

# Installation Manual

For Vertical Construction



Masonry made easy... and built buy you™

 **Moderra**<sup>®</sup>  
Mortarless Masonry Veneer

**IMPORTANT!** Please read this entire installation manual prior to installing your Moderra Concrete Veneer.

**What you need to know about building Moderra**

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Building Code requirements vary from area to area. Check with local authorities for building code requirements in your area. Carefully read all installation guidelines before proceeding with your Moderra Concrete Veneer application. Observe safety precautions.

The information and product applications illustrated in this manual have been carefully compiled by Alliance Concrete Concepts, Inc. and to the best of our knowledge accurately represent Moderra Concrete Veneer product use. Final determination of the suitability of any information or material for the use contemplated and its manner of use is the sole responsibility of the user.

**TOOLS NEEDED**

- Safety Glasses & Dust Mask
- Hammer
- Saw with Diamond Blade
- Dead-blow Rubber Hammer
- Masonry Chisel
- String Line & Measuring Tape
- Power Screw Driver
- Hammer Drill
- 2 Pound Hammer
- Level (4' and 8")
- Caulking Gun
- Whisk Broom

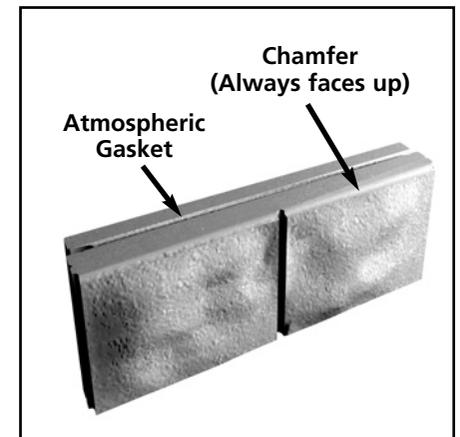
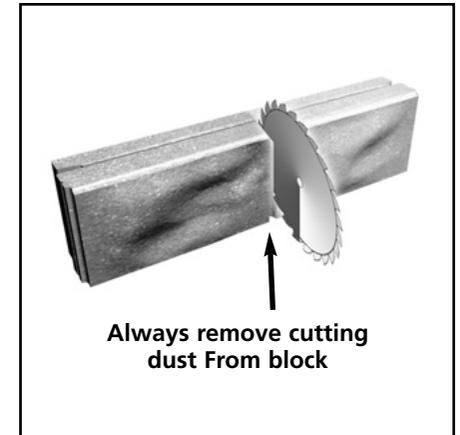
**CUTTING MODERRA**

As you build with Moderra, you will need to cut the Moderra concrete Blocks and/or Trim Channels and H-Channels. You can use either a wet or a dry saw with diamond blades.

After cutting Moderra Blocks, thoroughly wash them with water or air pressure to remove all cement dust. Dust will cause staining if not removed.

Moderra 8" and 4" Blocks are specifically designed with an Atmospheric Gasket on top of the Block. The Gasket allows the Block to be cut to any length and still be used in conjunction with a Moderra Tie. See **BRINGING TWO WALLS TOGETHER**, pg. 13.

*Note: Remember to follow proper safety procedures when cutting. This includes, but is not limited to, safety glasses, dust mask, and ear plugs.*



**USING 4" BLOCKS AND 4" CORNERS**

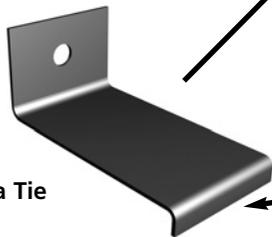
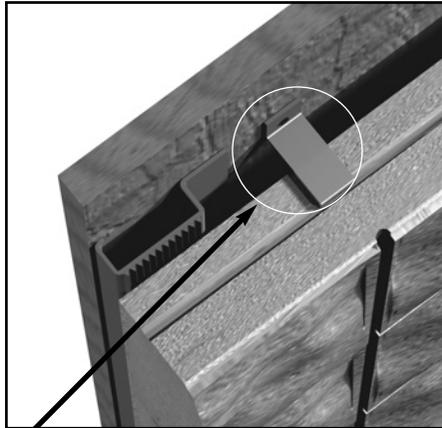
4" Moderra Blocks and 4" Corner Blocks should be used when your application height does not measure out in 8" increments. For best results, make sure 4" Blocks and 4" Corner Blocks are installed in the same course in your Moderra wall. If the distance you are trying to make up is not a 4" increment, you likely will need to cut your Moderra Blocks lengthwise. For details, see **CUTTING MODERRA**, pg. 3.



**USING MODERRA TIES (optional)**

When building a Moderra wall, you will need to cut Blocks. Always use a Moderra Tie on cut Blocks for added stability. To install the Moderra Tie, place the short end into the Atmospheric Gasket. Then attach the cut Moderra Block Tie to the wall. This will ensure the cut Block does not move.

Gluing the back of a cut Block to a Trim Channel will provide a strong connection. Therefore, use of the Moderra Tie is completely optional.



Moderra Tie

The short end goes into the Atmospheric Gasket.

**FASTENING MODERRA**

Because Moderra can be installed on a variety of different wall surfaces, different fasteners may be required. In most situations, space the fasteners on H-Channels and Trim Channels every 24 inches.

**IMPORTANT!**  
Please read this entire installation manual prior to installing your Moderra Concrete Veneer.

| WALL SURFACE                 | H-CHANNEL and TRIM CHANNEL FASTENERS*                                     |
|------------------------------|---|
| Rigid Backwall               | 1-1/4" Standard Screw with 1/4" Hex head drive or 1-1/4" Post Frame Screw |
| Concrete, Masonry, or Stucco | 3/16 x 1-1/4" Concrete or Masonry Screw                                   |
| Metal Buildings              | 1-1/4" Standard Screw with 1/4" Hex head drive or 1-1/4" Post Frame Screw |

\* Wall anchorage requirements should be coordinated with the construction contractor.

