QUICK TIE ANCHORS - FEATURES AND BENEFITS

DESIGN BENEFITS

Easy to use load tables correlate QT anchor spacing directly to uplift reactions of trusses without requiring additional computations.

The QT is a single entity from the top of the top plate to the foundation, providing a simple, unbroken load path for all uplift loads.

Fewer system components mean fewer computations required.

Since QT's are placed at variable spacings related to truss uplift reactions, they can be readily installed at optimal spacing as opposed to conventional systems which are generally selected for all locations using the most severe load case.

The QT system has no connections directly to the studs. Therefore, strength reductions in capacity of the system due to stud lumber selection are not necessary.

End-of-shear wall hold-downs and hold-downs required at uplift load concentrations such as beams and girders, use virtually identical basic QT components so there is no need to have multiple systems for one building.

QT load table allowable loads are typically controlled by applying a safety factor of 3.0 to the ultimate (failure) load of the wall. The actual total maximum upward deflection at the mid point between the anchors at this load level is always less than ¼ inch and typically closer to 1/8 inch. This can be very favorably compared to the total aggregate movement potential of all of the stressed components in the load path of more conventional systems whose individual allowable load criterion generally allows 1/8 inch of movement for each component.

The QT system is most likely the only system that has undergone full scale testing under combined uplift and in-plane lateral shear loads.

In comparative tests, the lateral movement of the QT pre-stressed cable system performed equal to heavy conventional hardware and had less movement than a threaded rod anchor system

One of the reasons this system is more efficient and cost effective is that it utilizes the strength of the sheathing to distribute the truss uplift forces along the wall to the QT anchors; this results in wider spacing of anchors which, in turn, results in both material and installation economy.

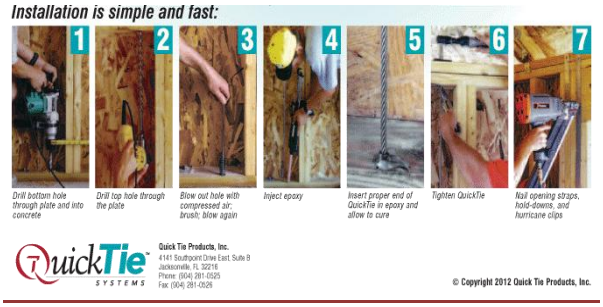
PERFORMANCE ASSURANCE

The QT system has been tested in full-scale wall uplift tests providing a higher level of confidence in system performance than systems where only individual system components have been tested.

The primary component of the QT, the wire rope, is subjected to considerable testing to assure that the performance characteristics are completely understood and established. Cables are tested for:

- Strength
- Elastic force/stretch characteristics
- Inelastic constructive stretch and relaxation characteristics

Furthermore, swaged samples of the wire rope/swage assembly are tested daily as part of our quality control program.



INSTALLED PERFORMANCE

Since every QT is pre-stressed to approximately 130% of its design service load (under hurricane conditions), they are 100 % "proof" tested. This assures the structural integrity of the wire rope/swage and also the epoxy anchorage of the stud end in the concrete foundation.

Since "proof" testing usually occurs at an early age of the concrete, the stud anchorage in the concrete will only get stronger with age.

Pre-stressing the wall with the cables tightens up the wall systems, eliminating construction gaps in stud/plate fit-up. This means that as added dead and live loads are imposed on these walls, they will have significantly less wall shortening as the building ages.

Similarly, this is the only system that acknowledges potential shrinkage of the lumber by including an allowance in the calculated "stretching" of the cables to assure that the desired pre-stressing is still there after shrinkage. Less future movement means less drywall problems.

Since the QT anchors are pre-stressed, movement, at loads approaching the design service load, produces minimal movement at the QT locations. The tensioned Quick Tie cable, in essence, acts like a very stiff "spring" clamping the building together from the top plate to the foundation with enough "stretch" in the spring to continue functioning even with some relaxation and building shrinkage losses.

And testing verifies that between intermittent loads this clamping action re- establishes the tightness of the wall as opposed to conventional hardware that might "work" itself loose with repetitious loads.

At ultimate loads, the QT system "failure" typically is the result of the failure of the sheathing/nailing which is gradual as opposed to more abrupt failures which could be associated with component connectors.

INSPECTIONS

Fewer, easier inspections:

- Tension in the cable can be readily identified by touch to assure that each cable has indeed been pre-stressed
- The required stress in the cable can be easily determined by measuring the amount of thread visible at the top plate and comparing it to the required elongation on the QT cable tag.
- Any deficiencies in the performance of the stud anchor epoxied into the concrete can be identified by slippage and excess amount of the stud exposed above the sole plate.
- Fewer components mean fewer items to inspect.

Check us out - www.quicktieproducts.com.

You'll be glad u did!