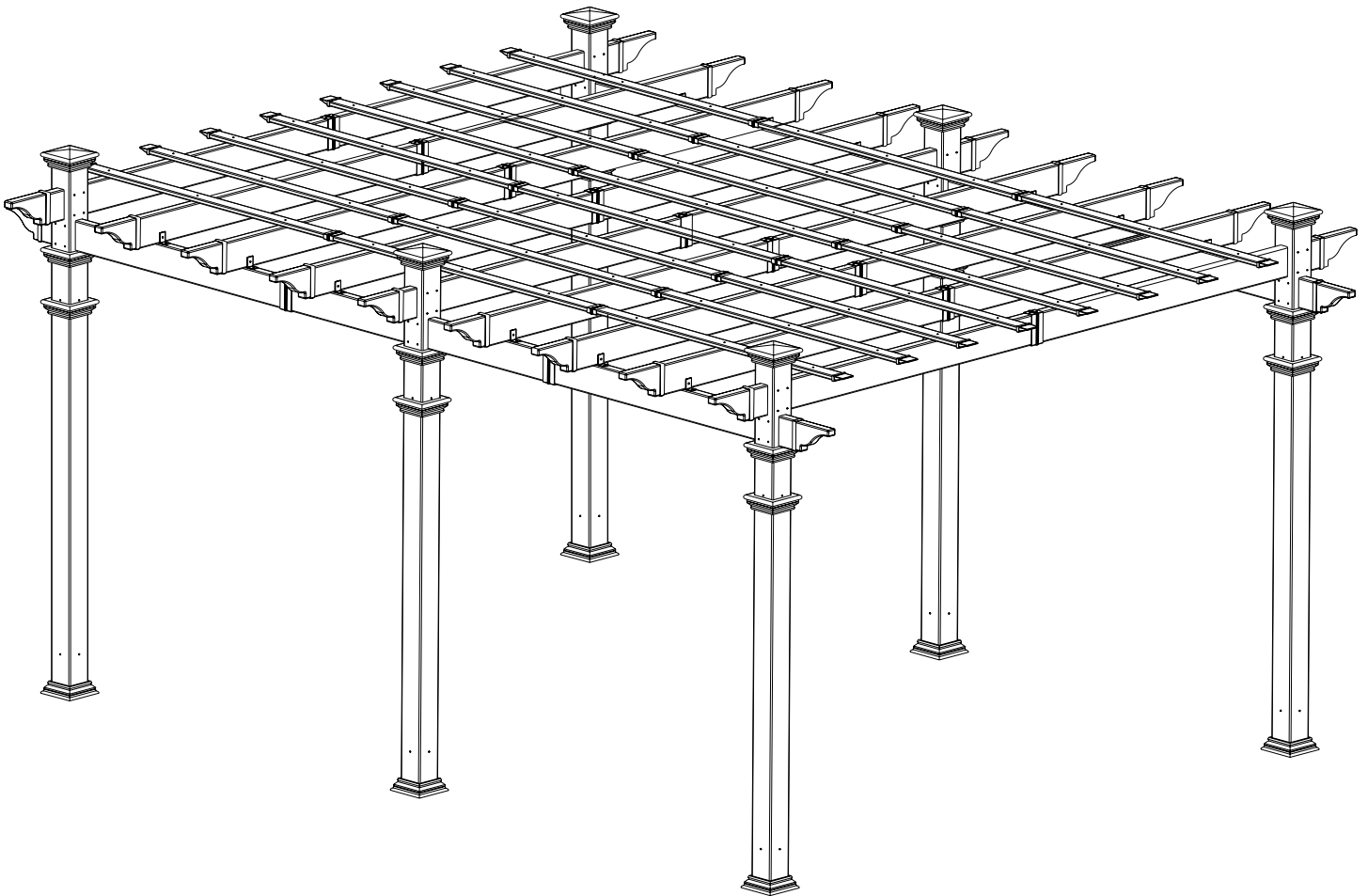


# Barcelona Pergola

12'X16' (365CMx487CM)



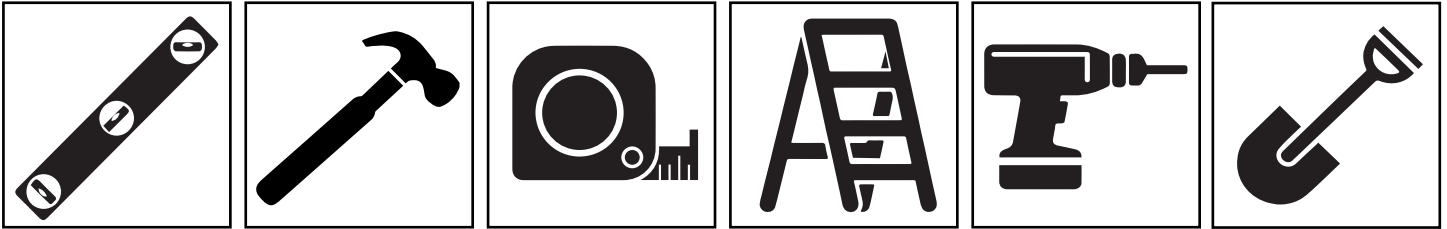
# GETTING STARTED

First off, allow us to say thank you for the investment you have made in our fine pergola. This pergola is designed to be assembled and installed ideally by two people with basic carpentry knowledge and tools. Do not attempt alone, especially during the installation stage. Should you decide to moderately modify the dimensions of your pergola from the standard size, a circular saw with a sharp fine-tooth blade is all that is needed to cut, shorten or modify the vinyl components. When assembling components place on a non-abrasive surface (ie: shipping box) to avoid scratching. We recommend a 20'x20' area for unobstructed assembling. You should not need to use excessive force when assembling any components.

## PLANNING & PREPARING

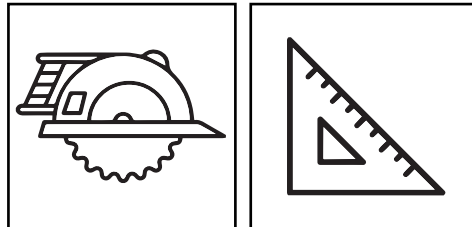
Please follow the instructions closely and plan ahead to avoid confusion and issues during installation. What looks like the toughest part of this project is actually the easiest! The graceful, solid-looking columns we've designed simply can be slipped over pressure treated 4x4 wood posts that are either embedded in concrete or directly mounted to a concrete or wood surface using our bolt down brackets. See pages 10 and 11 for more details. It is critical before you start that you consider the current slope of elevation where the pergola is planned - if there is any. Also utility or sprinkler line location is important to identify prior to excavating holes if necessary. You should also check to verify local building codes, ordinances, neighbourhood covenants, or height restrictions regarding this type of structure.

## TOOLS YOU WILL NEED



## TOOLS YOU MAY NEED

• Circular Saw with Fine Tooth Blade • Framing Square



This product is not designed to carry additional weight loads such as swings, people or other objects. Please take the time to read this instruction guide thoroughly prior to the construction of your pergola. If you have any questions, feel free to contact our technical department by calling:

North America: 1 800 282 9346 (Mon to Fri 8:00 A.M to 4:00 P.M. EST).

UK TEL: (44) 2038 687160 - Mon. to Fri. 1:00 PM to 10:00 PM GMT.

**New England**  
Arbors

[WWW.NEWENGLANDARBORS.COM](http://WWW.NEWENGLANDARBORS.COM)

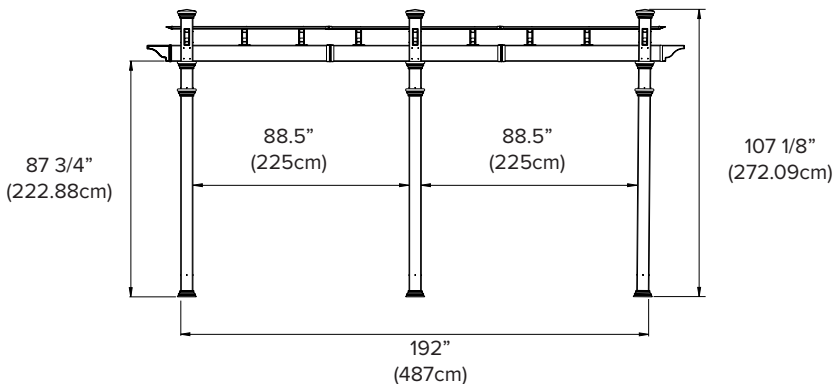
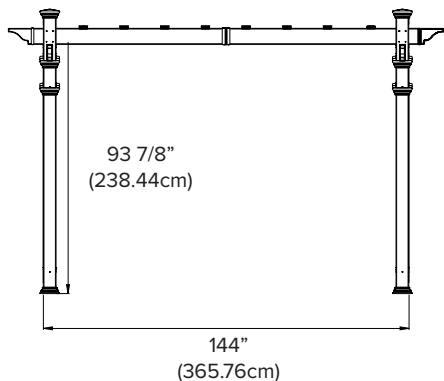
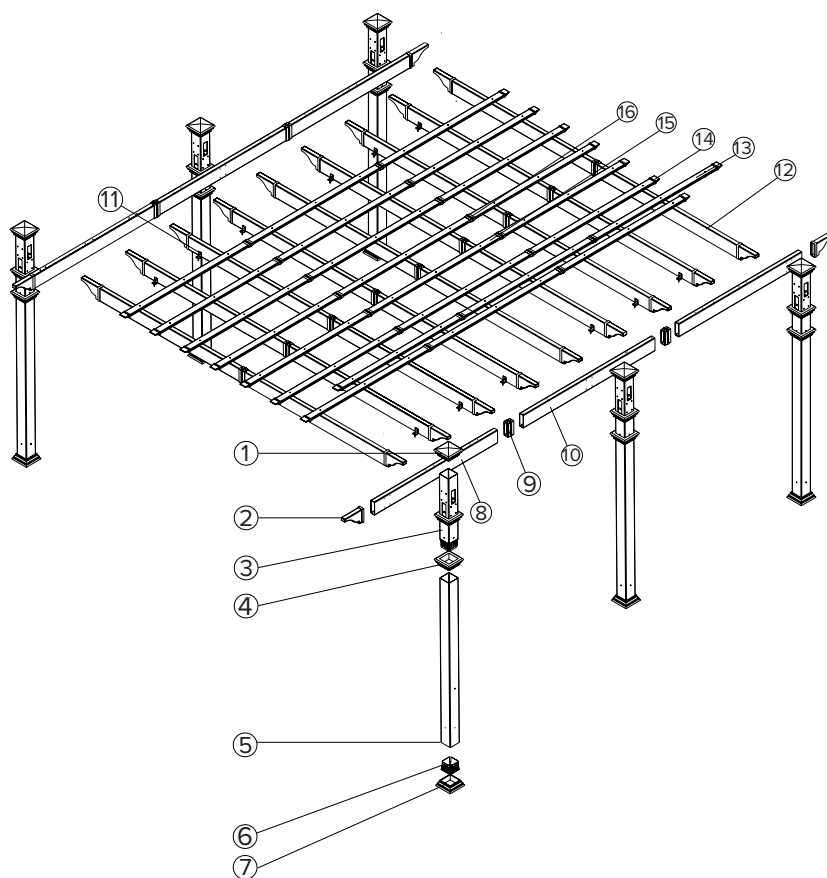
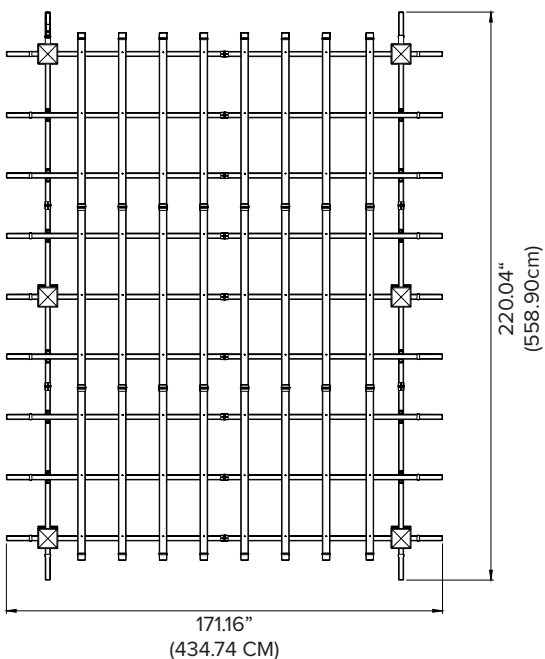
[WWW.NEWENGLANDARBORS.CO.UK](http://WWW.NEWENGLANDARBORS.CO.UK)

