

# QT Installation Instructions

(1/4" Quick Tie)

1. Lay out Quick Tie locations on the sole plate, in accordance with the shop drawings.
2. Drill 7/8 inch diameter holes up through the top plates to the next floor above continuing to the uppermost top plate or to the height shown on the shop drawings. Locate these holes above the first hole marked on the sole plate and in the center of the top plate. The holes at the double top plate on the uppermost floor shall be close to a stud. The Quick Tie may be out of plumb as much as 8-3/8 inches per floor (8-3/8 inches per 8'-4", or 1 inch per foot).
3. Beginning at the top plate on the top floor, hang the 1/4" Quick Tie from top plate. Insert the threaded stud up through the drilled hole in the top plate, and through the hole in the 3 x 3 washer and circular washer and secure with the nut. Straighten the 3 x 3 washer so it is completely supported on the top plate. **When first installed, the threaded end of the stud shall NOT protrude above the top of the nut.**
4. Thread the 1/4" Quick Tie down through intervening floors, so it hangs loosely near the marked hole on the sole plate.
5. Drill a 5/8 inch diameter hole through the sole plate and a 9/16 inch hole into the concrete. The hole in the concrete may be 5/8 inch diameter when the slab temperature is less than 40° F. Locate the center of the hole 2 1/4 inches from the edge of the concrete. The edge distance may NOT be less than 2-1/4 inches, but may be more than 2-1/4 inches. The center of the hole through the sole plate and into the concrete must be at least 8 inches from the center of another 1/4 inch Quick Tie anchor. The depth of the drilled hole shall be at least 6 inches as measured from the top of the sole plate.
6. Test the hole depth by inserting the loose end of the 1/4" Quick Tie stud into the hole. The 1/4" Quick Tie should not touch the bottom of the hole and the hole should not be more than 1/4" below the bottom of the threaded stud. If the 1/4" Quick Tie "bottoms out", drill the hole deeper and repeat the test. The threaded end of the stud should be deep enough so that less than 1 inch of the stud protrudes above the sole plate. If more than 1 inch protrudes, drill the hole deeper and repeat the test.
7. Clean out the drilled hole by blowing it out with compressed air followed by inserting a nylon brush down the hole several times followed by another cleaning with compressed air. The hole shall be dry.
8. Using the special mixing nozzles, fill the hole in the concrete about half full with epoxy adhesive.
9. Insert the loose end of the 1/4" Quick Tie into the hole, twisting it continuously back and forth until it cannot go any farther. The wire rope should be straight with no slack. The protruding stud shall be less than 1 inch above the top of the sole plate. There shall be enough epoxy in the hole to completely encapsulate the threaded steel stud up to the top of the sole plate. Excess epoxy shall be visible on the top of the sole plate. The stud should remain undisturbed until the epoxy has cured to the proper "load time" as determined by the Application/Temperature chart on the Q1000 label.
10. After verifying that adequate studs are in place in accordance with the shop drawings, and after the epoxy has cured, tighten the nut at the top of the 1/4" Quick Tie until the wire rope is snug, restraining the Quick Tie stud to keep it from turning during the tightening process. At this point, the rope is slightly tensioned.
11. Measure the protrusion of the threads of the stud above the nut after step 10. Write the length of the threads protruding above the nut on the face of the double top plate. Tension the Quick Tie by measuring the protruding end of the bolt. Refer to the tag on the Quick Tie for the required amount of bolt protruding from the nut. Upon completion of the tensioning, the length of bolt protruding above the nut should be equal to the length shown on the tag PLUS the length marked on the double top plate
12. Inspect the epoxy installation. All 1/4" Quick Ties should be firmly anchored, showing no evidence of "backing out", or "withdrawing" from its embedment. If withdrawal occurs, release the Quick Tie tension at the top plate by loosening the nut. Reinstall by repeating steps 2 through 11. The newly drilled hole through the sole plate shall be no closer than 3 inches from the first hole. Do not exceed the Quick Tie criteria for plumbness.

# QT3 Installation Instructions

(3/8" Quick Tie)

