tieKey™ Masonry ICF Anchor Product, Design and Installation



Description:

Now offered by Wind-lock[®], the tieKey[™] anchor is the only insulating concrete form (ICF) masonry anchor in the market. This unique patent-pending design is an easy to install cast-inplace, adjustable masonry tie anchor embedded into the concrete wall formed by the ICF. This product is designed to provide the strength and security required when installing brick or stone veneer finishes.

The tieKey[™] anchor is part one of a two-part system: an ICF masonry anchor and any standard wire tie. The tieKey[™] anchor is supplied by Wind-lock[®] and the wire ties are purchased from concrete masonry supply outlets. The masonry anchor is inserted through the ICF as the wall is constructed. The wire tie is installed by the mason contractor as the masonry facing is constructed.

The tieKey[™] anchor has been tested for tension and compression strength by an independent laboratory to verify its capacity to resist lateral loads. This innovative product is available in two materials, either hot-dipped galvanized or stainless steel.



Application:

Contractors should consider the tieKey[™] anchor for all projects that require brick or stone facing. Use of the tieKey[™] anchor product allows the contractor to anchor the brick or stone to the ICF wall, providing a strong resistance to negative and positive lateral loads.

The tieKey[™] anchor is designed with a large opening that is cast into the concrete wall. This adjustable wire tie can then accommodate construction tolerances and also allow for larger differential movement for the brick finish.



1055 Leiscz's Bridge Rd. Leesport, PA 19533 Toll-Free 1-800-872-5625 Fax 1-800-854-6614 www.wind-lock.com

Installation:

Space the tieKey[™] anchor a minimum 16 inches on center vertically and 24 inches on center horizontally to meet building code requirements for both spacing and wall area.

Each tieKey[™] anchor should be placed at the mid-height of each ICF.

Center one tieKey[™] anchor on this line, next to a plastic tie insert that is marked with two raised EPS vertical lines. This positions the anchor between the two plastic tie insert rods that connect each panel of foam and allows for good concrete flow.

The wall and brick mortar joint layout must be coordinated between the locations of the brick and mortar joints and the positions of the tieKey[™] anchor relative to the ICF's design.



The 2 inch slot in the brick anchor, allows for adjustable flexibility and movement of the wire tie so that the mortar joints line up with the tieKey[™] anchor.

Using a keyhole saw, make a 2 ½ inch long vertical cut in the ICF, centered on the mid-height line and along one of the raised EPS lines identifying a vertical tie insert.

Insert the pointed end of the tieKey^M anchor through the cut line until the 90 degree bent tab is flush with the face of the ICF. The tieKey^M anchor must be inserted so that the bent tab is aligned over the vertical tie. The bent tab is 1 ¹/₄ inches wide, the same width as the plastic tie; identified by the double vertical EPS lines.

Secure the tieKeyTM anchor to the plastic tie by inserting one or two corrosion resistant course thread sharp point 1 ½ to 1 ½ inches long screws through the screw holes on the bent tab and into the plastic tie insert. This is to temporarily hold the tieKeyTM anchor in place during placement of concrete.

The mason contractor now has anchors cast-in-place to connect wire ties to the 2 inch slot in the anchor. The tieKey^M anchor is designed for either W1.7 (9 gauge) or W2.8 ($\frac{3}{6}$ inch) wire ties.

The tieKey[™] anchor is designed to work with any wire tie (triangular or rectangular). When used with a brick ledge form, standard width brick and a 1 inch air gap; a 3-inch long wire tie is recommended.

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Seismic applications require a continuous horizontal rod embedded in the mortar joint and anchored to the wall. For these seismic applications, we recommend one of the following options.

Engineering:

Ultimately the tieKey[™] anchor must meet the design requirements for the project specific design loads and the building code requirements for spacing. The tieKey[™] anchor is designed to resist the negative and positive lateral loads imposed by seismic and wind.

The tieKey[™] anchor has been tested for strength by an independent laboratory — Structural Research Laboratory at the University of Nebraska — Lincoln's Pieter Kiewit Institute. Testing has shown more than adequate strength to resist high seismic and wind lateral loads.

Building codes dictate a maximum horizontal and vertical spacing along with a maximum area of wall that a tieKey[™] anchor must be located. To meet building code requirements and to work well with all ICF product lines, we recommend placing the tieKey[™] anchor every 16 inches vertically in the center of each course of ICF and centered between the two plastic tie rods and every 24 inches on center horizontally.





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