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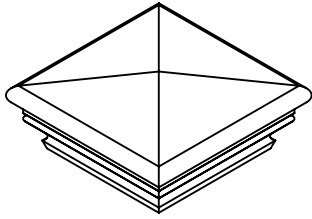
# MATERIALS OVERVIEW

- |  |   |   |
|--|---|---|
| <p>1. <b>10699-1 - Post Cap</b><br/>5"x5" (12cmx12cm) - (x6)</p> <p>2. <b>10829 - Pergola End</b><br/>2"x6" (5cmx15cm) - (x22)</p> <p>3. <b>10826 - Column Top</b><br/>5"x5"x29" (12cmx12cmx73.6) - (x6)</p> <p>4. <b>10698 - 1 - Post Trim</b><br/>5"x5" (12cmx12cm) - (x12)</p> <p>5. <b>10816 - Post Bottom</b><br/>5"x5"x76" (12cmx12cmx193) - (x6)</p> <p>6. <b>10696-1 - One Way Internal Post Guide</b><br/>4"x4" (10cmx10cm) - (6)</p> | <p>7. <b>10916 - Post Base Trim</b><br/>5"x5" (12cmx12cm)- (x6)</p> <p>8. <b>11075 - Outer Beam</b><br/>2"x6"x 65.125" (5cmx15cmx165cm) - (x4)</p> <p>9. <b>10820 - Joiner</b><br/>2"x6" (5cmx15cm) - (x13)</p> <p>10. <b>11074 - Inner Beam</b><br/>2"x6"x70" (5cmx15cmx177) - (x2)</p> <p>11. <b>10827 - U-Bracket</b><br/>2" (5cm) - (x12)</p> <p>12. <b>Rafter - 10818</b><br/>2"x6"x75.338" (5cmx15cmx191cm) - (x18)</p> | <p>13. <b>11071 - Outer Shade Slat</b><br/>.875"x3"x65.25" (2cmx7cmx165cm) - (x16)</p> <p>14. <b>10998 - Decorative End Cap</b><br/>.875"x3" (2cmx7cm) - (x16)</p> <p>15. <b>11063 - Inner Shade Slat</b><br/>.875"x3"x70" (2cmx7cmx177cm)- x8)</p> <p>16. <b>11049 - External Coupler</b><br/>.875"x3" (2cmx7cm) - (x16)</p> |
|--|---|---|



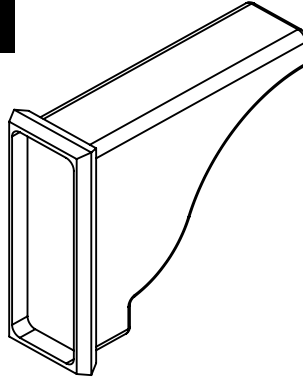
# MATERIALS BREAK DOWN

**1**



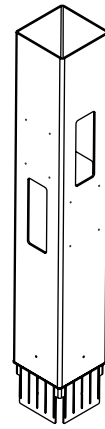
**10699 - 1 - POST  
CAP (X6)**

**2**



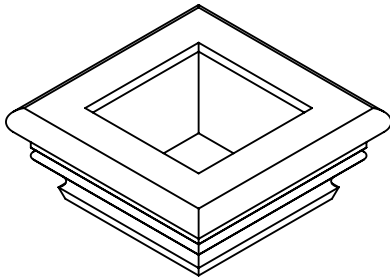
**10829 - BEAM AND  
RAFTER END  
CAPS (X22)**

**3**



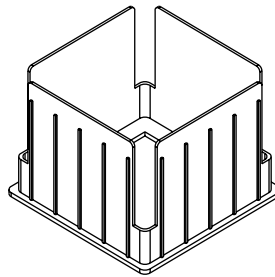
**10826 - COLUMN  
TOP  
(X6)**

**4**



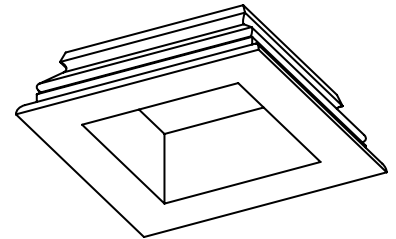
**10698 - POST  
TRIM (X12)**

**5**



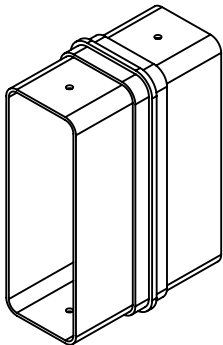
**10696 - ONE WAY  
INTERNAL POST  
CONNECTOR (X6)**

**7**



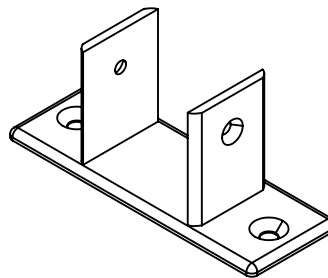
**10916 - POST  
BASE  
TRIM (X6)**

**9**



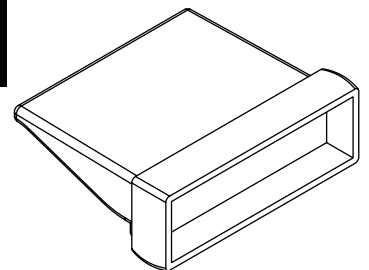
**10820 - JOINER  
(X13)**

**11**



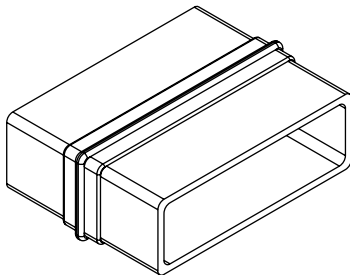
**10827 -  
U-BRACKET  
(X12)**

**14**



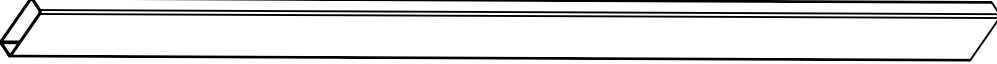
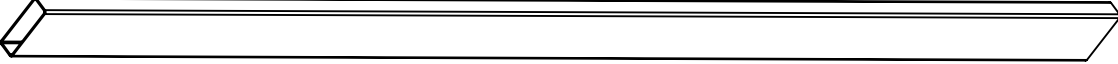

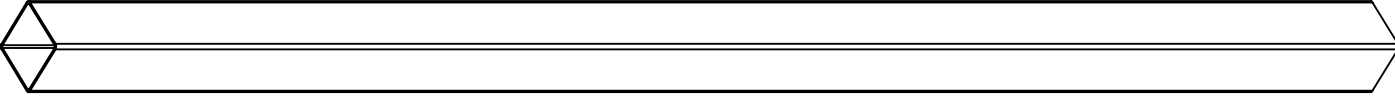
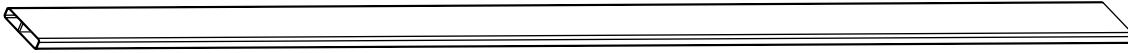
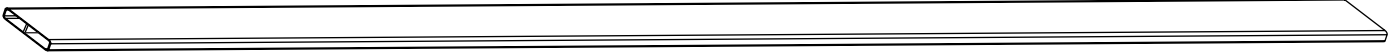
**10998 -  
DECORATIVE END  
CAP (X16)**

**16**



**11049 - EXTERNAL  
COUPLER (X16)**

# MATERIALS BREAK DOWN

- 8**   
**11075 - OUTER BEAM (X4)**  
**2 x 6x 65.125"**  
**(5 x 15 x 238CM)**
- 10**   
**11074 - INNER BEAM (X4)**  
**2 x 6 x 70"**  
**(5 x 15 x 177CM)**
- 12**   
**10818 - RAFTER BEAM**  
**(X18)**  
**2 x 6 x 76"**
- 6**   
**10816 - POST**  
**BOTTOM (X6)**  
**5 x 5 x 76"**  
**(12 x 12 x 193CM)**
- 13**   
**11071 - OUTER**  
**SHADE SLAT (X16)**  
**.875 x 3 x 65.25"**  
**(2.22 x 7 x 165CM)**
- 15**   
**11063 - INNER**  
**SHADE SLAT (X8)**  
**.875 x 3 x 70"**  
**(2.22 x 7 x 177CM)**

# ADDITIONAL MATERIALS LIST

2 1/2" (6.35CM) X120



4" (10CM) X96



PART # - 20000 - 1 1/2 OZ X4



1 1/2" (3.81CM) X76



5/8" (1.58CM) X24



## ADDITIONAL MATERIALS TO BE PURCHASED

**1**



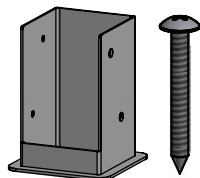
**If Mounting Pergola in Ground:** 4x4x10' (10x10x300cm) Pressure Treated Wood for Posts. Purchase at local building centre. QUANTITY: x6

**2**



**If Mounting Pergola on Concrete or Wood Deck (not intended to be installed on concrete pavers, patio stones, or interlocking bricks):** 4x4x7' [10cmx10cmx200cm] Pressure-Treated Wood Posts (6). Purchase at local building centre.