1. Lay out Quick Tie locations on the sole plate, in accordance with the shop drawings.
2. Drill 1 inch diameter holes up through the top plates to the next floor above continuing to the uppermost top plate or to the height shown on the shop drawings. Locate these holes above the first hole marked on the sole plate and in the center of the top plate. The holes at the double top plate on the uppermost floor shall be close to a stud (within 1 inch). Two Quick Ties 3's may NOT be located between any pair of adjacent studs. The holes may be out of plumb as much as 4 inches in 100 inches (4 inches per 8'-4", or 1/2 inch per foot).
3. Beginning at the top plate on the top floor, hang the 3/8" Quick Tie from top plate. Insert the threaded stud up through the drilled hole in the top plate, and through the hole in the 3 x 5 washer and circular washer and secure with the nut. Straighten the 3 x 5 washer so it is completely supported on the top plate. **When first installed, the threaded end of the stud shall NOT protrude above the top of the nut.**
4. Thread the 3/8" Quick Tie down through intervening floors, so it hangs loosely near the marked hole on the sole plate.
5. Drill a 7/8 inch diameter hole through the sole plate and into the concrete. Locate the center of the hole 2-1/2 inches from the edge of the concrete. The edge distance may NOT be less than 2-1/2 inches unless an anchor bolt has been cast into the concrete as shown on the shop drawings. The center of the hole through the sole plate and into the concrete must be at least 12 inches from the center of another 3/8" Quick Tie anchor when located near the edge of concrete slabs or at least 8 inches from the center of another 3/8" Quick Tie when located at least 8" away from the edge of the slab. The depth of the drilled hole shall be at least 8-1/2 inches as measured from the top of the sole plate.
6. Test the hole depth by inserting the loose end of the 3/8" Quick Tie into the hole. The 3/8" Quick Tie should not touch the bottom of the hole and the hole should not be more than 1/4" below the bottom of the threaded stud. If the 3/8" Quick Tie "bottoms out", drill the hole deeper and repeat the test. The threaded end of the stud should be deep enough so that less than 3/4 inch of the stud protrudes above the sole plate. If more than 3/4 inch protrudes, drill the hole deeper and repeat the test.
7. Clean out the drilled hole by blowing it out with compressed air followed by inserting a nylon brush down the hole several times followed by another cleaning with compressed air. The hole shall be dry.
8. Using the special mixing nozzles, fill the hole in the concrete about half full with epoxy adhesive.
9. Insert the loose end of the 3/8" Quick Tie into the hole, twisting it continuously back and forth until it cannot go any farther. The wire rope should be straight with no slack. The protruding stud shall be less than 3/4 inch above the top of the sole plate. There shall be enough epoxy in the hole to completely encapsulate the threaded steel stud up to the top of the sole plate. Excess epoxy shall be visible on the top of the sole plate. The stud should remain undisturbed until the epoxy has cured to the proper "load time" as determined by the Application/Temperature chart on the Q1000 label.
10. Install, or have installed, additional studs and blocking as shown on construction documents. Nail the studs to existing studs where possible. The spacing between the studs shall not exceed 4 inches (clear) and the 3/8" Quick Tie shall be centered between the studs.
11. After verifying that adequate studs are in place in accordance with the construction documents and step 10 above, and after the epoxy has cured, tighten the nut at the top of the 3/8" Quick Tie until the wire rope is snug, restraining the Quick Tie stud to keep it from turning during the tightening process. At this point, the rope is slightly tensioned.
12. Measure the protrusion of the threads of the stud above the nut after step 11. Mark the length protruding above the nut on the face of the double top plate. Tension the Quick Tie by measuring the protruding end of the bolt. Refer to the tag on the Quick Tie for the required amount of bolt protruding from the nut. Upon completion of the tensioning, the length of bolt protruding above the nut should be equal to the length shown on the tag PLUS the length marked on the double top plate
13. Inspect the epoxy installation. All 3/8" Quick Ties should be firmly anchored, showing no evidence of "backing out", or "withdrawing" from its embedment. If withdrawal occurs, release the Quick Tie tension at the top plate by loosening the nut. Reinstall by repeating steps 2 through 12. The newly drilled hole through the sole plate shall be no closer than 3 inches from the first hole or after the epoxy has set, re-drilling the original hole. Do not exceed the Quick Tie criteria for plumbness or the requirement for additional compression studs.

# CMU OR CONCRETE BLOWOUT REMEDIATION

## Definition

With a 2 ¼” typical edge distance, there will be times when drilling the stud anchorage holes may result in the exterior face of concrete or CMU being broken out. This could be due to:

- Interference of embedded items such as rebar.
- Or when the hammer drill can not be exactly plumb and the hole angles toward the exterior face of the concrete or CMU.

This is typically referred to as a “blowout”. It can result in a weakened pull-out resistance of the stud and utilize excessive amounts of epoxy.

The installer should be aware of this condition and check the exterior face of the concrete or CMU whenever there are indications of a misalignment or evidence of an oversized hole.

## Primary Remediation

The first level of remediation is to carefully re-drill in a new location at least 3” from the blowout and proceed with the installation.

## Secondary Remediation

When rebar interference or some other limiting condition precludes re-drilling a nearby hole, the following remediation procedure should be followed:

1. From the outside face of the concrete or CMU blowout, remove all loose pieces and brush out the recessed area thoroughly, removing any debris or grit.
2. Blow out the recess to remove dust and assure good epoxy bond.
3. Cover the outside surface with a flat “forming material”. This can be adhesive backed sheeting or a piece of cardboard duct taped into position.
4. Fill the entire void with epoxy and insert the stud locating it as close as possible to its specified position.
5. Allow epoxy to reach its appropriate load time without any disturbance to the area.
6. Stress the cable carefully monitoring the base stud to assure that no movement takes place.
7. Remove the “forming” on the exterior face and grind or patch as necessary to achieve required finish.