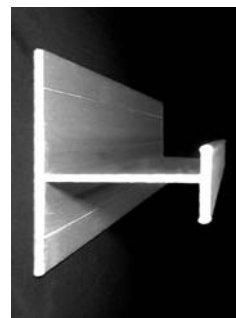
A continuous twelve-foot anchor designed to hold the top course panels in place.

It should also be used when installing wall panels beneath window sills or any other condition where the vertical panel coursing is terminated.



Simple or Standard T Anchor

Used for special installation situations as window surrounds or other architectural features.



L Brackets

Offered in varying lengths depending upon the horizontal measurement of the panel.

Generally the six inch (6") L Bracket will exceed the requirements for most installations.

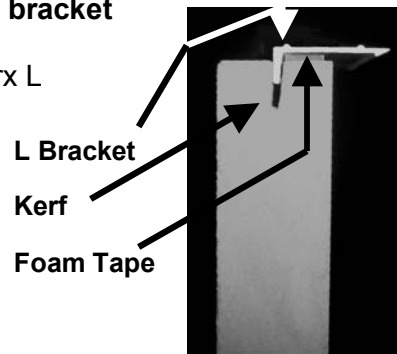
Two (2) L brackets with self adhesive foam tape are inserted into the stone kerf which, protect the stone and allows the stone to be snapped into the Gridworx System.



Stone panels are pre-cut with Kerf to utilize the L bracket

Self Adhesive foam tape is supplied with the Gridworx L bracket

A three or four-inch piece of foam tape is applied to the underside of the L Bracket. This will hold the L Bracket flush with the Intermediate T or Top Course J anchor while the silicone joint sealant dries.



Gridworx anchors are designed to provide either a 1/4" or a 3/8" horizontal joint. The stone panels are cut to allow for this joint. Therefore with a 3/8" joint condition, a 12" x 24" stone panel will actually be 11 5/8" X 23 5/8".

The correct measurement for the placement of the anchor will be 12", anchor to anchor.



Installation components

(Recommended for Gridworx 20-year warranty):

- **Screws *** (Type of screw is dependent upon construction):
 - **Steel stud or galvanized hat channels**
#12, hex head Drill Flex screw by Textron.
 - **Wood frame**
#12 Hex head, two-inch stainless steel wood screws
 - **CMU block and concrete**
3/16" Tapcon screw.

- **Shims *** (The specified shims are full bearing hi-impact resistant plastic)
Three dimensions can be used:
 - 1/16" X 3"
 - 1/8" X 3"
 - 1/4" X 3"

- **Self Adhesive backed butyl flashing tape** - for damp proofing upper anchor fasteners

- **Backer rod *** – 3/8" open cell Backer rod

- **Tape** used to line the joints and protect the stone from the silicone sealant

- **Silicone joint sealant** from Dow Corning or comparable product. We recommend:
 - 10 oz. tubes for the bead in the upper kerf when setting the L Bracket.
 - 20 oz. sausage packs for sealing the joints.

These recommendations deal with economy and convenience issues.
Dow Corning recommends their 20-year warranty stone sealant products such as:

 - 756 This material comes in a large variety of stock colors.
 - 790 Refer to manufacturer recommended installation process
 - 795

- **Masonry sand (optional)**

- **Color-matched invisible stone patcher.**
(Used to fill-in exposed kerfs and/or patching broken stone.)

**** (Can be purchased through Precision Wall Systems, Inc.)***

Installation components - Continued ***(Recommended for Gridworx 20-year warranty):***

Helpful Tools:

- Story poles * (The storey and corner poles provide an accurate and fast way
- Corner poles * to align each row of anchors with precise measurement.)
- Spring clamps
- Water level
- Wet saw
- Diamond hole saw
- Angel Grinder
- 10" miter Table saw blade with carbide tip - Diablo Blade by Freud

Optional Tools:

- Razor blades
- Screw Gun
- Drill
- Chisel
- Allen Wrench
- Mallet

► STEPS PRIOR TO STARTING:

1. Review architectural plans and overall measurements, exterior mechanisms and treatments.

2. Locate studs and check thickness.

Locate the studs with a stud finder and mark them with a string line. For correct support, the anchors must be attached to the studs.

- Most projects require studs on 16" centers.
- Light wood frame construction should have ½" plywood sheathing.
- The substrate of all exterior cladding projects must first be sealed with a waterproofing material.

► **STEPS TO INSTALL GRIDWORX ANCHORS:**

1. Plumb each section of wall vertically and horizontally.

- Before starting any installation, carefully inspect the vertical wall surface for dimensional irregularities by using plumb lines and a tape measure.
- Irregularities can be compensated for with the use of shims. If the wall moves away from plumb as you go up, shim as you go.
- If plumb moves toward the wall as you go up, shim out the bottom rail.
- Be sure to check the horizontal planes of the walls for the outmost projections. That will be your starting plumb point.
- After checking for plumb, establish a uniformly level starter course.

