

Ultra System Installation Guide

[Gridworx Ultra System Details](#)

The Gridworx ULTRA system allows for the efficient and economical installation of large format Ultra-Compact Surface (UCS) panels. UCS panels are produced as full size panels (56" x 126") and processed from there as to the individual needs and sizes of the project. The Gridworx Ultra system is a continuous rail, 'hanging' system and is comprised of two major groups of components; The 'Dead-load' and the 'Wind-load' anchors.

The Dead-load (one per panel) holds all the weight and is placed at the top of the panel. This Dead-load 'panel' anchor interlocks with the dead-load 'substrate' anchor attached to the wall substrate. The Wind-loads (one or more per panel) hold no weight and are placed according to engineering specifications and prevent excessive movement of the panels from wind pressure and vibrational energies generated internally and externally of the building. The Wind-load also has 'panel' and 'substrate' counter parts. The panel anchors are affixed to the back of the UCS panels in parallel rows, via undercut anchor holes utilizing locking plates, fasteners and our proprietary adhesive. Designed as a "floating mount system", the Dead-load anchors employ 'pitch bolts' to allow for fast and accurate leveling of the panels and aligning of joints.

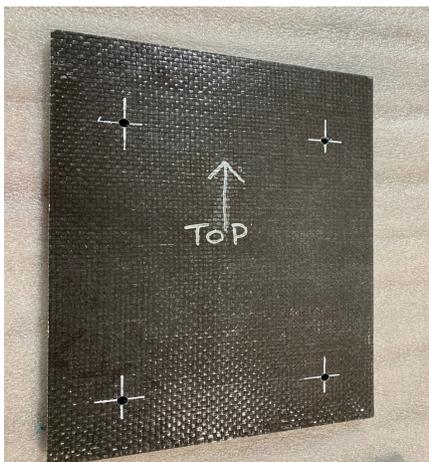


*All of our systems are pre engineered for your specific project. Check the Gridworx engineering Letter Of Compliance (LOC) before you start and periodically as you progress through your project be sure you are following the engineering standards provided. As a pre engineered project, Gridworx provides everything for your project to be compliant, from the shims to the fasteners. ***As such, never replace our components with different spec'd material! If you need additional material, call us!****

The first step in a Gridworx Ultra system installation is to attach the panel anchors to the back of your panels. Our Ultra system panel anchors are aluminum extrusions that come in 12' lengths and have $\frac{3}{4}$ " square attachment holes placed every 4" on center. These extrusions will be cut to panel specific lengths on site. Remember to **check your shop drawings** for these measurements. Our panel anchors work in conjunction with our locking plates and undercut anchor bolts. The undercut holes in the stone panel should roughly align with the center of the $\frac{3}{4}$ " square holes in the panel anchor.



Be sure to label the TOP of each panel before application of the panel anchors! Top and bottom of the panel is determined by measuring from the edge of the panel to the center of the undercut anchor hole. This measurement is critical to the orientation of the panels so always confirm the dimension by **checking your shop drawings!**



Before proceeding, a little preparation will go along way to assuring a proper attachment. Have your tools and material ready to go ahead of time.

You will need:

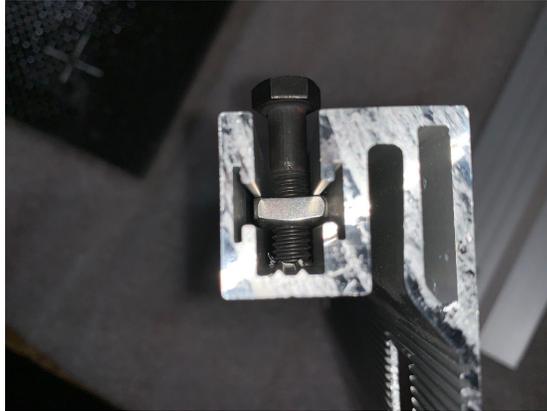
- A tape measure. A combination square is helpful, too.
- A marker or pencil to locate the top of panel and placement of anchors.
- 1 Dead-load panel anchor and the correct number of wind-load panel anchors.
- The correct number of undercut anchors and locking plates. (Check your shop drawings)
- 8mm pitch bolts and nuts. (Minimum of two per Dead-load anchor. Check your shop drawings for the exact number.)
- A 13 mm (typical) drive socket, with ¼” shaft to tighten the undercut anchor bolts.
- A drill/driver. Used with the 13mm drive socket.
- Gridworx proprietary adhesive ‘Gridlock’ in a 28 oz. caulk gun.
- A misting bottle full of clean water. (Gridlock requires a certain amount of moisture to cure properly)
- A misting bottle full of isopropyl alcohol. (To clean up uncured Gridlock)
- Rags, shop towels or paper towels.
- Nitrile gloves. (optional)

Now you are ready to install your panels anchors.

1. Start by installing your ‘pitch bolts’ into the Dead-load anchors.
 - a. Thread a nut onto the pitch bolt first. (make sure the flat side of the nut faces the bolt head)



- b. Slide the nut into the channel of the Dead-load anchor and thread the bolt into the hole(s) provided. Extend the bolt $\frac{1}{4}$ " past the surface of the anchor.



