FIBERGLASS COLUMNS INSTALLATION INSTRUCTIONS

By Royal Corinthian

Tools/Materials Checklist

Not all the items listed below are needed for every installation. Please read the installation instructions in its entirety to determine what tools and materials are needed for a particular installation. Column Split Kit and Column Installation Hardware Kit instructions are at the very bottom.

- Ladder
- Tape Measure
- Pencil
- Plumb bob
- Safety goggles
- Safety gloves
- Paintbrush
- Primer (High quality Latex preferred)
- Latex Paint (high quality latex preferred, especially for exterior)
- Paintable adhesive caulk (if caulking prior to painting)
- PL Premium Adhesive or suitable construction adhesive or 2-part epoxy
- Caulk gun
- Sandpaper (80 grit)
- Cloth or sponge
- Screw gun/Power drill
- Circular saw
- Masonry or Diamond Blade for Circular Saw
- Wood screws (corrosion resistant)
- Tapcon screws (corrosion resistant)
- Putty/Bondo filler
- Putty knife
- Strapping, tape, or clamps

Installation Steps

Please read the installation instructions in its entirety prior to starting the installation. These instructions cover the installation of whole columns, split columns, as well as columns with decorative capitals so not all sections are applicable to all projects.

1. **Good Practices:** Make sure to use safety goggles, common sense, good construction practices, and follow paint and power tools manufacturers' instructions for safe and proper use. Consult with licensed experts as needed to ensure code compliance and safe and proper installation.
2. **Determine Column Size:** Column diameter/width is most often determined by available standard sizes, personal preference, architectural order guidelines, size of structural support, and/or space restrictions. Column height is determined by the height of the rough opening.

3. **Preparing the Installation Space:** If installing a column under a beam, make sure to center the column on the structural portion of the beam. If front or back trim hangs lower than the beam, install structural blocking to ensure a flush surface for the capital to sit under. If the top of the capital is exposed to the elements, rain caps are available separately.
4. **Marking Column Location on Top/Bottom Surfaces:** Mark the center point of the column onto the top surface (beam, soffit, ceiling, etc). Measure the diameter/width of the cap on both sides and mark those measurements onto the top surface. If desired, place the capital inside of those markings on the top surface and trace the entire capital. For split columns going around a structural support aka column covers that are using Tuscan/Doric caps rather than decorative capitals, measuring the top of the shaft rather than the capital and marking that onto the top surface is recommend since the caps are installed after the column shaft is in position. Drop a plumb bob from the center point of the top surface within ¼" of the bottom surface (floor, deck, patio, etc.) and mark the center point on the bottom surface. Measure the column shaft from both sides, transfer those measurements to the bottom surface, and trace the column shaft onto the bottom surface if desired using a cardboard template. Since the column is secured to the top surface via the cap, the cap is traced rather than the top of the shaft onto the top surface, except as noted for certain split columns. Since the column is secured to the bottom surface via the shaft, the shaft is traced rather than the base onto the bottom surface. If the column shaft will sit on top of the base rather than inside of the base as with twist rope columns, measure and mark the position of the base rather than the shaft onto the bottom surface.
5. **Preparing the Column:** If not factory sanded, sand the entire column prior to installation. All RoyalCast and RoyaLite column covers require sanding. If the column wasn't fully split by the factory and a column cover or pilaster is required, split the column to the appropriate plan type. For larger columns covers, it would be easier to tab split (leave parts unsplit) the shaft, raise it to near proximity of the structural support it is meant to wrap, and then split the tabs all the way through while the column is vertical. It is important to secure both halves to each other and to the structure or equipment prior to completing the splitting. RoyaLite pultruded square columns are not intended to be split because they offer only ¼" of wall for reassembly, assuming they are split down the middle (They can be split but reassembly will be more difficult). RoyaLite column covers, however, are specially made and preferred for column cover and pilaster applications, especially for larger size columns. Factory splitting is available to any plan type; larger columns are tab split. Clean off all dust with a damp cloth.
6. **Measuring Opening Height:** For loadbearing applications, the overall height of the column should be the same height as the rough opening into which the column will be installed. The opening for each column should be measured in 4 places (front, back, left, and right or every 90

degrees) and those heights should be marked onto the column shaft accordingly. Connect the 4 height marks on the column shaft with a pencil line to follow once ready to cut to height. Columns split for reassembly around structural supports or pilasters should be cut 1/4" shorter than the rough opening. Once reattached around the structural member or attached to the wall, split column shafts can be shimmed from the bottom to sit flush against the top surface.