Moderra's design charts are for preliminary use only. A final site specific design should be evaluated and approved by a qualified professional engineer.



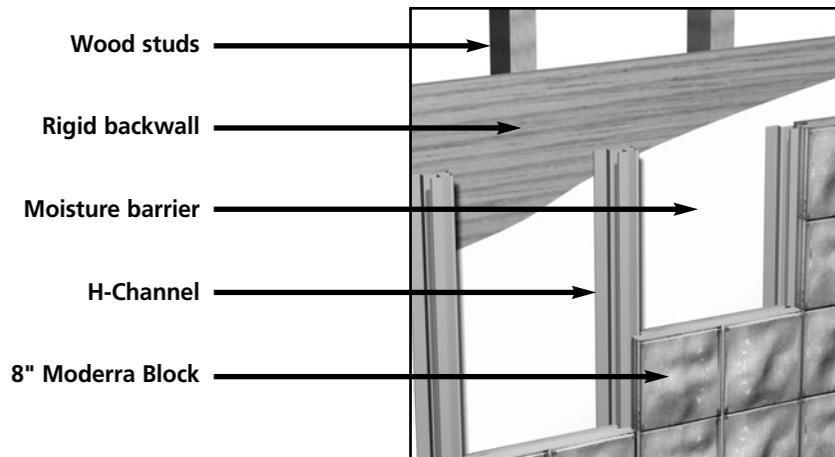
www.moderra.com

**PREPARING THE WALL**

Preparing for your Moderra installation depends on the type of wall surface it is going on. Wall preparation is specific for these three wall types:

|   |  |
|---|--|
| <p><b>Rigid Backwall</b><br/>                 – Plywood<br/>                 – Paneling<br/>                 – Wall Sheathing<br/>                 – Concrete Board</p> | <p>Cover your wall with building paper and lap the joints by 4", shingle fashion. Continue to wrap a weather-resistant barrier a minimum of 16" around all outside and inside corners.</p>   |
| <p><b>Concrete, Clean &amp; Untreated</b></p>   | <p>No preparation needed if the wall(s) are in good condition.</p>   |
| <p><b>Renovation, Metal Buildings</b></p>   | <p>Remove a 3" high section the entire length of your wall, 1/2" above your future Moderra Concrete Veneer. This will leave room for flashing. It is optional to remove the metal cladding covering your entire wall area. If so, apply a rigid backboard and follow the necessary interior and exterior requirements as outlined.</p> |

*Note: Before you begin your Moderra installation, check the wall to make sure it is vertically and horizontally level. If not, you may need to plumb the wall so the Moderra installs properly.*



**INSTALLING THE STARTER LEDGE**

Moderra needs a strong level base for construction. Use Moderra Starter Ledge, angle iron, or a level brick ledge.

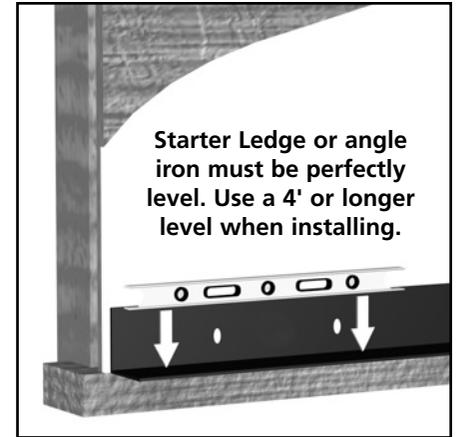
Starter Ledge is a predrilled 3" steel angle designed to hold your Moderra wall. If you are using generic steel angle, be sure it is a minimum of 3" x 3" x .25".

First, level your Starter Ledge or angle iron using a 4' level for best results. Next, attach the Starter Ledge or angle to your wall surface every 8", 12" or 16".

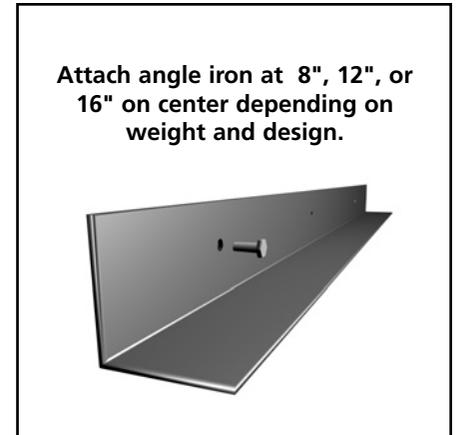
When using the Starter Ledge or angle iron on a post frame building, do not connect them directly to your building's posts. Instead, they should be screwed to a 2 x 6 or 2 x 8, which in turn is connected to the posts.

On metal building applications, Starter Ledge can be welded to the building's base angle.

When installing Moderra on a brick ledge, you can use a Starter Ledge and level it with shims. In that situation, you do not need to attach the Starter Ledge to the wall.