**3**



**Refer to bolt down bracket instructions for hardware requirements, as they pertain to your application:** 4x4 Bolt Down Bracket Kit. (purchase from [www.newenglandarbors.com](http://www.newenglandarbors.com) or a retailer of our products)

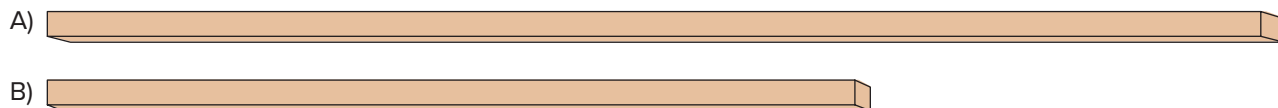
**If mounting pergola onto an existing concrete surface:**

- 1/2" x 3 1/2" x 12" (1.3x9.x30.5cm) Wood Shims (24) - Can Be Cut from 1/2" (1.3cm) Sheet of Plywood
- 1/4" x 2 3/4" (6x70mm) Cement Screws - Countersunk Head (9)
- 3/16" (5mm) Concrete drill bit. Minimum 3" long (1)

**If mounting pergola onto a wooden/composite deck with AN ACCESSIBLE UNDERSIDE:**

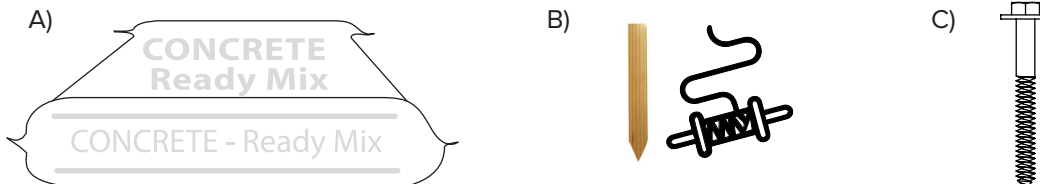
- 1/2" x 3 1/2" x 12" (1.3x9.x30.5cm) Wood Shims (24) - Can Be Cut from 1/2" (1.3cm) Sheet of Plywood
- 1/4" x ?" (6x?mm) Bolts and Nuts - Countersunk Head (9) (Length depends on the thickness of the blocking material)
- 1/4" (6mm) Washers (9)
- 1/4" (6mm) Wood drill bit. Minimum 3" long (1)

**4**



- A) 2x6x12' (5x15x365cm) Pressure Treated Wood for Rafter Beams. Purchase at local building centre. QUANTITY: x9  
 B) 2x6x16' (4x15x488cm) Pressure Treated Wood for Support Beams. Purchase at local building centre. QUANTITY: x2

**5**

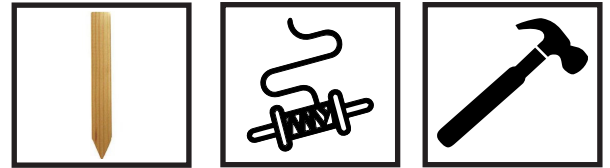


- A) Concrete Ready Mix. Purchase at your local building centre. QUANTITY: x6 (one per column bottom)  
 B) 6 Wood Stakes and small roll of String. Purchase at your local building centre  
 C) 3/8" x 3 1/2" (10x90mm) Lag Screws (for wood wall) or Anchor Screws (for brick or concrete wall) QUANTITY: x11 (purchase at local building center, also purchase drill bit)

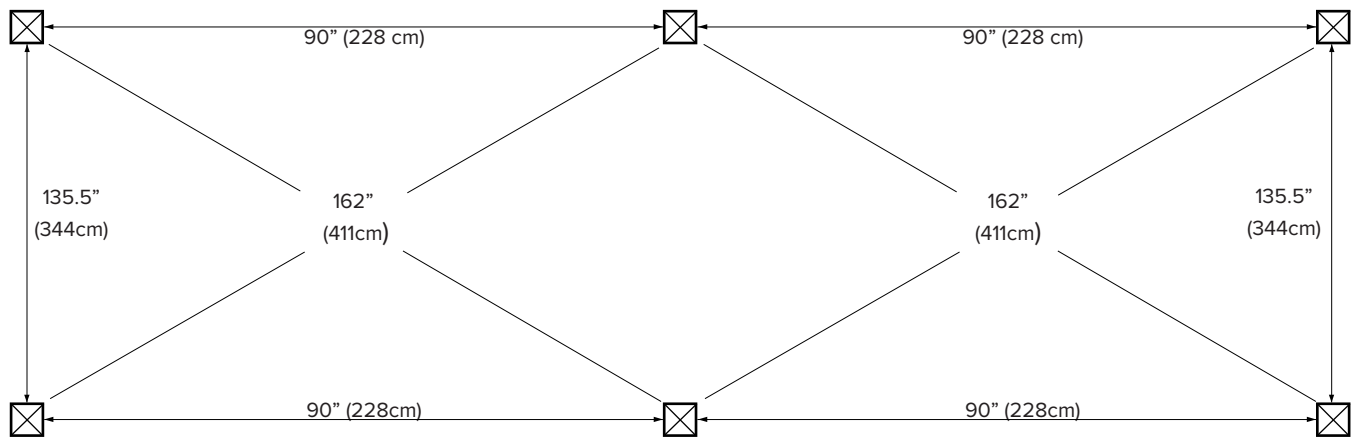
# Step 1

## ARRANGING YOUR WOOD POSTS

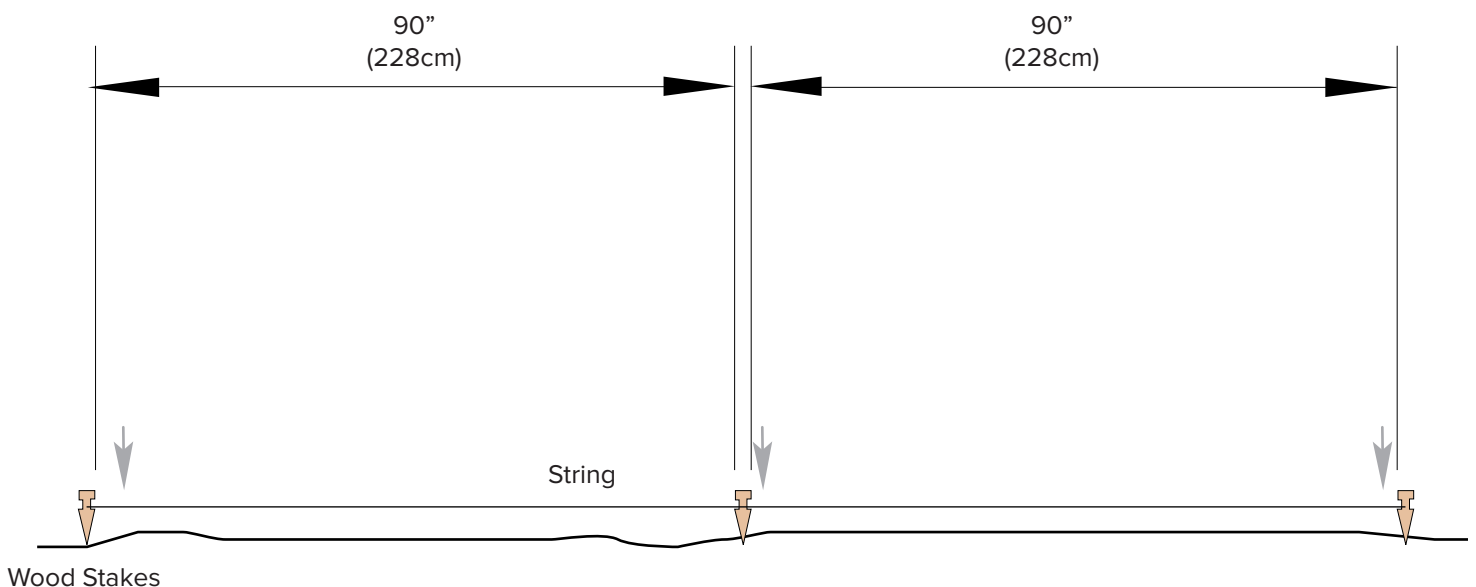
Determine the area you want to start building your pergola. At one end of the desired area, hammer one wooden stake into the ground, tie a piece of string around it and measure to a length of 90" (228cm). This is where your second wood stake needs to be hammered into the ground. Measure this same distance a second time and you have now laid out where your three posts will be. Refer to the top view layout, measure out where second series of posts will start and repeat the same process of hammering you three wood stakes.



Top View



Side View

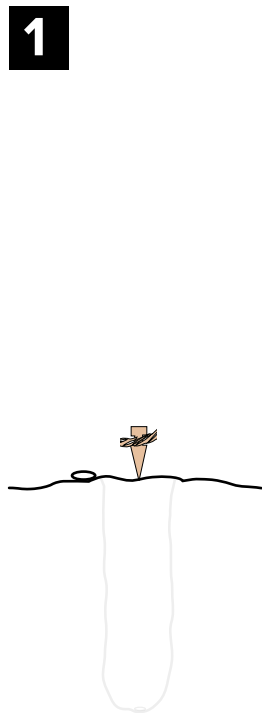




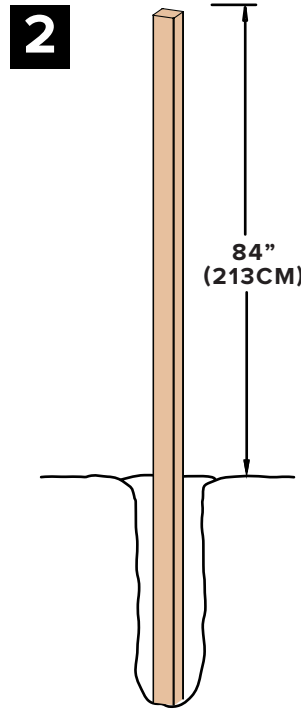
# Step 2

## INSTALLING WOOD SUPPORTING POSTS FOR IN GROUND

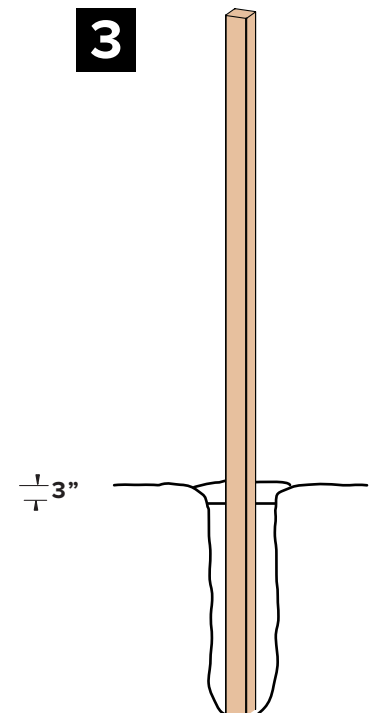
Post location and placement is the most critical step in the overall installation process. Please double check for the possibility of any underground utilities such as sprinkler, gas or telephone lines. Make sure that your wood posts are straight using a level.



1 With your wood stakes in position aligned by the string and you have determined the location of where you want your posts to be, excavate 10" (25.4cm) diameter x 36" (91.4cm) deep post holes.



2 After holes are dug and cleaned, place the 4x4 (10cmx10cm) wood post into a hole ensuring it's level and square to string lines. The final post height should be 84" (213cm) out of the ground. If a post is higher because of obstructed excavation of footings, please cut down the height accordingly.

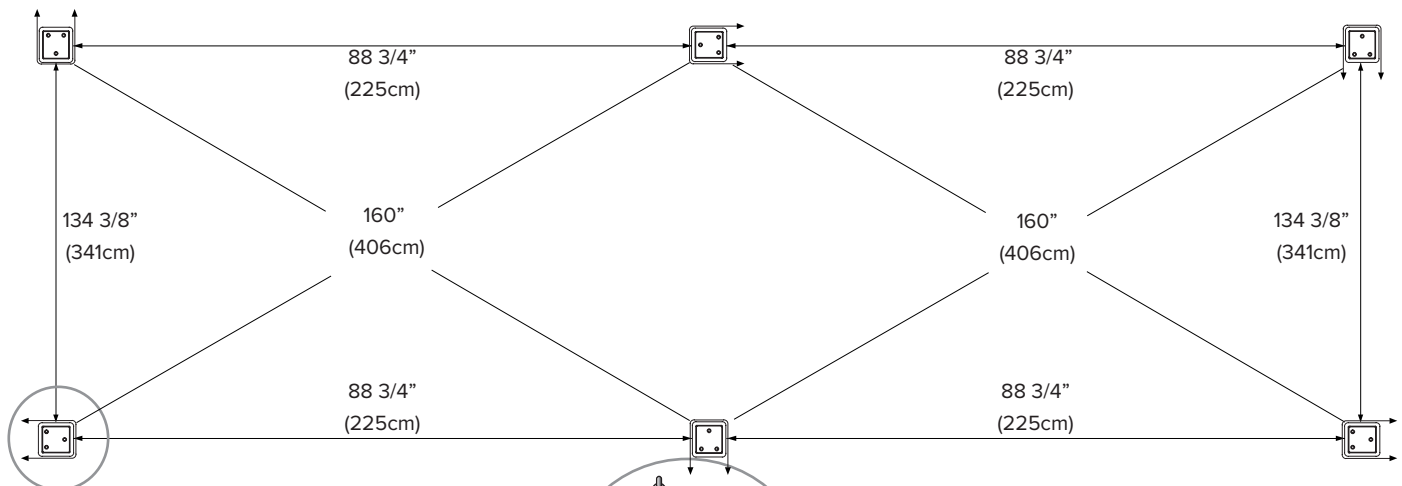
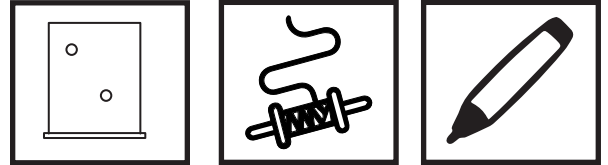


3 Fill the vacant hole with pre-mixed concrete all the way to within 3" (7.6 cm) of the top of the hole. Once concrete has set, backfill and compact the 3" (7.6 cm) space with soil.