7. **Cutting Columns to Height:** Most capitals and bases do not add to the height of the column. For installations with decorative capitals on column shafts that have an attached astragal, account for the loss in height due to the cut at neck and the gain in height due to the height of the capital. For example, a 10" x 8' plain round tapered column with a Roman Corinthian capital will start with approximately an 8' shaft, will lose 5" when the necking above the astragal is removed, and gain 10-3/4" in height from the Roman Corinthian capital, resulting in an overall height of approximately 101-3/4". If the rough opening is exactly 8', about 5-3/4" will need to be cut off from the bottom of the shaft for loadbearing applications and about 6" for column covers or pilasters. Due to the nature of twist rope columns, both the capital and the base add to the overall height of the column. Factory cut columns to exact overall heights are available. All column shafts should be trimmed from the bottom using a diamond tipped blade (best choice), masonry, or carbide tipped blade.
8. **Whole Column Assembly:** For whole columns, place the capital over the top of the shaft and let it sit on top of the capital support ring (not on all columns) or astragal (not on all columns) and slide the base over the bottom of the shaft and shim it in place a couple feet above the bottom. Insert the astragal between the cap and the base if astragal is loose and not attached to the shaft. All of this is easier to do while the column is propped up at ground level. Some sanding might be required if the cap/base/astragal is too tight on the shaft. For whole columns with decorative capitals, attach the capital to the column shaft. Smaller decorative capitals come with an extended neck or nipple that slides into the shaft: Predrill through the shaft and into the extended neck of the capital and secure with countersunk screws on at least 2 sides and preferably 4. Larger decorative capitals come with embedded L-brackets in the shaft as well as the capital. Align the L-brackets and secure the capital to the shaft with a ½" nut, washer, and bolt. Due to the nature of twist rope columns, all capitals are installed with a single L-bracket method, even Tuscan/Doric. Due to the nature of Greek Doric columns, the capitals can be installed using the L-bracket method, extended neck method, or alternative methods that don't include any embedded hardware or extended necking.
9. **Split Column Assembly:** For column covers, the split capitals and bases get attached after the shaft is reassembled and adhesive dried, except for decorative capitals which are attached to each half prior to reassembly. Due to the nature of split columns, it is better to install the decorative capital halves once the column shaft halves are lifted and near where they will be installed, especially with larger columns that have heavier decorative capitals. Smaller/lighter decorative capitals can be attached at ground level, prior to lifting. It is important to attach each decorative capital half cautiously and not to put too much weight onto the column shaft. Fiberglass columns are very strong when whole but can become very fragile when in an unassembled half. A good alternative to RoyalCast column covers is RoyaLite fiberglass column covers which are significantly lighter than Royal Corinthian's cast options (the fiberglass reinforcement is pound for pound stronger than steel). All columns are made from the same molds so RoyalCast, RoyalStone, and RoyaLite columns can be used interchangeably on the

same project. (See additional split kit instructions at bottom of this document if you received a split kit with your columns)

10. **Whole Column Positioning:** Raise the top surface using a hydraulic jack by ½" where the first column will be installed. Remove the temporary support, if applicable, once the jack has transferred the load onto itself. Raising the top surface is only necessary for load-bearing applications: Decorative columns, if desired, can be installed in a similar manner to split columns. Place the semi-assembled whole column into the previously marked position. Larger columns will require a harness and/or lifting equipment to raise the columns. Make sure the bottom of the shaft sits inside the previously marked area with the front of the shaft, which was previously marked, facing the front. Raise the cap, if applicable, to make sure it lines up with the previously marked top surface area. Once the cap lines up, if there is room and if desired, mark the shaft location onto the top surface. If applicable, slowly release the hydraulic lift pressure allowing the top surface to rest on the column shaft or decorative capital. If the column slips out of position, raise the top surface, and repeat or use a rubber mallet to move the column back into position. Secure the top of the column by screwing through the cap and into the top surface, making sure the screws securely fasten into a structural member. Always predrill and countersink with fiberglass columns, unless self-drilling screws are provided, in which case, screw slowly. Install the bottom of the shaft with at least 2 small L-brackets that the base will cover. Use Tapcon screws or equivalent if securing into concrete or masonry. Use sheet metal screws when securing into the shaft or into a wood substrate. Remove the shims that are keeping the base elevated and place the base over the L-brackets. Caulking between the base and the shaft should keep the base in place but additional screws can be used to secure the base more firmly. (See additional column installation hardware instructions at bottom of this document if you received column installation hardware with your columns)
11. **Split Column Positioning:** The top surface is not meant to bear down on column covers or pilasters as with load-bearing columns, which is why column covers/pilasters are cut 1/4" short of the rough opening height. Cutting the column short and shimming is not required so long as no weight bears down on the column. The top surface can be raised to make the installation easier so long as it doesn't bear down on the column once lowered back down. Carefully raise each column shaft half to a vertical position near the structural support it is intended to wrap (some smaller shafts might already have decorative capitals attached as per the instructions below). Larger columns will require a harness and/or equipment for lifting. Tuscan/Doric caps, except for the previously mentioned exceptions, are installed after the column shaft halves are glued together and the shaft is positioned into place. If applicable and not previously done, attach each decorative capital half to each column shaft half (larger/heavier capitals should be attached after the shaft half has been raised and near installation area; it is possible to attach larger capitals at ground level but lifting the assembled half would have to be precisely calculated to prevent the column from snapping). RoyaLite column covers do not present such an issue and are a good alternative when large column covers are desired (In addition, RoyaLite capitals can be used interchangeably with RoyalCast column shafts). Smaller decorative capitals will have an extended neck which slides into the column shaft. Predrill through the shaft into the extended neck and secure with countersunk screws. Predrilling at ground level is recommended even if installing smaller decorative capitals once the column shaft halves are vertically positioned. For larger decorative capitals, connect the embedded L-bracket in the capital to the