**Starter Ledge or angle iron must be perfectly level. Use a 4' or longer level when installing.**



**Attach angle iron at 8", 12", or 16" on center depending on weight and design.**



[www.moderra.com](http://www.moderra.com)

**ENGINEERING**

The maximum recommended height of your Moderra wall will be determined by the Starter Ledge or angle iron connection. Use the following table to determine the maximum height for your Moderra application. Consult a structural engineer if you desire to build higher than the maximum heights indicated below.

| BUILDING TYPE   | APPLICATIONS*   |
|---|---|
| Any   | <p>Starter Ledge placed on top of concrete footing or brick ledge.</p> <p><b>MAX. HEIGHT, WITH SILL BLOCK = &gt;16'</b><br/><i>(Limited by footing design)</i></p>  |
| Wood Frame Building<br><i>(angle iron attached to concrete footing)</i> | <p>Starter Ledge attached to concrete footing or concrete stem wall, using 1/2" x 2 -1/2" concrete anchor bolts/screws at 16" o.c..</p> <p><b>MAX. HEIGHT, WITH SILL BLOCK = 12'</b></p>  |
| Wood Frame Building<br><i>(angle iron attached to studs)</i>            | <p>Starter Ledge attached thru OSB/plywood to studs, using 3/8" x 3" fully threaded lag screw at 16" o.c..</p> <p><b>MAX. HEIGHT, WITH SILL BLOCK = 6'</b></p>  |
| Post Frame Building<br><b>(8' Post Spacing)</b>                         | <p>Starter Ledge attached at ends thru OSB/plywood and base girt into posts with 1/2" x 6" lag screws; and attached thru OSB/plywood into base girt, using 3/8" x 3" fully threaded lag screws at 16" o.c..</p> <p><b>MAX. HEIGHT, WITH SILL BLOCK = 6'</b></p> |

\* Starter Ledge anchorage requirements should be coordinated with the construction contractor.  
 Moderra's design charts are for preliminary use only. A final site specific design should be evaluated and approved by a qualified professional engineer.

**INSTALLING MODERRA CORNER BLOCKS**

Installing Moderra works best when you start at the end of the wall and move toward the center. This minimizes the visibility of any cut pieces.

**Starting - Outside Corner**

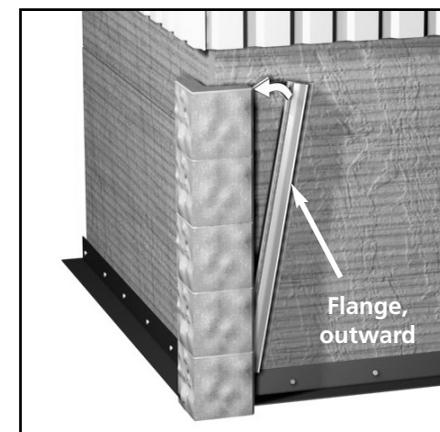
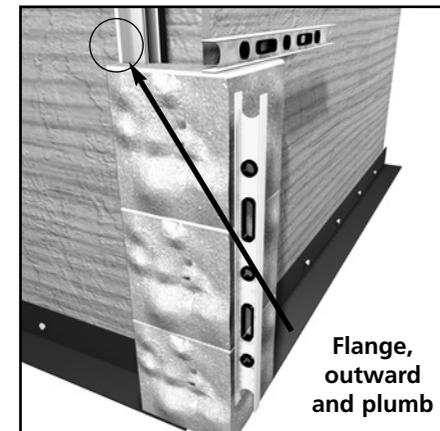
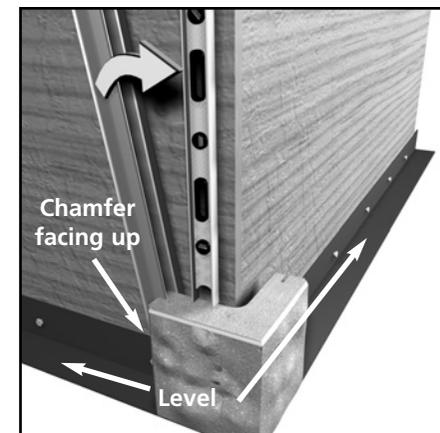
Start by placing the first 8" Corner Block on top of the two adjoining Starter Ledges. Make sure the Starter Ledges are level with each other and the chamfer on the Corner Block is facing up. Next, verify the Corner Block is level before proceeding. H-Channel should be inserted once the column is built.

Note: If you are using a Starter Ledge or angle iron, you will need to cut your H-Channels to the wall height.

Make sure the H-Channel is level and plumb and has the flange pointing away to make attaching it easy. Affix it to the wall surface with fasteners every 24". For details, see **FASTENING MODERRA**, pg. 5.

Continue stacking Corner Blocks on top of each other. The Blocks should slide into the H-Channel and have their chamfer facing up. Once your corner is complete, slide another H-Channel into the opposite end. Tap into place with a rubber hammer and attach to the wall.

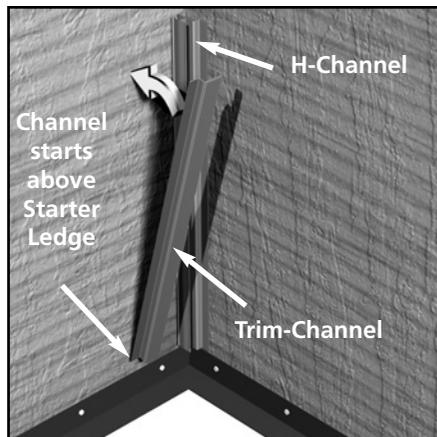
Note: Use shims when necessary to level Moderra Blocks.



**Starting - Inside Corner**

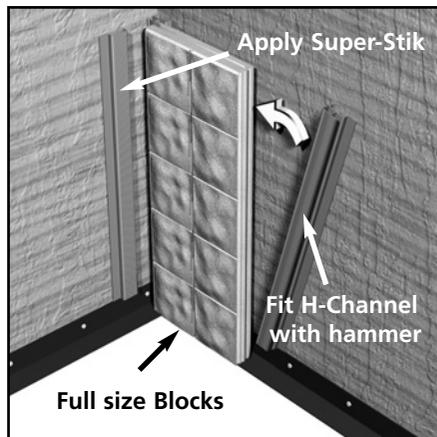
Begin by attaching an H-Channel flush with the corner. Next, add a Trim Channel to the adjoining wall. The Trim Channel should be 4" to 5" from the edge of the corner.