2. Establish base line for perimeter elevation. Start from the bottom and work up the wall.

It is a good idea to reference the distance from the Starter J course with the first distinctive horizontal reference such as a windowsill or door jamb.

Gridworx is designed to accommodate a plus or minus 1/16" joint variance between the 12' horizontal continuous anchors. This should not be difficult to achieve with the use of careful measure and installation tools such as story poles.

3. Set-up Story poles after the Bottom Course is Completed

After the bottom course is completed, set up the story poles.

- These poles can be easily adjusted to accommodate the specified stone panel sizes.
- Provides an easy way to accurately align the anchors as well as plumb the wall section.
- Simplify setting the anchors to the proper distance from one course to the next, with greater accuracy.
- Eliminate the need to manually measure and mark the offset between each course as well as help spot vertical plumb variances in the wall segment.

How to use the Story Poles:

- Adjust the story pole shelves to the appropriate spacing. The distance between the pole shelves should correspond to the vertical nominal dimension of the stone panel. The exception to this measurement will be the bottom shelf. It should be approximately 5/16" longer than the vertical nominal stone panel dimension.
- Place the bottom story pole shelf under the Starter J anchor and secure it with a vise grip. Then screw the top and bottom story pole L-plates into the substrate.
- Use a level to ensure that each story pole is vertically plumb and that the inside of the pole is flush with the plumb line.
- The story pole will now serve as an accurate guide to place each Intermediate T or Top J anchor.

4. Cut the anchors to the proper length for the intended wall segment.

A 10" miter table saw blade with carbide tip is recommended.
(A product such as Diablo Blade by Freud is suggested.)

- If the wall segment ends with an inside corner, cut the anchor approximately three inches shorter than the overall horizontal measurement.
- Place the anchor against the wall and align the screw slots with the location of the studs. ***This is critical as the screws holding the anchors should penetrate the stud.***

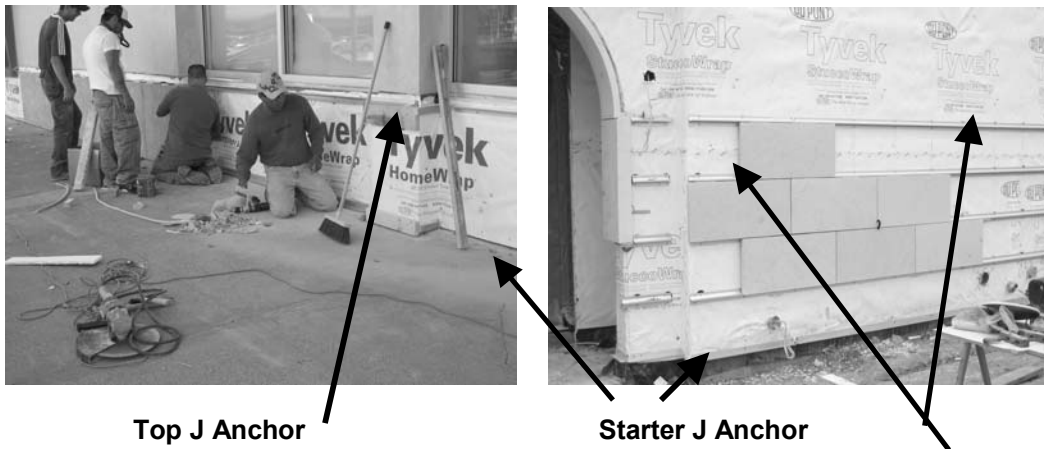
5. Install the Gridworx Anchors.

- Begin by installing the Starter J anchor course.
- With the story poles in place and aligned vertically, screw the rest of the anchors into place using shims where needed.
- If a window sill or other architectural element interrupts normal spacing, refer to Special Situations, another chapter in this guide. It will explain and demonstrate various ways to handle unusual installation situations.
- Visually inspect the J leg of the channel to evaluate the placement of the shims. If there is a variance lessen the screws, add or remove shims and re-tighten the fasteners.

6. Use Shims to compensate for irregularities in wall.

Hold the anchor flush against the story pole and pole shelf. If there is a space between the anchor and the wall, use a shim or combination of shims to fill the void. Re-check for flush fit after tightening the fastener.

- Shims in three different thicknesses are recommended: 1/16", 1/8" and 1/4." They are used to compensate for variances in the plumb of the substrate as well as stud alignment. These should be at least 3" in length to ensure proper support to both the top and bottom anchor fasteners.
- After the starter course is set and double-check for accuracy, the Intermediate T anchors can be installed.



- The Top J anchor is designed to hold the top course panels in place. It should also be used when installing wall panels beneath windowsills or any other condition where the vertical panel coursing is terminated.
- Note the differences between the Top J anchor and the bottom J anchor. You will see how each of these anchors performs when you begin to set the stone panels.



- Visually inspect the anchors for alignment and correct shim placement.