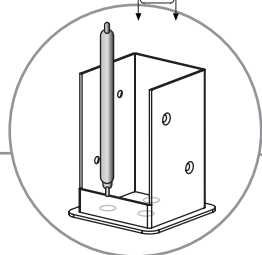
# Optional Step

## INSTALLATION OF BOLT DOWN BRACKET FOR CONCRETE OR WOOD SURFACE

Determine the area you want to start building your pergola. At one end of the desired area, Measure from the edge of the bottom base plates, measure and mark out the location of the next bolt down bracket using string or a chalk line. Adjust string lines accordingly. Please note installation of the bolt down brackets have the same measurements on previous pages. **Not to be used on concrete pavers, patio stones, or interlocking bricks!**

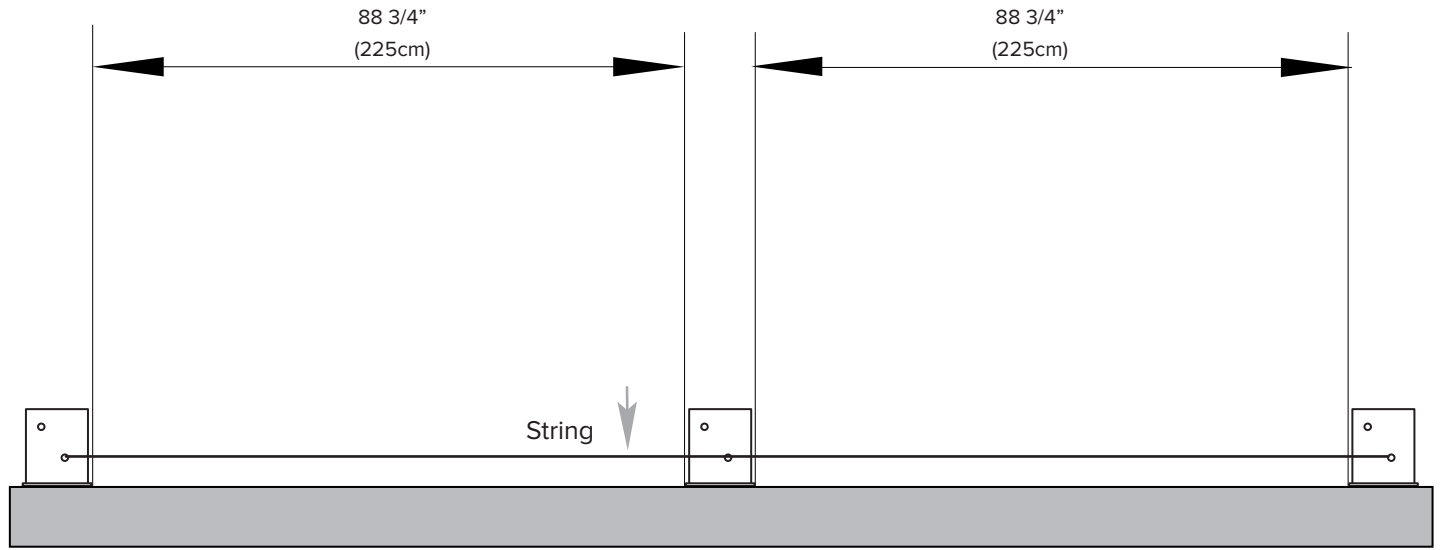


Orientate brackets accordingly to reduce offset motion of posts. (direction of arrows denote flange opening)



You can mark out the location of bolt down brackets accordingly using the base of the bracket if desired.

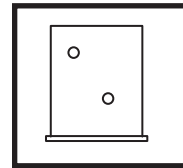
Side View



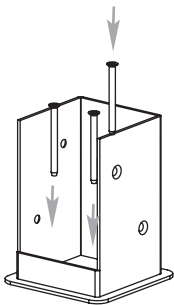
# Optional Step

## INSTALLATION OF BOLT DOWN BRACKET FOR CONCRETE OR WOOD SURFACE

Concrete patios generally have sloped surface for water run-off. If this is the case, when you secure the bolt down bracket to the concrete, the bracket may be at an angle. This can be corrected for level using galvanized steel washers (not provided), acting as shims underneath the base to level - VERY IMPORTANT OR PERGOLA BEAMS AND RAFTERS WILL NOT BE LEVEL.

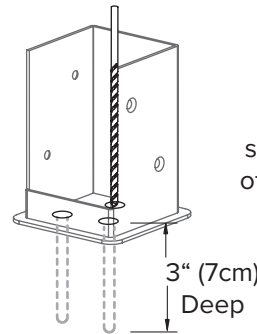


**1**



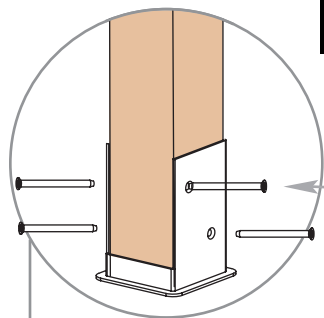
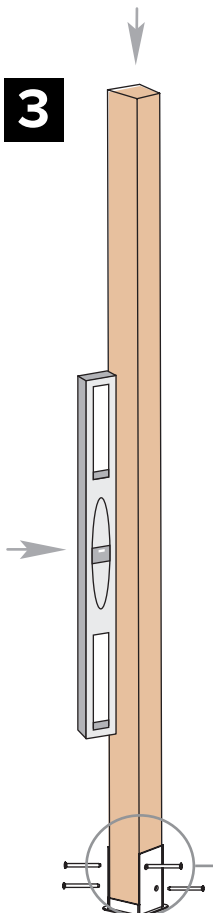
Using a 3/16" (0.47625cm) masonry drill bit (not included), drill 3" (7cm) deep holes to allow installation of 2 3/4" (6.985cm) concrete screws (Not included).

**2**



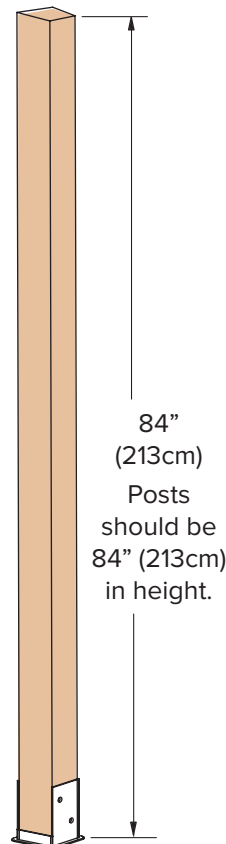
Proceed to install three 2 3/4" (6.985cm) concrete screws into the bottom base of the bolt down bracket (Not included).

**3**



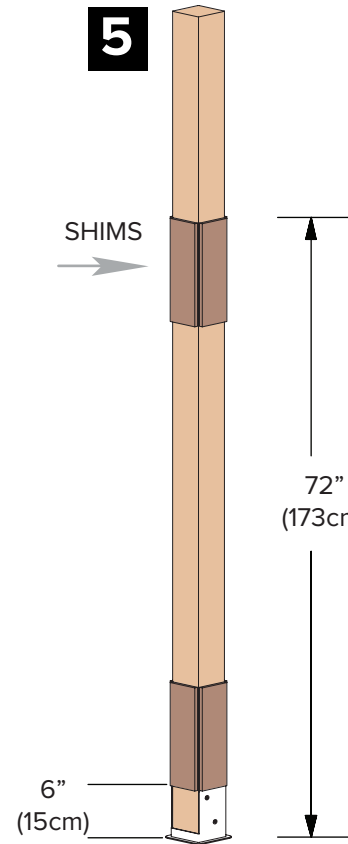
Make sure to first cut your wood post down to 84," this is a critical step. With the six bolt down brackets installed plumb, proceed to set the 4x4x10' (10x10x300cm) wood posts in place. Secure the wood posts using the screws provided with the bolt down bracket kit. Repeat for all wood posts.

**4**



84" (213cm)  
Posts should be 84" (213cm) in height.

**5**



In order to create a snug fit between the wood posts and the inner cavity of the vinyl posts, it will be necessary to "build out" the 4"x4" (10cmx10cm) posts near the bottom and the top using 1/2" x 3 1/2" x 12" (1.27x 8.89x365cm) shims. Follow instructions as illustrated.

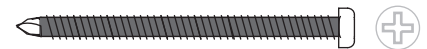
# Step 3

## WOOD POST AND VINYL COLUMN ASSEMBLY

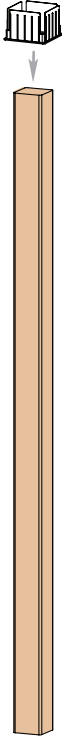
Screws going into vinyl and wood post will prevent possible uplift during high winds, harsh weather, etc.



2 1/2" (6.35CM) X8

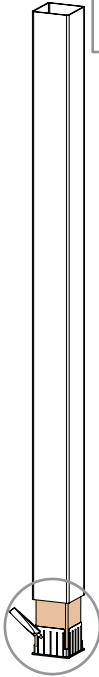


**1**




Slide one 5"x5" (12x12cm) Internal Wood Post guide down your secured wood post. Do this step if wood post is submerged in concrete. If bolt down bracket is used, skip this step.

**2**



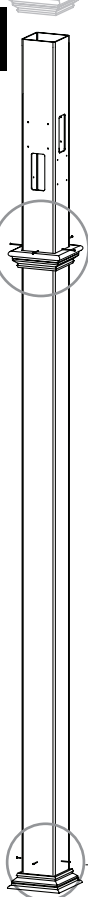
Using the vinyl weld glue, put a bead of glue on each of the four corners of the post guide lip. Using a step ladder, guide the column bottom post over the wood, down onto the post guide and hold for thirty seconds.

**3**



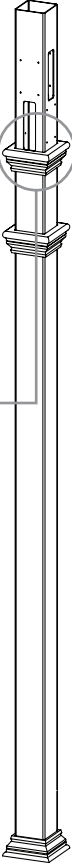
Using a step ladder, slide Base Trim onto column bottom. Guide Column Top over top part of vinyl post. Apply vinyl glue to each side of vinyl post, hold for thirty seconds.

**4**



Slide a second Column Bottom trim just past the routed holes. Repeat for other 5 posts.