Set Moderra 8" Blocks into the H-Channel. Tap the blocks into place and level, making sure the chamfer is facing up. After the first column is built, attach an H-Channel to the opposite side of the Blocks. Both the H-Channel and Trim Channel should be attached to the wall every 24". For details, see **FASTENING MODERRA**, pg. 5.

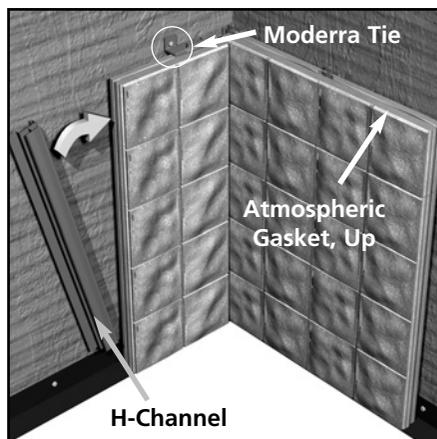


*Note: When building with the 8" or 4" Blocks, make sure the Atmospheric Gasket and chamfer always faces up.*

As you start building the adjoining corner, apply a thin layer of Super-Stik to the back of the Trim Channel. This will adhere the Blocks to the wall. Additionally, you can insert a Moderra Tie to secure the block. Once your corner column is complete, place an H-Channel into the opposite side of the blocks and attach it to the wall.



Continue to add Moderra columns to complete your wall.

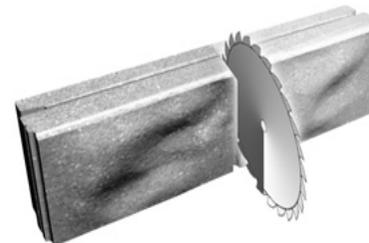
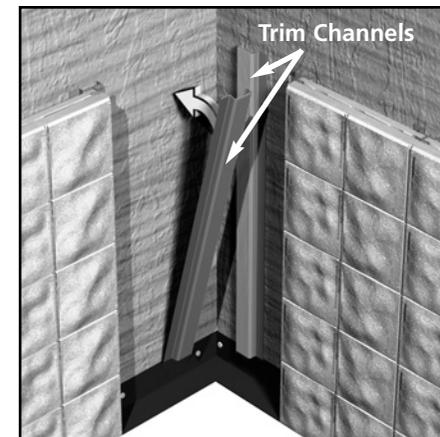


**Ending - Inside Corner**

You can also end your Moderra project at an inside corner. First, attach a Trim Channel approximately 3" from the corner's edge.

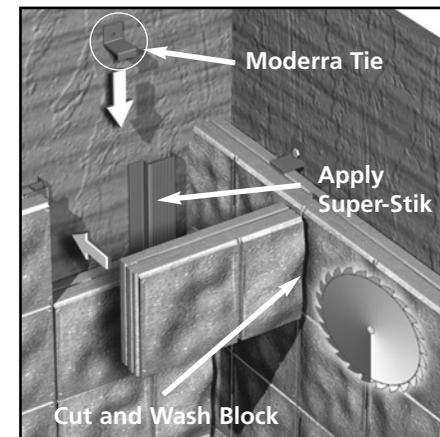
Next, add another Trim Channel to the adjoining corner approximately 4" to 5" from the edge. For details on attaching the Trim Channels, see **FASTENING MODERRA**, pg. 5.

Cut your Moderra Blocks so they fit snugly in the corner. For details, see **CUTTING MODERRA**, pg. 3.



*Note: Remember to follow proper safety procedures when cutting. This includes, but is not limited to, safety glasses, dust mask, and ear plugs.*

As you set Blocks into place, apply a thin layer of Super-Stik to the Trim Channel. This will adhere the Blocks to the Trim Channel. Tap them into place and level. Additionally, you can use a Moderra Tie for cut block. Continue this process until your inside corner is complete. For details, see **USING MODERRA TIES**, pg. 4.



**INSTALLING MODERRA BLOCKS VERTICALLY**

Once you have installed your initial corner, you can now apply Moderra Blocks. Moderra's innovative H-Channel technology allows the Blocks to be installed vertically into "columns".

**1. Attach an H-Channel**

A Moderra column should always be started at a corner. If you are using Moderra Corners, you will simply slide 8" Blocks into the existing H-Channel.

If your wall does not involve a corner, start by affixing an H-Channel to the wall. Then slide the 8" Blocks into the H-Channel. This type of installation may require flashing to finish off the side of the Moderra wall.

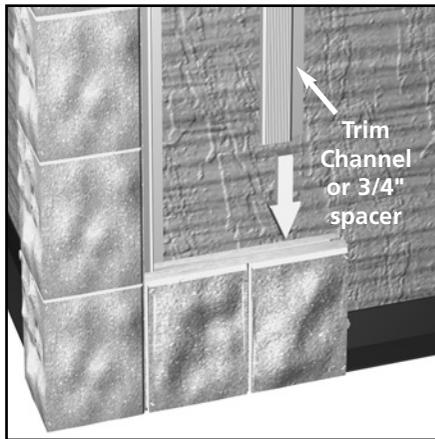
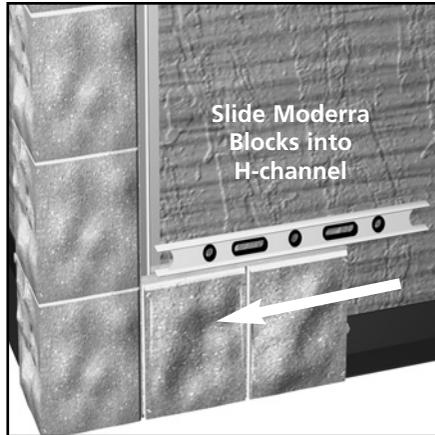
*Note: When building with the 8" or 4" Blocks, make sure the Atmospheric Gasket and chamfer always faces up.*

**2. Stack the Blocks**

While stacking the Blocks, use a Trim Channel or 3/4" board as a spacer between the Moderra and the wall. This will make it easier to insert the next H-Channel once the column is built.