2. Set your panel(s) face down on a raised surface. Clean the general area of the panel where the anchors will set using the alcohol and rags. Make sure there is no debris from the rags left over.



3. Mark the exact location of the anchors according to your shop drawings.
 - a. Place the anchor in its exact location and trace around the perimeter. The undercut anchor holes should line up just about the center of the square holes in the panel anchors.



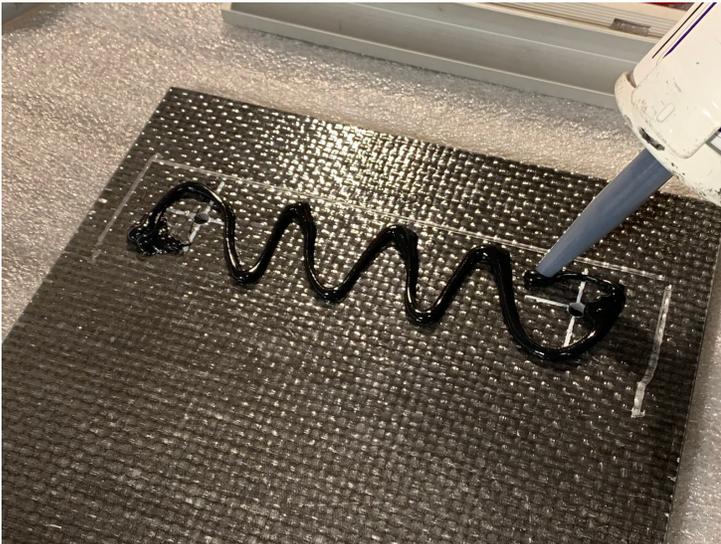
- i. Now is a good time to set the undercut anchor *nut* into the undercut hole and check to make sure it will fit within the locking plate. The parallel shoulders of the nut should fit between the parallel rows of *locking teeth* on the bottom of the locking plate when placed into position over the panel anchor. **This is necessary to prevent the nut from spinning when tightening the bolt.**



- b. Remove the panel anchor and set it just above or below where it needs to set.



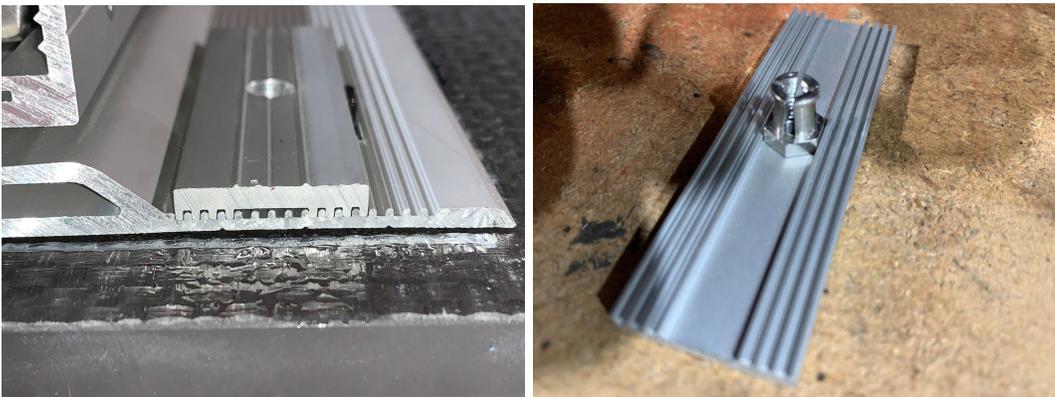
4. Use the misting bottle to lightly dampen the area where the anchors will set.
5. Apply a ¼" bead of Gridlock, in a zig-zag pattern, within the markings of the anchor placement.



6. Lightly mist the Gridlock again and set the panel anchors back in place. Be sure they are properly aligned and press firmly.



7. Place the locking plate over the nut in the anchor hole. *Again, the nut should fit directly between the teeth of the locking plate as the teeth engage with the teeth on the panel anchor.*



8. Insert the undercut anchor bolt through the locking plate and into the undercut anchor nut and tighten. * Note-set the drill/driver clutch to a lower setting first and check to make sure the locking plate teeth are fully engaged within the panel anchor teeth. The locking plate should be firm and not wiggle when properly set.



- a. When setting the locking plate it is important to make sure there are no burrs, chips or other debris obstructing the teeth from engaging on both the locking plate and the panel anchor.

Once all of your panel anchors are in place and secured, the adhesive needs to set up. The full cure time for our Gridlock adhesive is 24 hours, depending upon temperature and humidity. But the panels may be moved and potentially hung in place in as little as 5 hours. Now you may move on to the next panel.

Now that the panels are setting up it's time to attach your Gridworx adjustable girt system to the walls.

MOST IMPORTANT....KNOW YOUR WALLS!! It pays to measure your walls for plumb and square ahead of time. Verify where all of your 'high' and 'low' spots are so you can properly apply our adjustable girt system.