**5**

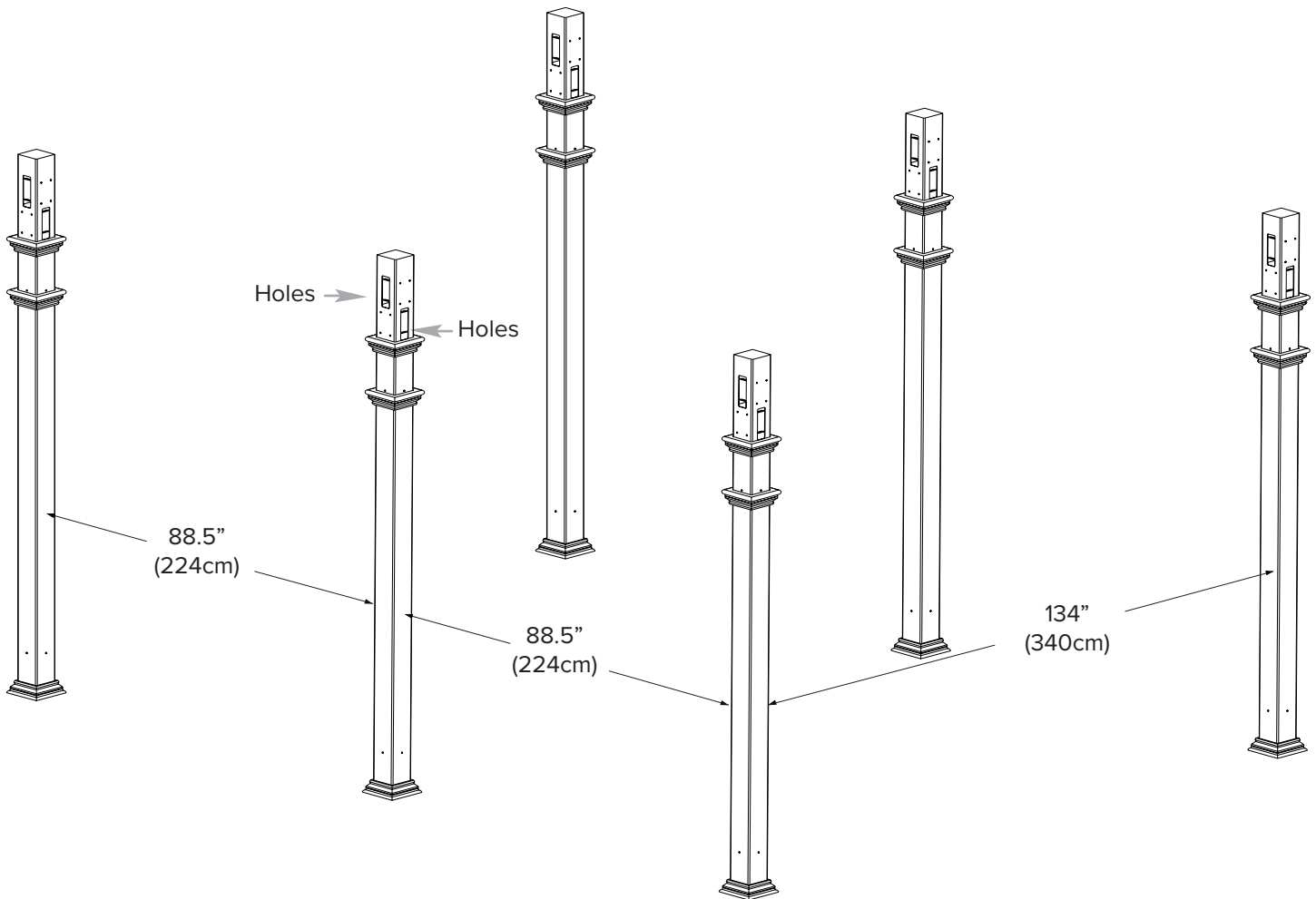
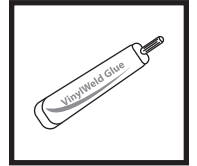


Secure the vinyl columns to the wood posts using 4 - 2 1/2" (6.35cm) self-auguring stainless steel screws just above base trim into post. As well as, 4 - 2 1/2" (6.35cm) self-auguring stainless steel screws just above the trim cap as illustrated.

# Step 4

## WOOD POST AND VINYL COLUMN ASSEMBLY

At this stage, the columns should be properly installed as per the following illustration, with the columns 88.5" (224cm) by 134" (340cm) apart. Also, notice that the holes at the top of each post should be facing the same direction.



# Step 5

## ASSEMBLING RAFTER BEAMS

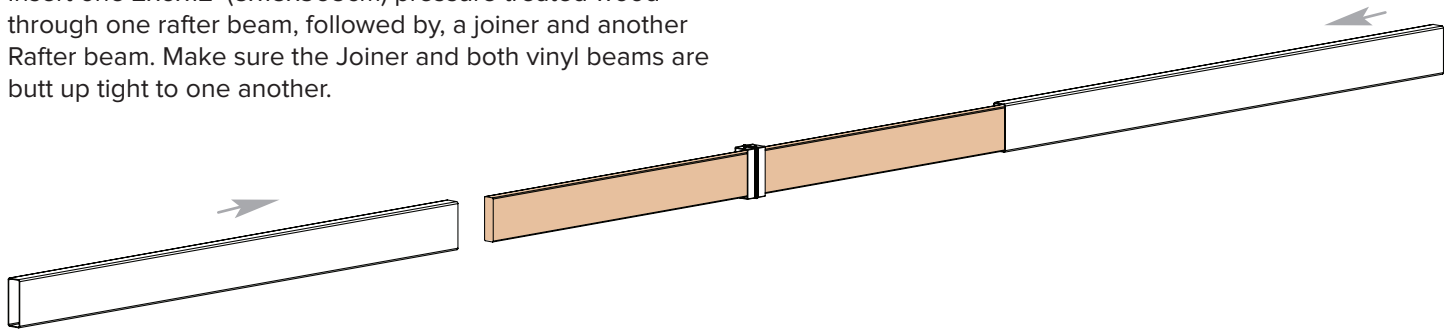
Make sure the wood is evenly distributed within vinyl beams.



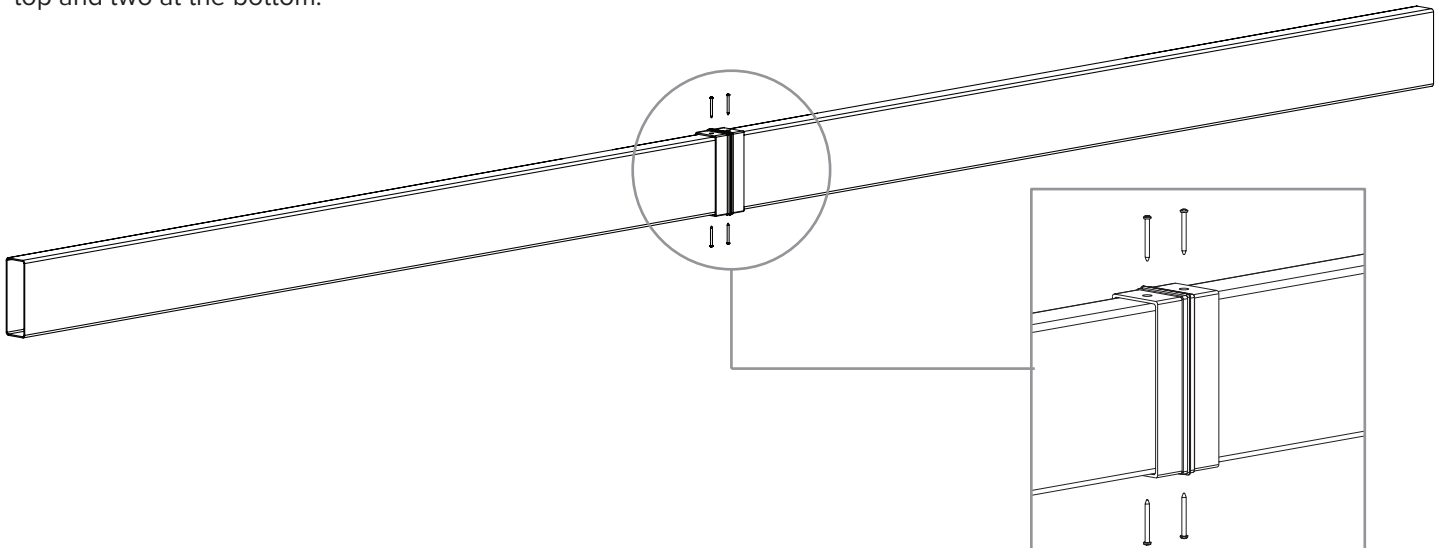
1 1/2" (3.81CM) X36



Insert one 2x6x12' (5x15x365cm) pressure treated wood through one rafter beam, followed by, a joiner and another Rafter beam. Make sure the Joiner and both vinyl beams are butt up tight to one another.



Screw four 1 1/2" (3.81cm) screws into the joiner. Two at the top and two at the bottom.



Please note, leave 3 rafters un-assembled as they will be assembled differently when attached to the posts.

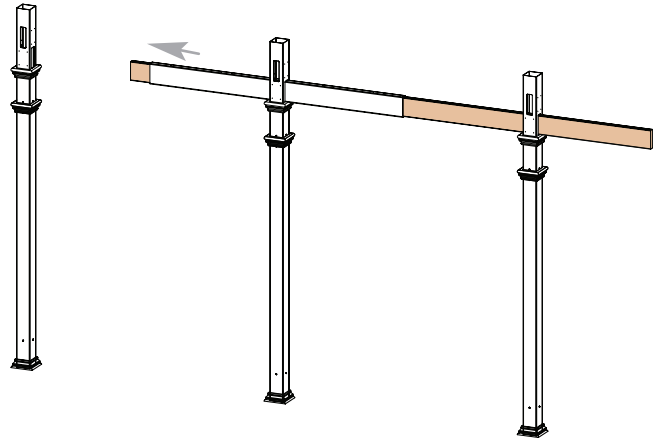
# Step 6

## ATTACHING SUPPORT BEAMS TO POST

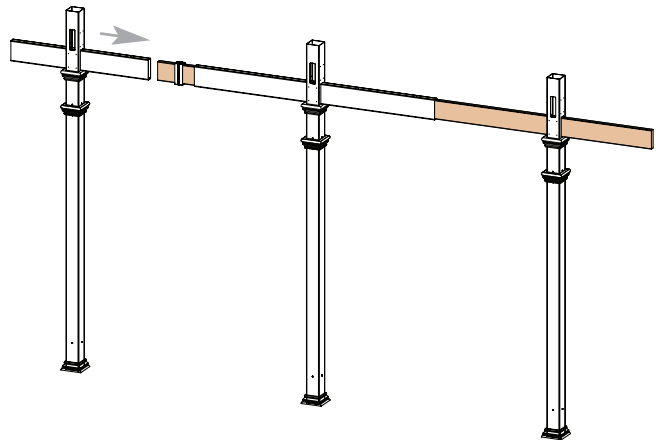
Follow these steps to assemble your two support beams into your posts.



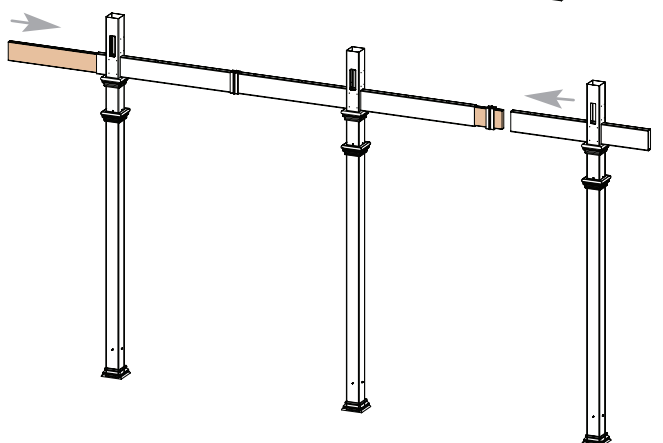
- 1** With a helper, insert inner beam through the middle post assembly followed by a 2x6x16' (4x15x488cm) pressure treated wood as shown.



- 2** Add a joiner, followed by an outer beam, as shown in the image through the left post. "slide" the pressure treated wood through both parts.



- 3** Push the pressure treated wood through and past the post as shown and insert another joiner/outer beam on the other side. Thread the pressure treated wood back through these parts.