Slide additional 8" Blocks into the attached H-Channel and tap into place with a rubber hammer. Level each block on the top and side to ensure a straight wall and to minimize seams between the Blocks and columns. Sweep the top of each Block to remove all dust and debris before installing the next Block.

*Note: Use shims when necessary to keep Moderra Blocks level.*



**3. Attach Another H-Channel to Complete the Moderra Column**

Once you've reached your desired height, remove the Trim Channel or 3/4" spacer and slide an H-Channel into the installed Blocks. Tap it securely into place with a rubber hammer. The flange should be pointing outward.

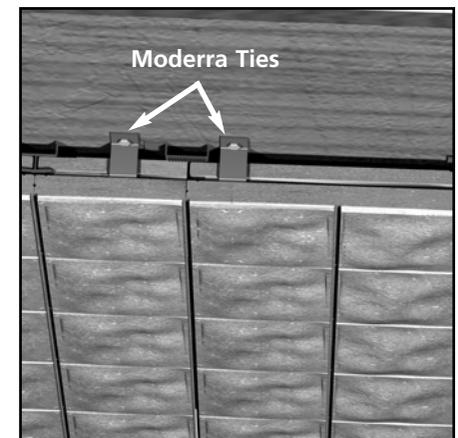
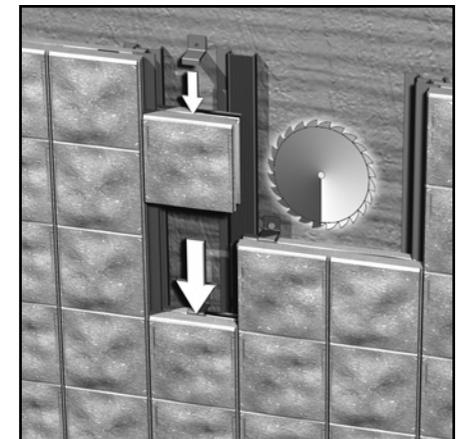
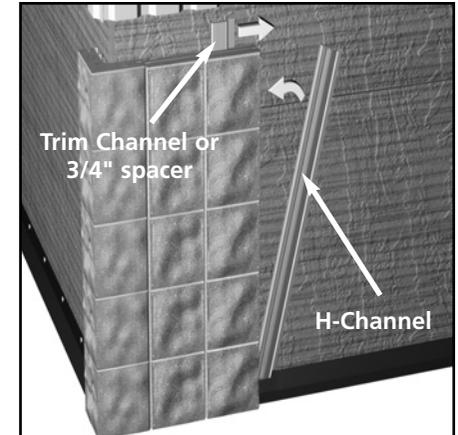
Once the H-Channel is securely in place, attach it to the wall surface every 24". For details, see **FASTENING MODERRA**, pg. 2.

Continue to build additional Moderra columns using steps 1 through 3 until you have finished installing your Moderra wall.

**BRINGING TWO WALLS TOGETHER**

As you near completion of your Moderra project, you may need to connect two walls. First, build one wall completely. Then build the second wall completely but leave some space for one full Block plus a partial Block as illustrated. When making the partial Block, cut a full Block to the size of the remaining column. Apply glue to the Trim Channel so both the full Block and partial Block will be adhered to the channel. Additionally, a Moderra Tie can be used for more security.

Repeat this step until the wall is at the desired height



## FINISHING WITH THE MODERRA SILL BLOCK

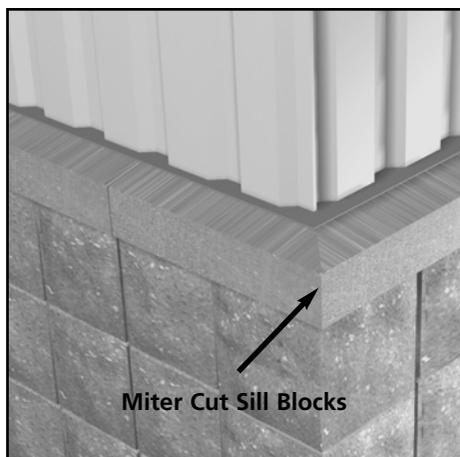
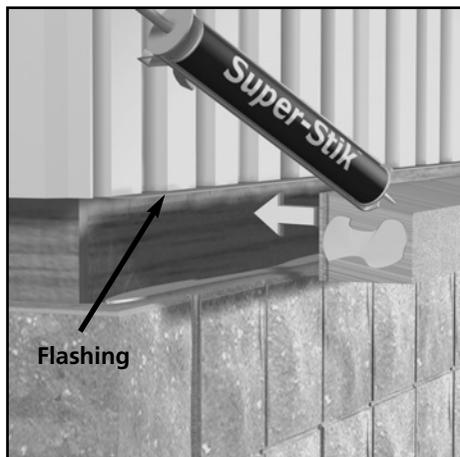
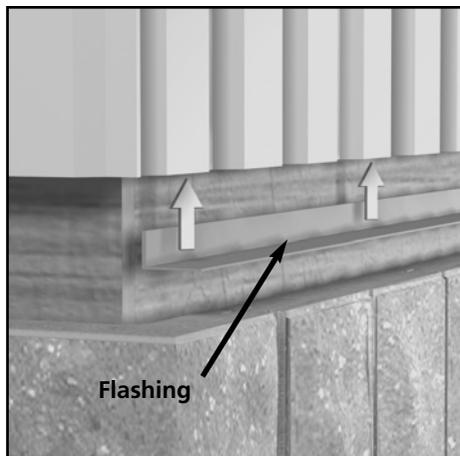
First, install flashing at the bottom of your existing siding. This will help to prevent moisture from falling behind your Moderra wall.