7. After the anchors are installed, apply the butyl flashing (Tyvek) tape over each screw to prevent water infiltration.

After completing anchor installation for several or even all courses, the stone can be set.

► **SETTING THE STONE**

Review the architects' plans for stone layout and coursing.

Measure and cut the stone to accommodate spacing around doors, windows, electrical and mechanical outlets. Refer to the architects' plans for proper detailing.

- 1. A three to four-inch piece of foam tape should be applied to the underside of the L Brackets.**

The purpose of this tape is to hold the L Bracket flush with the above Intermediate T or Top Coarse J anchor while the silicone joint sealant dries. ***This is an important component in the design of the system and should not be ignored.***

- 2. Draw a bead of silicone joint sealant into the top kerf of the stone at the L bracket locations.**
- 3. Insert the L brackets into the top kerf.**

Position two L brackets into each stone panel. Brackets should be placed approximately 1/4 point from the end of each stone panel.
- 4. With the L brackets attached to the stone panel, start installation at one corner on the baseline and work toward the center.**
- 5. Lift the panel and set it in the J track of the continuous Intermediate T anchor.**
- 6. Swing (rotate) the stone toward the wall so the points of the L Bracket are aimed at the receptacle clip on the Intermediate T anchor or top J anchor above.**
- 7. With the palm of each hand pressing against the portion of the stone panel holding the L bracket, squeeze and push the stone panel into the anchor receptacle.**
 - This will cause the pointed end of the L bracket to snap into the Intermediate T anchor above.
 - Use care to avoid fracturing the stone at the kerf.
 - If you have difficulty engaging the L Bracket into the receptacle, carefully drive the Bracket into the receptacle with a mallet and chisel.
 - After snapping the panel into place, the top of the L Bracket should be flush with the bottom of the J arm of the Intermediate T anchor.

- Pull the stone gently to ensure the L Bracket is set in the receptacle clip.
- Make a visual inspection by looking closely at the alignment of the L Bracket with the side of the J track of the anchor.



8. Slide the stone panels together to close the vertical joint to the specified 1/4" or 3/8" spacing.

A shim can be placed in this joint to hold the dimension until you apply the silicone joint sealant.

After finishing a wall segment, you're ready to seal the joints.

► **SEAL THE JOINTS**

1. **Remove the spacer shims.**
2. **Place the 3/8” backer-rod into the horizontal and vertical joints around the entire perimeter of each panel.**
Leave room for a 1/4” deep bead of silicone joint sealant. (Without the backer-rods, the silicone may have a tendency to expand outward.)
3. **Tape the face edges of the stone panels to protect the stone from the silicone.**
Care should be taken to avoid exposing the face of the stone to the silicone.
4. **Apply the silicone to the joints.**
Use a putty gun, followed with a putty knife, or smooth the joint with your finger.
 - ***For additional application instructions, follow the recommendations of the manufacturer.***
 - Dow Corning silicon joint sealant #756, #790 or #795 is recommended for sealing of the joints between the stone panels and other elements. This material comes in a large variety of stock colors.
5. **Use Masonry sand to give the joint a grouted look**
Use sand that matches the color of the stone and blow it into the silicone joint, using a plastic squeeze bottle with a spout. Allow firming to a tacky state.
6. **Remove the tape.**
After the silicone begins to set up, peel the protective tape from the stone, being careful to not expose the stone to the silicone.
7. **Final Cleaning of Stone.**
Clean dimension stone cladding no fewer than six days after completion of pointing and sealing, using clean water and stiff-bristle fiber brushes. Do not use wire brushes, acid-type cleaning agents, cleaning agents containing caustic compounds or abrasives, or other materials or methods that could damage stone.

Adjusting and Cleaning the stone

Remove and replace broken, chipped, stained, or otherwise damaged stone, defective joints, and dimension stone cladding that does not match approved samples and mockups. Damaged stone may be repaired if Architect approves methods and results.

Damaged stone panels can be replaced with the same ease of the initial installation.

► SPECIAL CONDITIONS

Because the Gridworx System uses thin stone, field modifications are easy.

Procedures for Architectural element, such a window or door that interrupts the straightforward setting of a normal course:

1. Install as many rows of normally spaced anchors as possible above and below the interruption.
2. Next, place a bottom J anchor on top of an interrupting element or a top J anchor under the bottom of an interrupting element.
3. Measure the distance between the normally placed anchor and the exception top or bottom J anchor.
4. Using a masonry saw to cut the stone panel to the proper width and height. Then cut a new ½ inch wide by ½ inch deep kerf and 7 inches long into each end of the stone using a grinder, a jig or another method of your choice.
5. Now slide the custom-cut stone panel into the top and bottom anchors until it is properly positioned. Then slide an L bracket into the kerf on each side of the panel.
6. You may have to shorten adjoining panels to restore uniform joint spacing for the remainder of that course.

Holes for outlets or other specialty conditions are easy.

To ensure accuracy, make a wooden jig, and then use a diamond-tipped hole saw to create the right-size opening in the stone panel.