# Step 7

## ATTACHING SUPPORT BEAMS TO POST

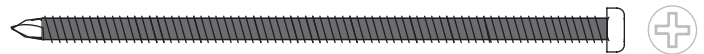
Follow these steps to assemble your two support beams into your posts.



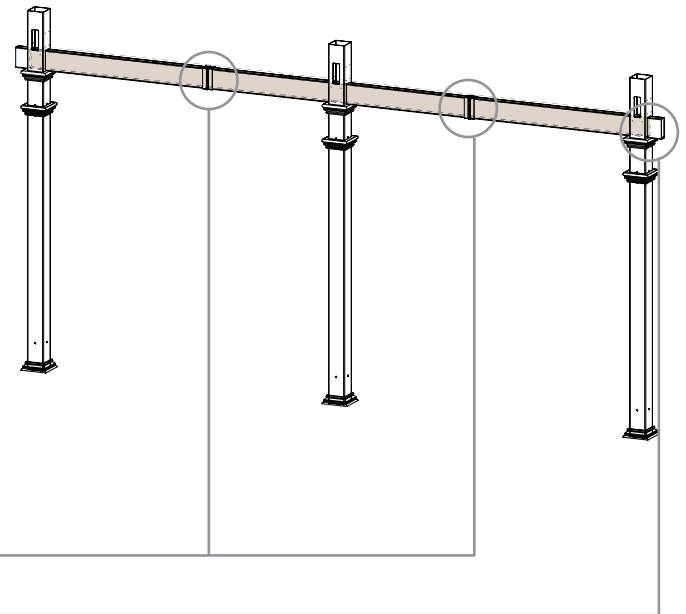
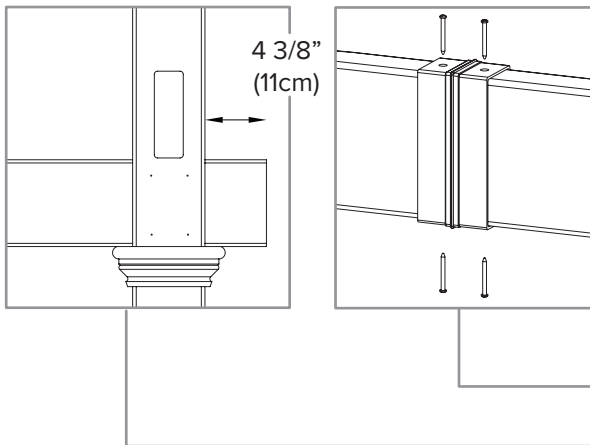
1 1/2" (3.81CM) X16



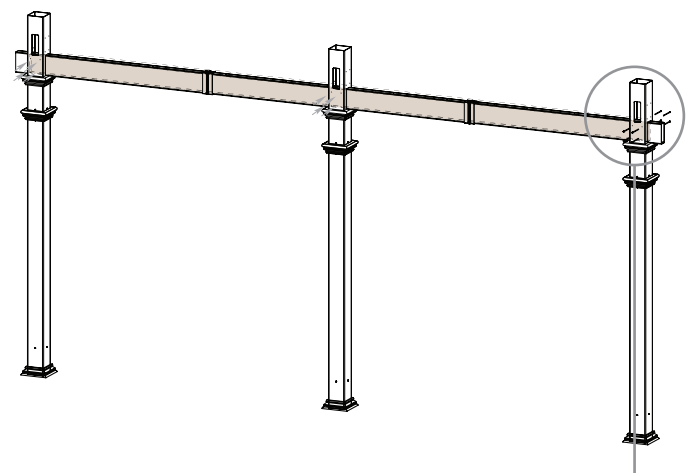
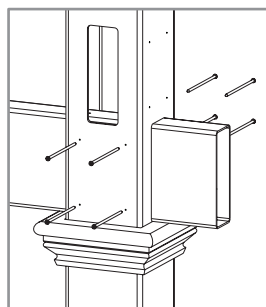
4" (10CM) X24



- 4** Fasten the joiners to the main support beams with four 1 1/2" (3.81cm) screws for each joiner as shown. The main support beam should over hang the post by 4 3/8" (11cm).



- 5** Screw the support beam to the posts using eight 4" (10cm) screws for each post.





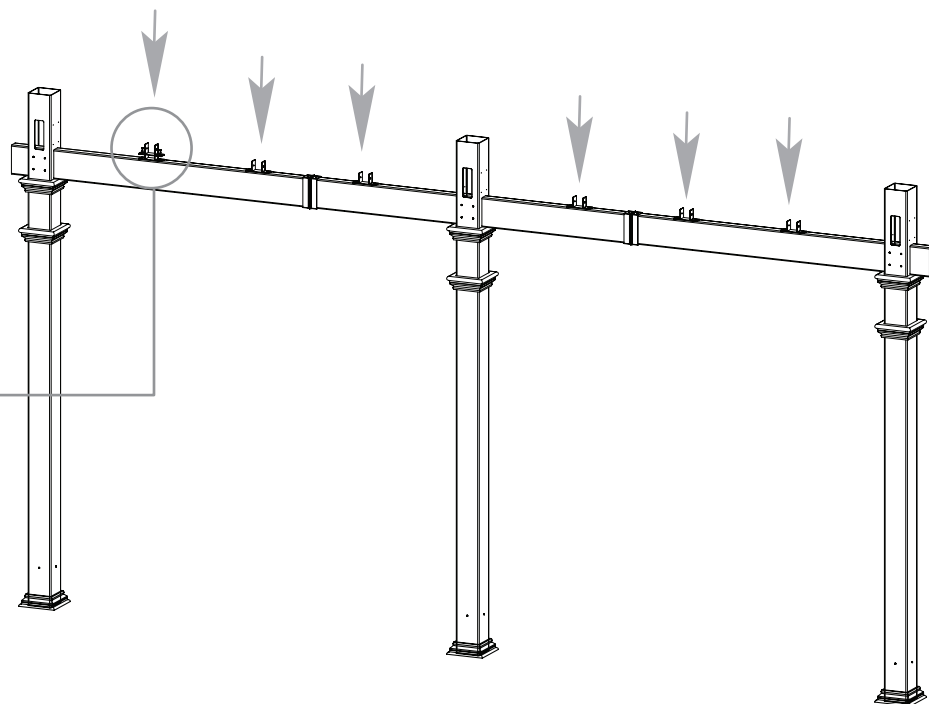
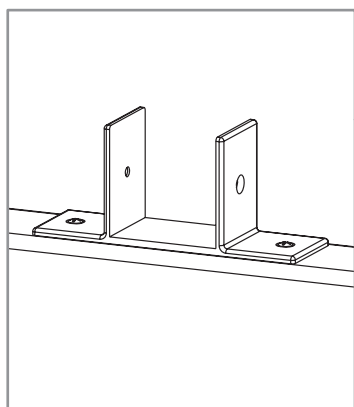
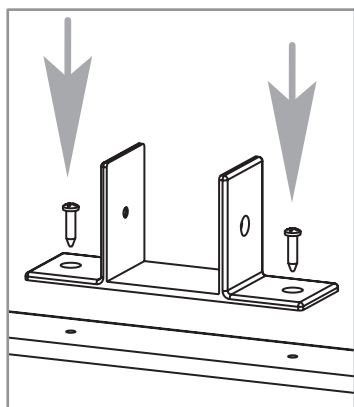
# Step 8

## ATTACHING U-CLIPS TO SUPPORT BEAM

All screw holes on beams are pre-drilled. Line up your U-Clip with the pre-drilled holes and use twenty-four, 1 1/2" (3.81cm) screws when securing your U-clips into the beams. Two screws in each.



1 1/2" (3.81CM) X24



# Step 9

## ATTACHING RAFTER BEAMS TO POSTS

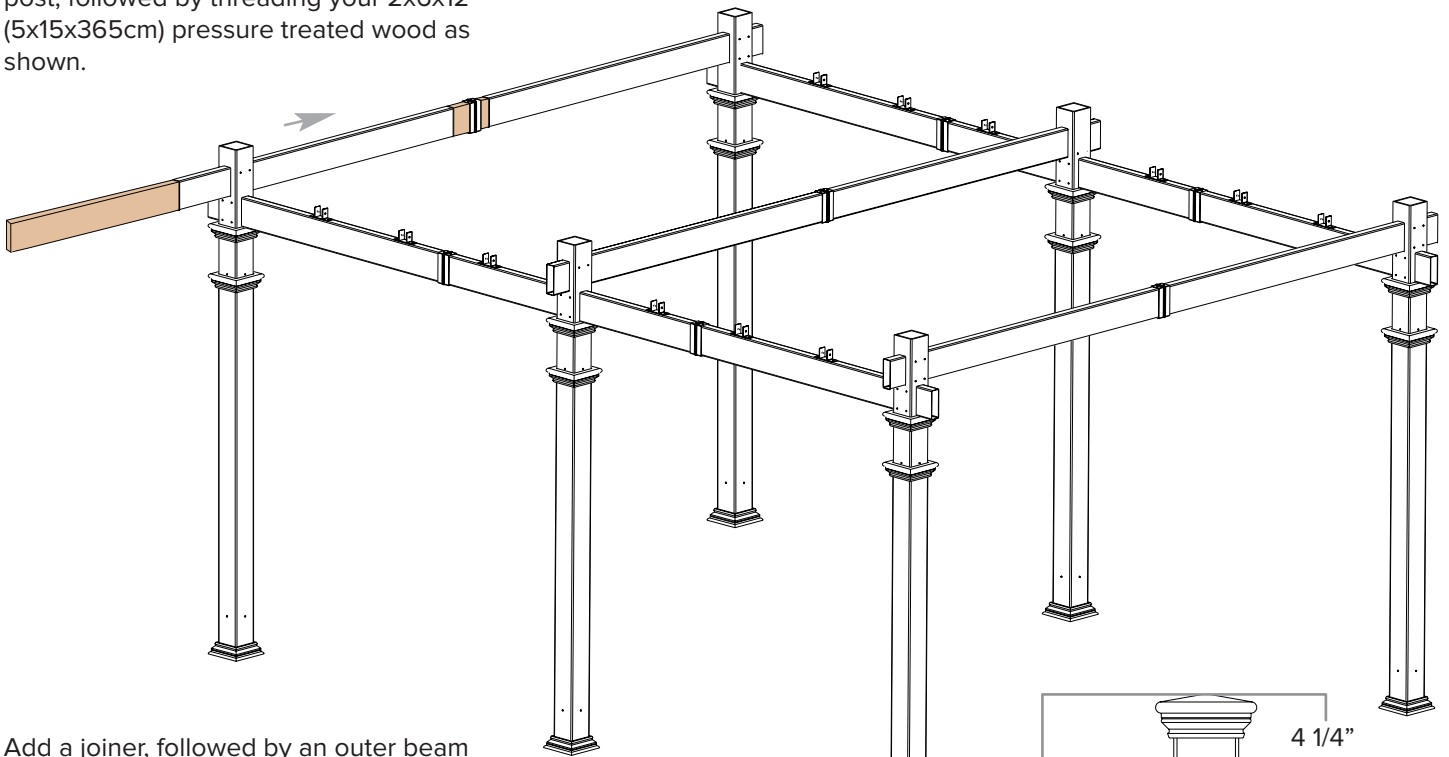
Please note that a helper is needed for this step



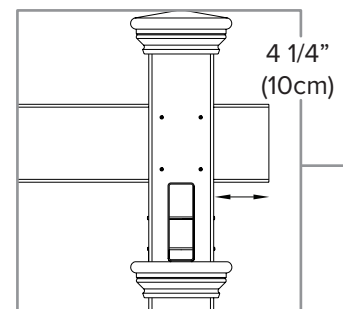
1 1/2" (3.81CM) X36



Insert a rafter beam through one end of the post, followed by threading your 2x6x12' (5x15x365cm) pressure treated wood as shown.