Next, apply a thin layer of Super-Stik concrete adhesive to the top of the Moderra Blocks and on the side of the Moderra Sill Block. This will secure the Blocks into place. Set the Moderra Sill Block onto the glue and tap into place. Continue gluing and placing the Sill Blocks until finished.

At outside and inside corners, fit Moderra Sill Blocks with a 45-degree miter cut. For details, see **CUTTING MODERRA**, pg. 3.

Once the Sill Blocks are all in place, your finished Moderra wall should look as follows.

*Note: When using a product other than the Moderra Sill Block, refer to that product's installation guidelines.*



## DOORS AND OPENINGS

### ENCOMPASSING DOORS

Start by fastening Trim Channels along the outside edge of the door. Next, if your Moderra wall is going to extend above the door, attach a Starter Ledge or angle iron at the top. For details, see **INSTALLING THE STARTER LEDGE**, pg. 7.

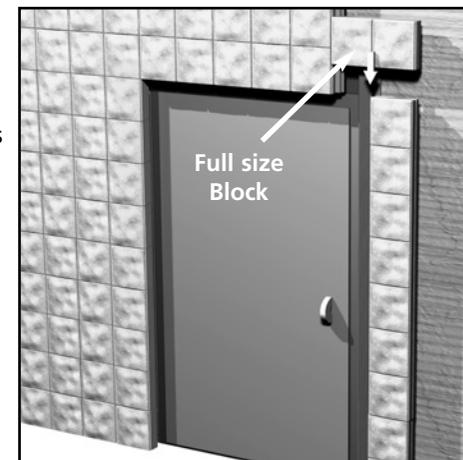
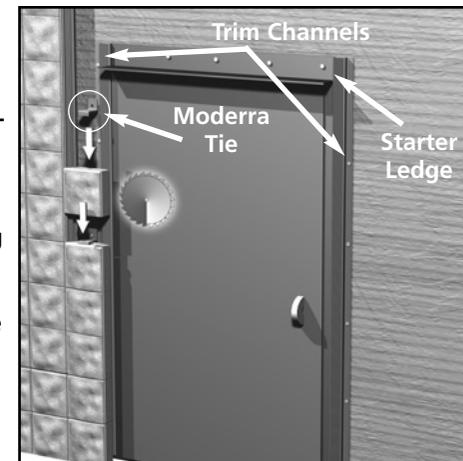
Now that your door is prepared, cut your Moderra Blocks to the length needed.

Apply a thin layer of Super-Stik to the Trim Channel and install the cut Blocks into the corresponding H-Channel or Moderra Bracket. Additionally, you can use a Moderra Tie. For details, see **USING MODERRA TIES**, pg. 2.

Continue up the wall until past the door. Once past the door, cut the block to proper length and height to go on the Moderra Starter Ledge and continue.

Proceed up the opposite side of the door in the same way you did the first. Cut the Moderra Blocks so they will be the same length as the top of the door.

When the door is finished, place flashing or caulking between the door and the Moderra Blocks to prevent moisture from falling behind the wall.



**ENCOMPASSING WINDOWS**

Start by fastening Trim Channels along the outside edge of the window. Next, if your Moderra wall will extend above the window, attach a Starter Ledge or angle iron at the top. For details, see **INSTALLING THE STARTER LEDGE**, pg. 7. Now that your window is prepared, cut your Moderra Blocks to the proper length.

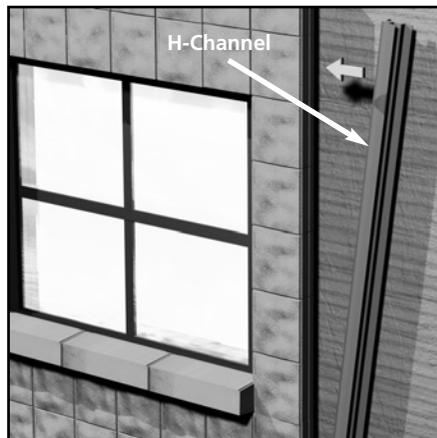
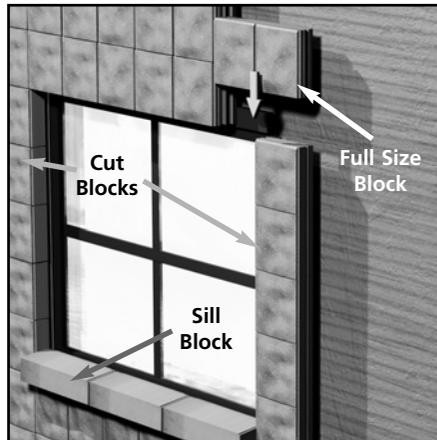
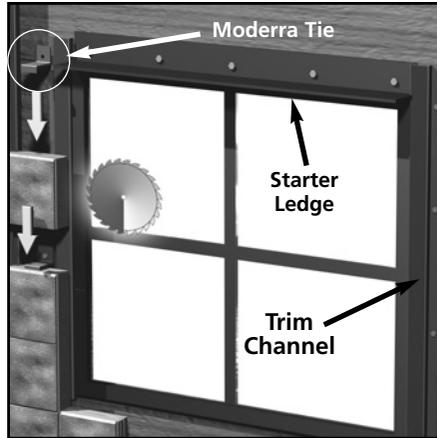
Apply a thin layer of Super-Stik to the Trim Channel and install the cut Blocks into the corresponding H-Channel. Additionally, you can use a Moderra Tie. For details, see **USING MODERRA TIE**, pg. 4.