L-bracket in the shaft with a 1/2" nut, bolt, and washer. Apply construction adhesive or a 2-part epoxy to both sides of one of the halves and secure both halves together with strapping around the structural member. Remove excess adhesive with a damp rag, wait until partially dry and cut off with a construction knife, or sand off if completely dry. Wait until the recommended dry period is over for the adhesive and the halves take and then shim the bottom of the column to raise it to the top surface (prior to shimming, make sure to drop the top surface if raised with the hydraulic jack). If using shims, place plenty of composite shims under the bottom of the column shaft and knock them in until they are secured by pressure and cut them flush with the column shaft. If the column is misaligned, use a rubber mallet to align it and check if level. Secure the bottom of the shaft with L-brackets (can do same for top of shaft if desired before installing capitals, except with decorative capitals). Apply adhesive to the base halves and position in place around the bottom of the column shaft. Strap the two halves together until the adhesive dries and remove any excess adhesive. If applicable, apply adhesive and attach the Tuscan/Doric cap around the shaft with the seams of the cap facing 90 degrees away from the seams of the shaft. Strap the cap halves together and wait for the adhesive to dry. (If using L-brackets to secure the shaft to the soffit, install those first using the instructions at the bottom of this document.) Secure the capital to the soffit by pre-drilling and screwing through the cap into the top surface, making sure that the screws penetrate a structural member.

12. **Attaching a Loose Astragal:** Some columns are available with an optional loose astragal that gets attached on site. Typically, the astragal should be positioned at the top of the column about 1/2 of the height of the bottom diameter/width. For example, a 10” wide column would have the top of the astragal sitting at 5” from the top of the column shaft. Mark the position of the astragal on 4 sides of the column shaft with a pencil. Place the astragal into position, predrill through the astragal into the shaft, and countersink screws to hold the astragal in place. Use paintable caulk to fill the gap from the top and bottom as well as the screw holes. For whole columns, the astragal should be placed under the cap and onto the column shaft before the column is installed.
13. **Caulking/Bondo:** Caulk all gaps with a paintable caulk, especially between the bottom of the capital and the shaft and the top of the base and the shaft. Fill all screw holes with caulk or Bondo or paintable putty. The seam on split columns should be finished with Bondo and sanded smooth to hide the seam.
14. **Prime and Paint:** Prime and paint the column in accordance with the manufacturer’s instructions. Priming and painting can be done prior to installation but would require touchup priming and painting for screw holes and seams, if any.

Split Kit Installation Instructions

1. Follow installation instructions above and incorporate provided hardware.
2. Use 2-part epoxy/adhesive to adhere each column half together around structural column or post.
3. Use cable ties, which are releasable, approximately every 2 feet apart to tighten the two halves together.
4. Wipe away excess adhesive as addressed above or cut away when partially cured. Wait until epoxy is fully cured to move onto the next step.

5. Attach plate with 8 holes over each split, with half the plate on one half of the split and the other half of the plate on the other half of the split. Make sure to attach these plates in a manner that allows the base and/or capital to cover the plates once those are installed over the plates. Use the self-drilling screws provided. Pre-drilling is not necessary but do not overapply pressure (screw slowly). If the columns have Tuscan or Doric style capitals, that go around the column shaft, the kit will include 4 plates and 32 screws (2 plates for bottom of shaft and 2 for top). If the columns have decorative capitals, the kit will include 2 plates (for bottom of shaft only) and 16 screws.
6. Each split kit also comes with a column installation kit.

Column Installation Kit Installation Instructions

1. Once the full column is in place, whether provided whole or reassembled whole, make sure the column is level as described above.
2. Attach 2 L-brackets at the bottom of the shaft, ideally 180 degrees apart, and on opposite sides of the split column plates, if any. The taller end of the L-bracket goes against the column shaft, while the smaller end goes onto the substrate/floor. Our bases have one corner that is filled: make sure that no L-bracket coincides with that corner as the base will then not cover the bracket but sit on top of it. Mark the position of the bracket's hole opening with a pencil/marker onto your substrate, remove, and pre-drill if needed, as one would with concrete. If the substrate is concrete, after pre-drilling, secure the L-brackets with the provided blue Tapcon screws. If substrate is wood/composite, sheet metal screws will be provided instead of Tapcon. Then secure the top of the L-bracket to the column shaft with the 1" self-drilling screws provided. Again, screw slowly.
3. Once the bottom of the shaft is secured to the substrate, repeat with the top of the shaft. To reiterate, with decorative capitals, there will be no L-brackets at the top of the shaft. In such case, long screws will be provided to secure the decorative capitals to the soffit/ceiling. These are NOT self-drilling so make sure to pre-drill. Fiberglass columns can crack if not pre-drilled. In lieu of blue Tapcon screws, sheet metal screws are provided to secure the top of the L-bracket to the soffit, unless both soffit and substrate are concrete.
4. Once all hardware is installed, install capital and base over the hardware as described in the steps above.