Add a joiner, followed by an outer beam on the other side of the pressure treated wood. Push the pressure treated wood through, past the post, making sure all parts butt up against each other and wood is evenly placed inside all parts. Screw all joiners into rafter beams with four 1 1/2" (3.81cm) screws.



Refer back to step 5 to assemble your additional Rafter Beams

# Step 10

## ATTACHING RAFTERS TO SUPPORT BEAMS

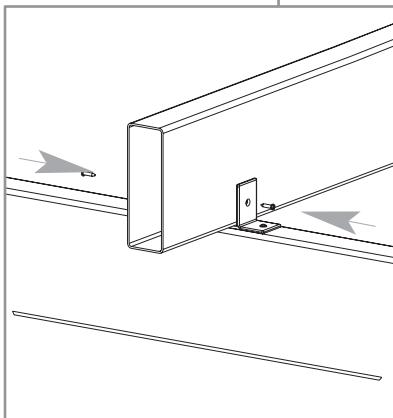
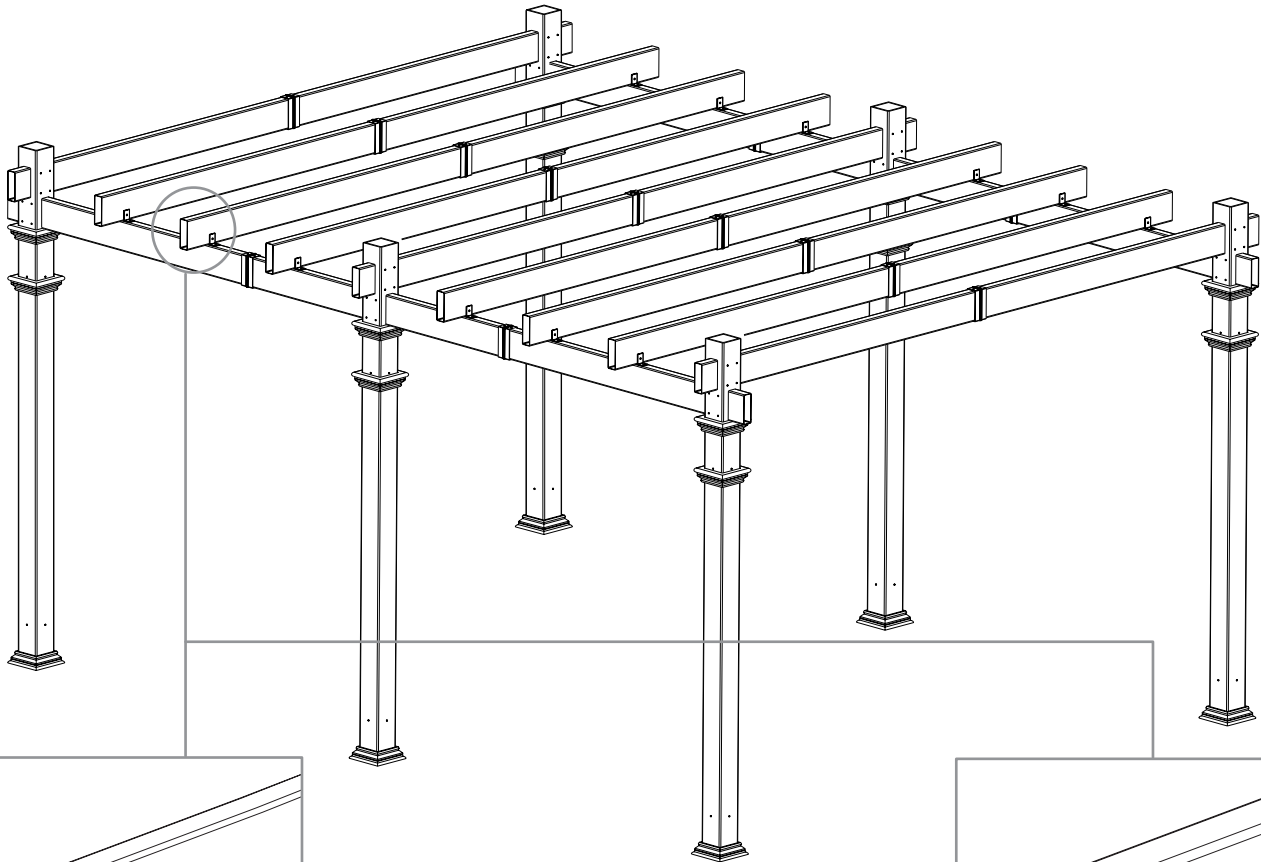
Please note that a helper is needed for this step



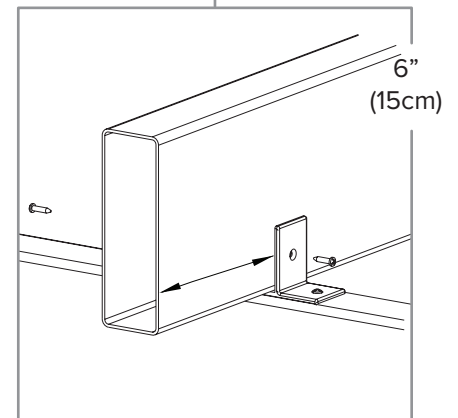
5/8" (1.58CM) X24



Once all your rafters have been assembled correctly with the pressure treated wood in place, place a rafter assembly onto the U-clips at each end of the beam, measure 6" (15cm) from front of beam to side of U-clip, this how much should over hang.



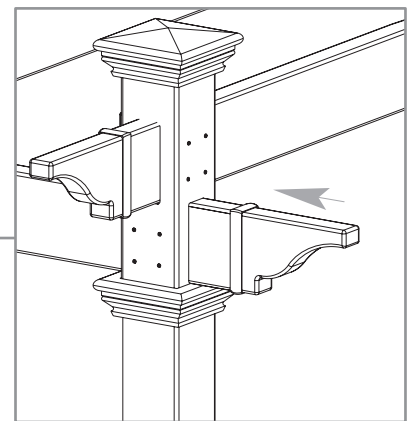
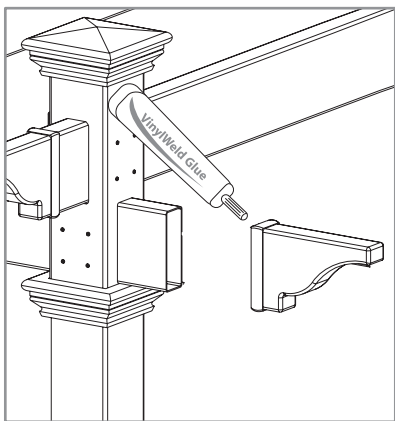
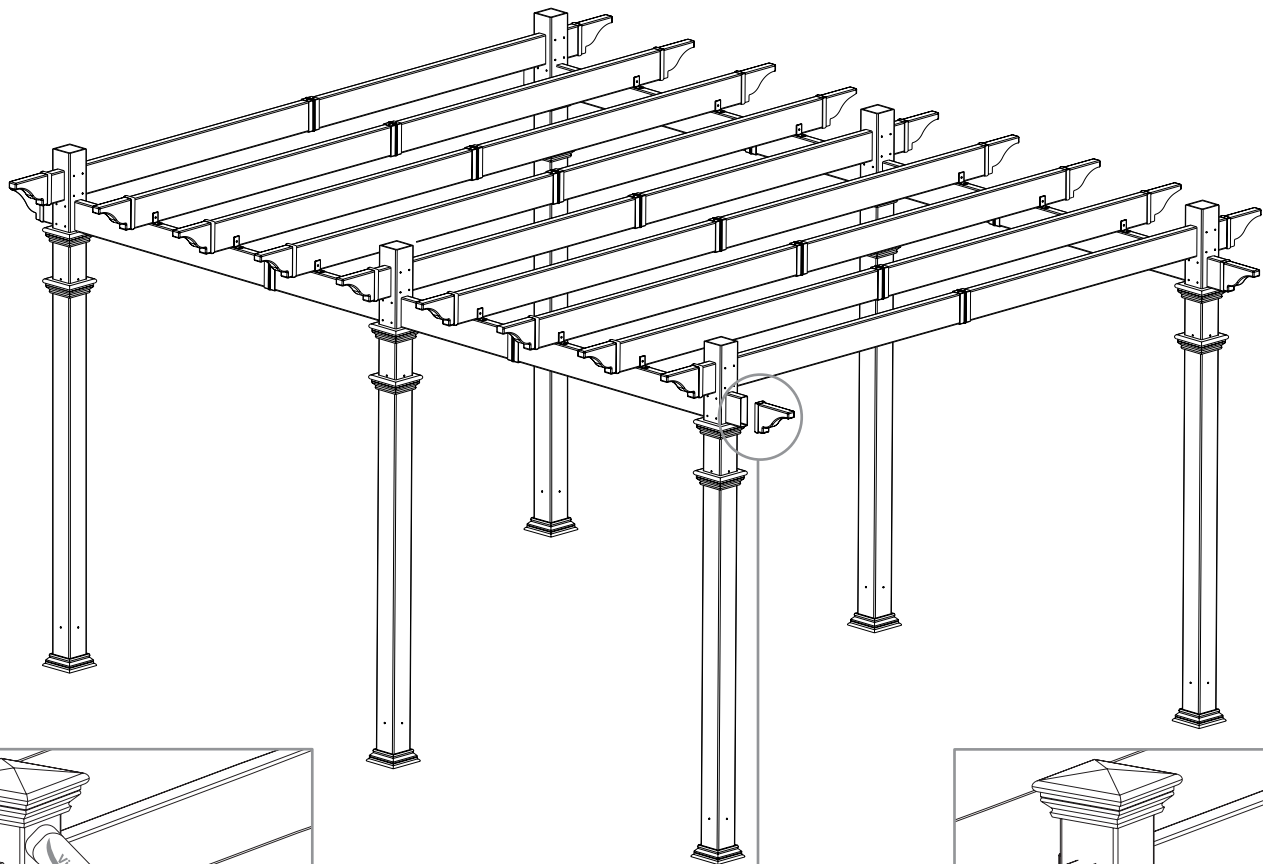
Screw into place with two 5/8" (1.58cm) screws, one on either side.