Continue up the wall until past the window. Once past, the window, cut the block to proper length and height to go on the Moderra Starter Ledge and continue.

Proceed up the opposite side of the window in the same way you did the first. Cut the Moderra Blocks so they will end at the same length as the Blocks at the top of the window.

When building your wall beneath a window, finish with a 4" space between the top of the wall and the bottom of the window. This space is needed for the Moderra Sill. Sill Blocks should be installed under the window and glued into place using Super-Stik.

When the window is finished, place flashing or caulking between the window and the Moderra Blocks to prevent moisture from falling behind the wall.

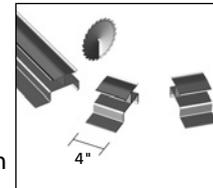


**BUILDING A 16" MODERRA PILLAR**

The standard Moderra pillar is 16" square (outside dimension) with a 9-1/2" square interior. To increase the size of your pillar, add Moderra Blocks in full or partial sizes.

Begin by furring your support to accommodate the inside dimension of your Moderra pillar. Attach an H-Channel the height of your Moderra pillar on opposite sides of one another.

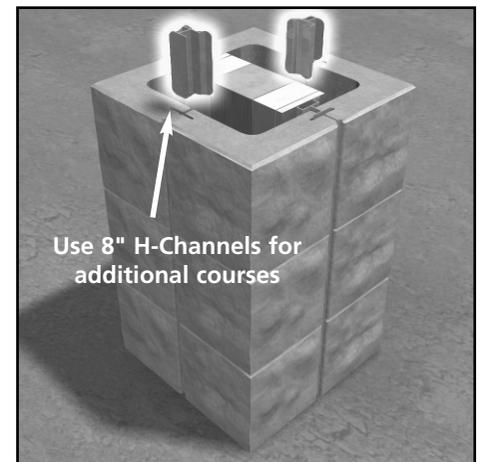
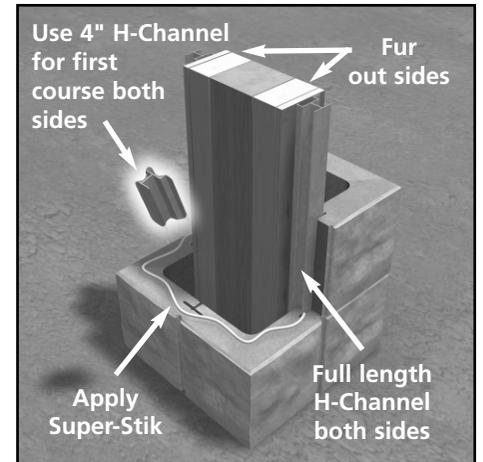
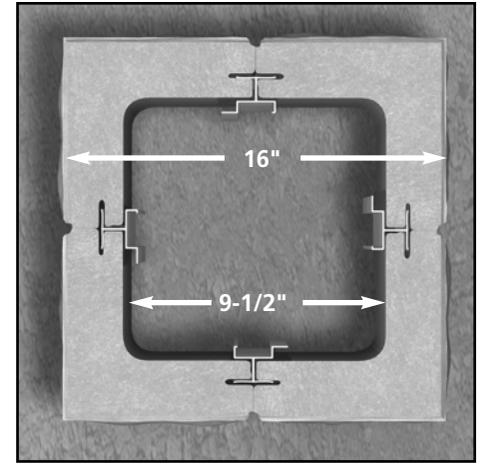
Build the first course around your support. Cut the H-Channel into 4" clips to adjoin the Corner



Blocks perpendicular to the full length H-Channels. These 4" clips should not be affixed to the pillar support.

As you continue with additional courses, cut the H-Channels into 8" pieces to adjoin the corner Blocks perpendicular to the full length H-Channel. This will ensure Corner Blocks are interlocked with the courses above and below them. Again, do not affix these to the pillar support. Use Super-Stik glue for added rigidity.

*Note: Consult a structural engineer when utilizing a Moderra pillar for structural support.*

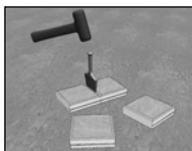


**ENCLOSING A DECK**

Moderra can easily be used to enclose a raised patio/deck.

Start at the lowest corner of the deck. Dig a trench, fill with gravel, and compact with tamper. Position and level the Starter Ledge.

The first corner consists of a full width Block, and a 1/2 Block. Split a full size Block to make it 8" long.



Place one Block on top of another. Check to ensure the column is straight and level. Place an H-Channel in the grooves on the side of the Blocks once the column is complete.