What follows is a brief instructional to get you started. The complete ASHRAE Adjustable Girt system tutorial can be found here:

[The Gridworx Adjustable Discreet Girt System \(ASHRAE Compliant\)](#)

1. Start by attaching your girts to your mullions in the appropriate spacing, i.e. 24" center to center.
2. Then attach your mullions to the wall. The girts should be screwed into the stud of the sub framing with the correct fasteners (provided by Gridworx). This will be either 16" or 24" on center.
3. At this point only set one screw at the top of each girt along a given wall spacing, such as a twelve foot span. Once all of the mullions are 'hanging', use a six foot level to plumb the mullion and then set it by putting a screw in the bottom of each girt.
4. Now go to the far left mullion and plumb the face of the mullion to the wall surface (remember where your high and low spots were, now you know how far out to set the mullion from the wall face). Then do the same for the far right side mullion. Now you are ready to secure the girts to the mullions using a screw in the pilot holes we provide in the girts jaw section.
5. Once your two outside mullions are in proper position, use 3 string blocks and some string to align the top, middle and bottom of all the mullions in between the left and right.
6. Now set all of the mullions as you did in the previous step.

Once you have all of your vertical members in place you are ready for the horizontal "wall substrate" rails of the Gridworx Ultra system.

The Gridworx Adjustable Discreet Girt system eliminates the need for shimming of an uneven wall. However, if the need does arise, you should place your shims between the mullion face and the wall substrate anchors. Remember, the maximum allowable shimming is $\frac{5}{8}$ ".

The Dead-load and Wind-load wall substrate anchors come in 12' lengths and are hung continuously for the length of the wall to be clad. The exact dimensions for the location of these rails are project specific. They are located in your **shop drawings** and should match the dimensions of the anchors on the back of the panels.

*****Make sure that once the first course of substrate anchors are in place, the bottom of the panel will be at the correct height above the finished floor level. If not, now is the time to make corrections! If your wall anchors are not true, level and at the correct heights for this first course, it will be reflected in the presentation of your panels and at every course there after!*****

Your Dead-load wall anchors hold all the weight of the panel and require two 1 ½" self tapping fasteners per vertical attachment. It's important to get the top-most fastener as high as possible. The Wind-load only requires one 1 ½" fastener per vertical attachment. The Dead-Load and

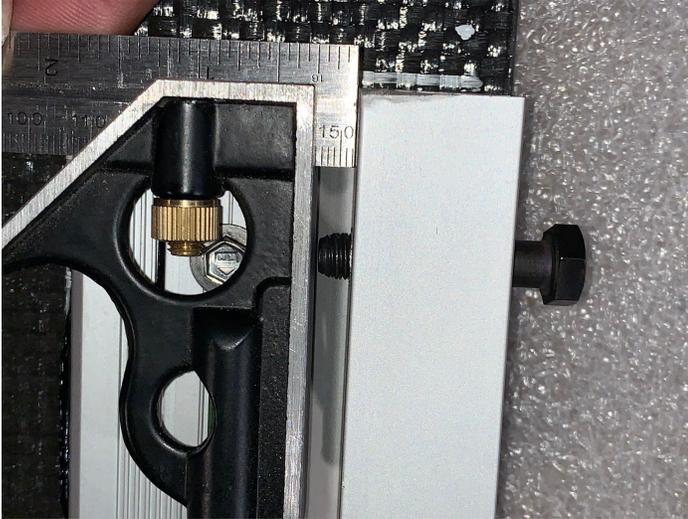
Wind-Load substrate anchors are very similar in appearance, but the Dead-load has a heavier extension arm. Be sure to differentiate between the two!



Hanging your panels on the wall

Our Gridworx Ultra system allows you to hang panels in a non sequential manner horizontally, *left or right per course*. **But you must start your courses from the bottom up!**

1. Make sure that you have a $\frac{1}{4}$ " of the pitch bolt protruding from the bottom of the Dead-load anchor. This prevents the 'hard-loading' of the Wind-load anchors, while still allowing adjustment of the panels.



2. Fill the slot on the panel anchors, both Dead-load and Wind-load, with the provided Dow 790 silicone. This step is essential, as the silicone prevents the panels from 'shifting' once the silicone has cured.



3. Lift the panel up and place it onto the wall substrate anchors in its proper location according to your shop drawings. The 'tang' of the wall anchors will fit into the slot on the panel anchors that were filled with silicone.



4. Once the panel is in position and engaged with all anchors, use a level to 'true' the panel by screwing the pitch bolts in or out.
 - a. *Hint*- Adjusting only a left or right bolt, in or out, will tilt the panel in the desired direction. Adjusting both bolts at the same time, in the same direction, will move a panel up or down for your gap adjustment.
 - b. *Hint*- If a panel is taller than it is wide, concentrate on leveling up the vertical joint. If the panel is wider than it is tall, concentrate on leveling up the horizontal joint.



- c. *Note*- There must be AT LEAST $\frac{1}{4}$ " (minimum) of Wind-load substrate anchor engaged with the panel anchor.
5. Continue setting panels until you are ready for the course above it and so on.

Welcome to the world of Gridworx!