# Step 11

## ATTACHING PERGOLA ENDS TO ALL BEAMS

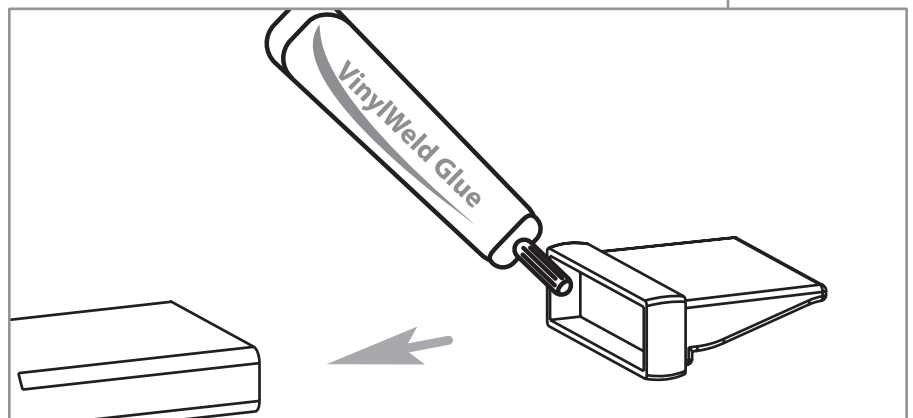
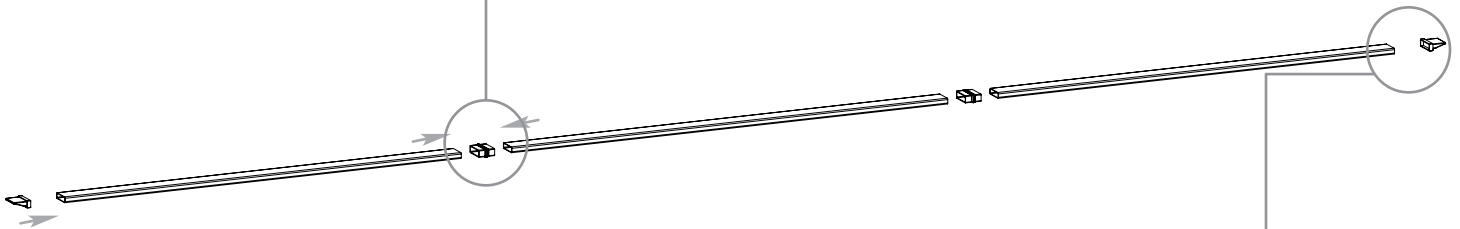
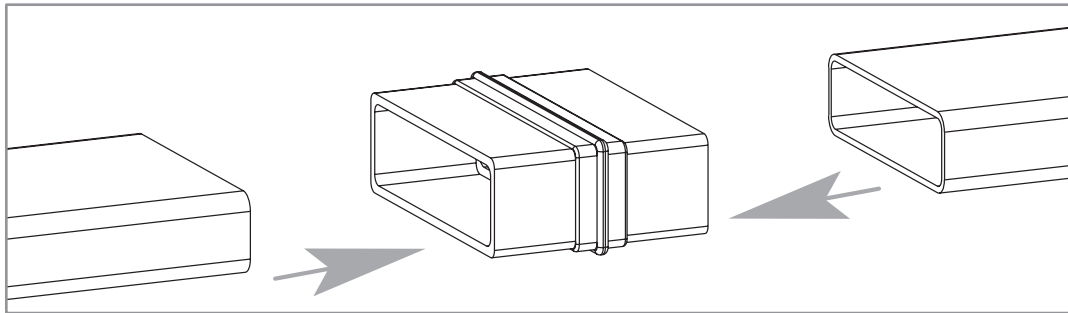
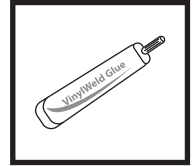
With your rafters secured into place, go ahead and use the vinyl glue, to secure your pergola ends on both support beams and rafter beams. Put a small bead of glue on the four inside edges of the pergola ends, hold in place for thirty seconds.



# Step 12

## ASSEMBLING SHADE SLATS

Assemble shade slats by inserting the external coupler on either end of an inner shade slat. Insert an outer shade slat into each external coupler. Close your outer beam ends with a decorative end cap by adding a small bead of glue on each inside edges and secure in place. Repeat for the other 7 shade slats. No screws are necessary.



# Step 13

## ATTACHING SHADE SLATS TO PERGOLA

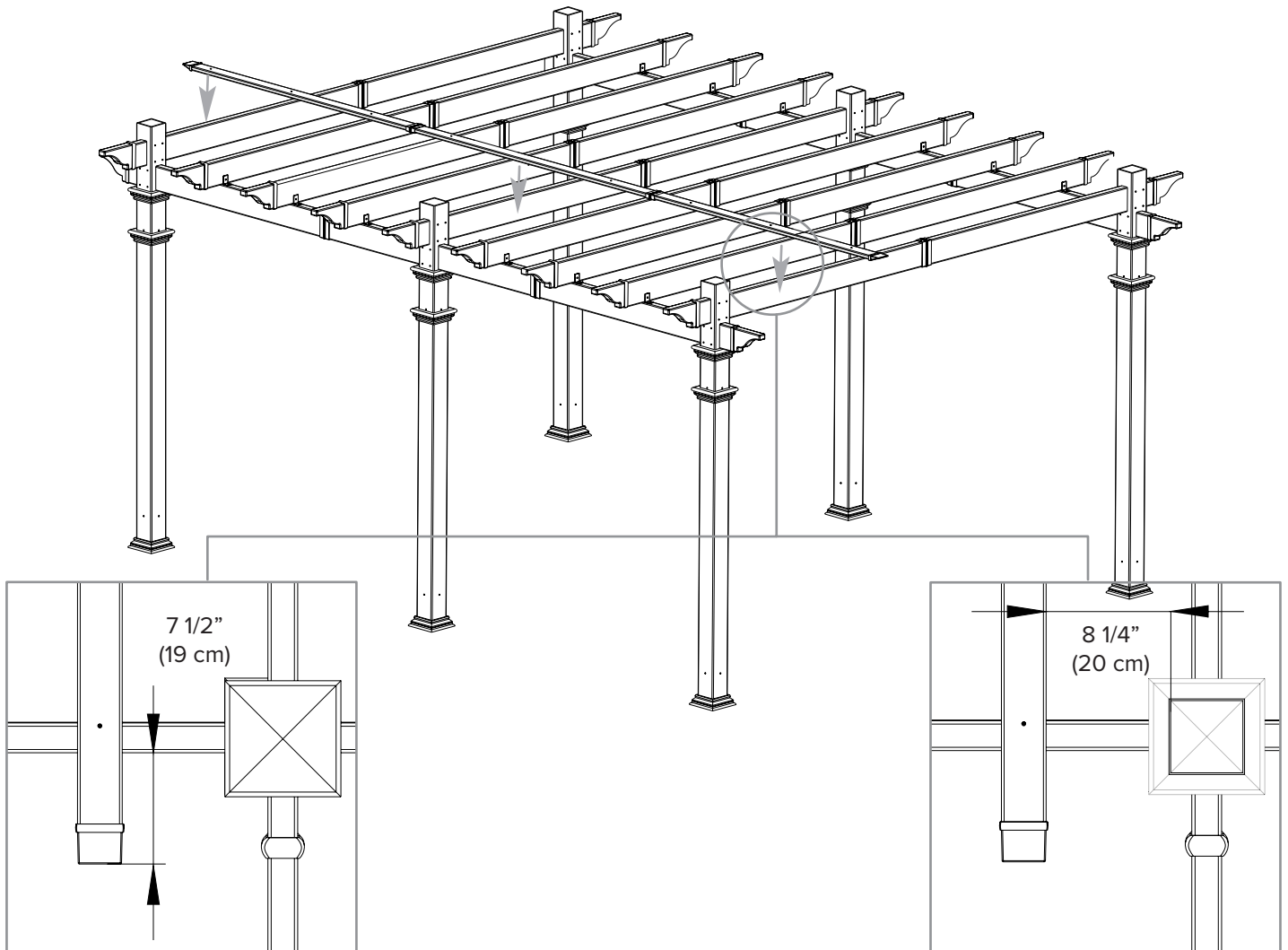
Please note that a helper is needed for this step



2 1/2" (6.35CM) X9



Place your first shade slat over top of your rafters beside your post. Measure 8 1/4" (20cm) from the side of the post to the side of the shade slat, this is where it will sit. The shade slat is designed to over hang 7 1/2" (19cm), this includes the decorative end cap. Measure from the front of the end cap, to the side of the rafter. Once you have got your shade slat in position, screw one 2 1/2" (6.35cm) at each intersection of rafter and shade slat.



# Step 14

## ATTACHING SHADE SLATS TO PERGOLA

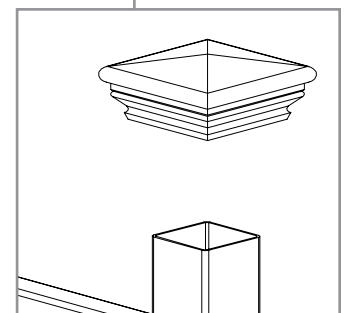
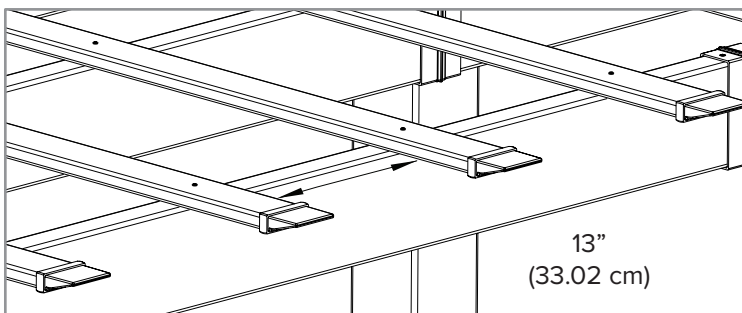
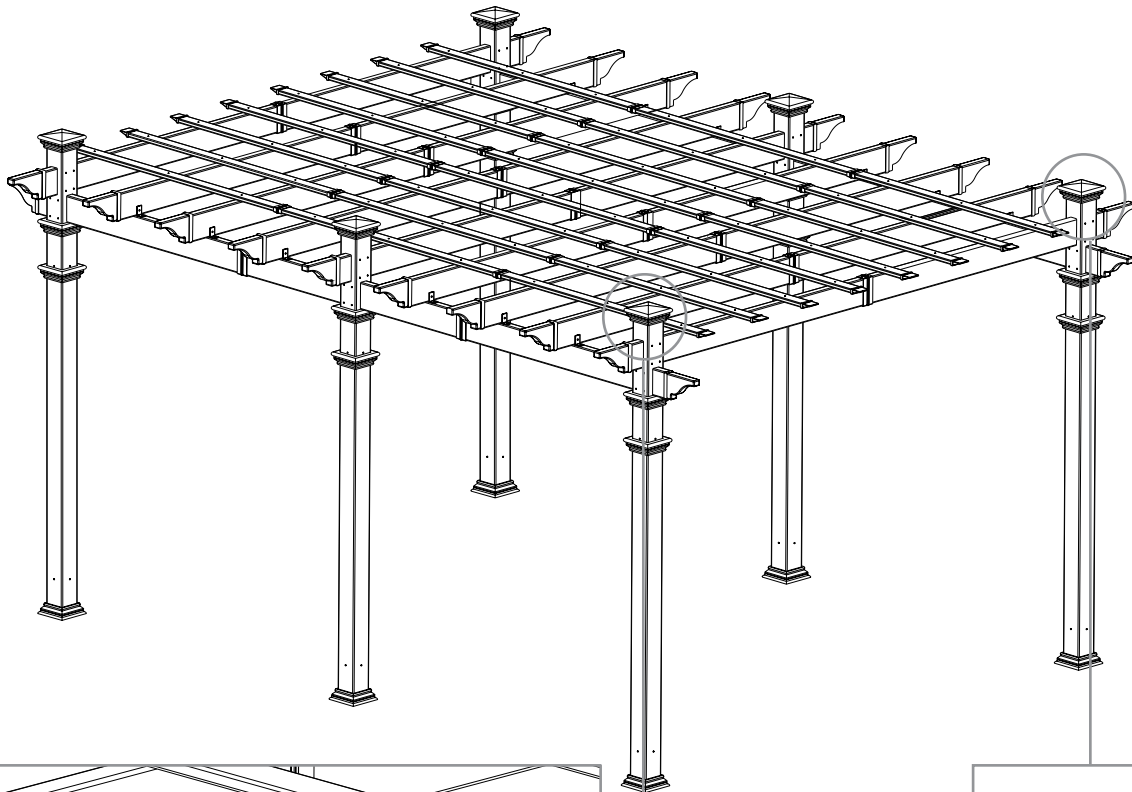
Please note that a helper is needed for this step



2 1/2" (6.35CM) X63



With your first shade slat secured in place, arrange all your other shade slats to same over hang measurement of 7 1/2" (19.05cm). Space each shade slat side to side, with a measurement of 13" (33.02cm). Screw all your shade slats down with one 2 1/2" (6.35cm) at each intersection of rafter and shade slat. You can now slide post caps onto each post. Apply glue to inside edges of the post cap and slide down over post.



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