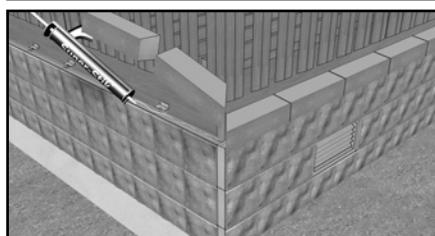
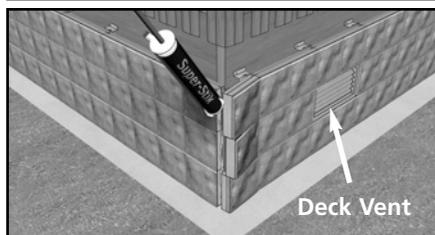
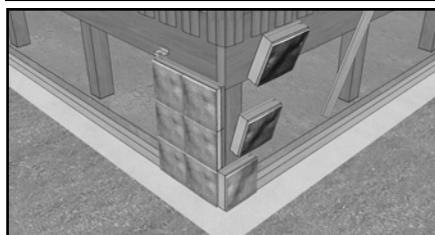
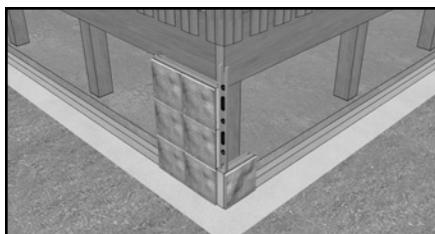
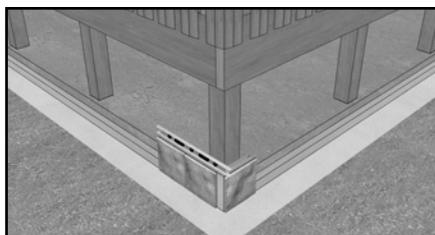
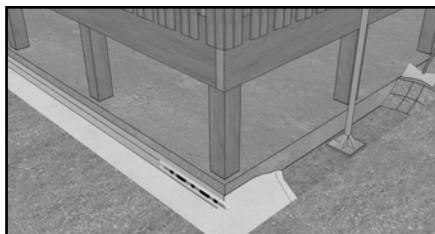
Place a Moderra Deck Bracket in the slot on the backside of the H-Channel. Screw the bracket into the deck.



Continue building additional columns.

Substitute a full Block with a Moderra Deck Vent to allow for air movement. Glue corners together with Super- Stik when the last column is finished.

Finish the Moderra enclosure by installing Moderra Sill Block with Super-Stik glue. Landscape around the enclosure when finished.



**8" Moderra Block\***  
 Size ..... 8"H x 16"W x 2.5"D  
 Weight ..... 25 lbs.  
 Area ..... 0.889 sq.ft.



**4" Moderra Block\***  
 Size ..... 4"H x 16"W x 2.5"D  
 Weight ..... 12 lbs.  
 Area ..... 0.445 sq.ft.



**8" Moderra Corner Block\***  
 Size ..... 8"H x 8"W x 2.5"D  
 Weight ..... 22 lbs.  
 Area ..... 0.889 sq.ft.



**4" Moderra Corner Block\***  
 Size ..... 4"H x 8"W x 2.5"D  
 Weight ..... 11 lbs.  
 Area ..... 0.445 sq. ft.



**4" Moderra Sill Block\***  
 Size ..... 4"H x 16"W x 4.5"D  
 Weight ..... 18 lbs.  
 Area ..... 0.445 sq.ft.

\*Actual block size, weight, compression strength, and absorption are manufactured to meet minimum specifications and may vary by manufacturer.



**Moderra Tie**  
 Material ..... Galvanized Steel



**Moderra Deck Bracket**  
 Material ..... Galvanized Steel



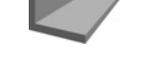
**Moderra Deck Vent**  
 Size ..... 8"H x 16"W



**Moderra H-Channel**  
 Material ..... Aluminum  
 Weight ..... 4.32 lbs.  
 Length ..... 8 ft.



**Moderra Trim Channel**  
 Material ..... Aluminum  
 Weight ..... 3.16 lbs.  
 Length ..... 8 ft.



**Moderra Starter Ledge**  
 Material ..... Pre-drilled Steel  
 Size ..... 3"H x 3"W x .25"D  
 Weight ..... 49 lbs.  
 Length ..... 10 ft.



**Super-Stik™**  
 Weight ..... 10-1/2 oz.

## GENERAL INFORMATION

### EFFLORESCENCE, CLEANER & SEALER

All cement products are susceptible to efflorescence or frost. While we know how and why efflorescence occurs, it is almost impossible to prevent.

When the cement, which contains lime, is mixed with sand, rock, and water and begins to harden, the free lime in the cement turns into calcium hydroxide. Although concrete products are solid, they contain millions of microscopic pores that go from the surface down into the interior. As the concrete starts to cure, water migrates to the surface through the pores, carrying with it calcium hydroxide. When the calcium hydroxide comes into contact with air, a hard white substance called efflorescence or frost is formed. This sticks to the surface of the concrete. This will continue as long as the concrete is curing.

Efflorescence will disappear, but it could take a few years. If the frost

is very obvious and detracts from your Moderra Concrete Veneer, you can remove it by using a standard masonry cleaner.

When using a masonry cleaner, follow the instructions given. After using the product, it is recommended to apply a concrete sealer on the surface of the Moderra Concrete Veneer to eliminate efflorescence from occurring again.

### EXTERIOR APPLICATIONS

Make sure the application of Moderra Concrete Veneer products and the structure it is being applied to incorporate good building practices.

On exterior applications, the incorrect installation or absence of flashing, cant strips, gutters, and downspouts may result in diversion of water run-off onto finished surface areas. Masonry and other building products subjected to these conditions may develop staining, and when combined with

severe freeze-thaw conditions, may eventually suffer surface damage. The application of Moderra Concrete Veneer under these conditions is not recommended.

### RESTRICTIONS

Use Moderra Concrete Veneer products only on buildings that meet current local building codes where applicable. Building code requirements vary. Check with local authorities for building code requirements in your area. Carefully read all Installation Guidelines before proceeding with your Moderra Concrete Veneer application.

### TRADEMARKS AND PATENTS

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