VERTI-CRETE®
NORTHWEST
WA.CCBN#TEKNAI941DA / OR.CCB#175002

INSTALLATION INSTRUCTIONS

1. **Utility Lines**. Contact your local "Utility Locator" to have all underground power lines marked BEFORE you begin.

2. **Grade**. For best results, the ground should be prepared to a grade 4" below the final grade. The footing forms are generally 3" tall and most customers would like the burry the first 1" of the wall.

3. **Stake Fence Line**. Determine the project's fence line as it relates to property lines, sidewalks, etc. (i.e. will the wall be on the property line or just inside it?) While every job will be different, almost all can be broken down into a series of straight line runs. Stake your first strait run by placing two stakes (called Fence Line Stakes) in the ground on opposite sides of the run in line with where the wall will go. Each stake should be approximately 2' beyond the first and last post in the run you're staking. String a line between the two stakes to make the line of the wall.

4. **Mark Footing Holes**. Drive an additional stake (called a Distance Stake) in the ground in the center of where you would like the first post to be. (i.e. if your fence will be inside the property line, then the center of the first post should be 10" from the property line) Attach measuring tape to this stake. Every 13' 1" mark a line on the ground with paint perpendicular to the wall line and then another one that is in line with string (i.e. wall line) to mark an X where the center of the post should ultimately be.
Make sure to follow the 13' 1" layout throughout and ensure your markings are precise

5. **Dig Footings**. Dig each footing with a center on each X. Depending on soil conditions and engineering requirement, footing holes may need special equipment. For most applications, however, a 24" auger attachment with a standard Skid Steer (e.g. Bobcat) can be used to drill each footing where each X marks the spot. Pay special attention to avoid underground (and above ground) utilities.

Footings close to underground utilities will need to be dug carefully by hand.

6. **Form Footings**. Footing design will very by region depending on your engineering requirements. For most applications a 2' by 2' form made from angle iron will work best. Make sure your angle iron has been slightly expanded to make it 95 or so degree angle rather than a standard 90 degree angle to facilitate stripping. Secure the form with stakes where necessary to ensure the proper height and that the form remains level.

7. **Pour Footing**. Place reinforcing steel (if any required) into footing hole and pour concrete (min 3000 PSI) finishing even with the top of the form. Be sure to proceed to the next step (Place Rebar Anchors) before the concrete becomes to firm.

8. **Place Rebar Anchors**. Reattached a nylon string to the Fence Line Stakes. With tape measure and marking paint, paint a mark on the nylon string every 13' 2' on the string making sure your first mark is exactly where you want the first post be centered. Insert your rebar anchors on either side of the Fence Line string 2" to 3" apart from each other with the mark on the string directly between them. Engineering requirements will vary by region. However, in most applications will call for two 6' lengths of #4 rebar that will each be inserted 3' into the footing.

9. **Elevation Notch**. When there is an elevation change between two footings there will need to be a modification made to either the panel or the footing to keep the panel level as it spans across the two footings. The bottom corner of the uphill side of the panel may be cut using a concrete saw. However, in most applications removing a notch from the higher of the two footings while the concrete is firm but still green is the best solution. To do so remove the footing form. With a square nosed shovel scoop out a notch of concrete from the downhill side of the footing. After removing the concrete there should be a notch left in the footing that is the width of the shovel, extends approximately 8" from the edge of the footing and deep enough so that the bottom of the notch is between ¼" to ½" below the grade of the next footing downhill. Verify the depth of the notch with a laser level.

10. **Delivery**. Panels are generally delivered to the installation site on "A" frames on the back of a flat bed semi trailer. Posts are generally delivered lying down flat on the back of a flat bed semi trailer.

11. **Set Posts**. Before installing any posts, mark two paint lines on the edge of each footing to indicate the center coordinate of the rebar. After the posts are in place it will be useful to

easily see where the center should be on each footing as you move down the line. Using a 10,000 lb All Terrain Fork Lift, or similar lifting equipment, place each of the posts in position over the protruding rebar on each footing. Use a Burke Bar for final adjustments. Shim as necessary to make level.

12. **Set Panels**. Using a 10,000 lb All Terrain Fork Lift, or similar lifting equipment, carefully lower each panel into position within the notches of each post. The panel should fit easily within the notches on each post. Use a Burke Bar for final adjustments and shim as necessary to make level. The panel should be level and square before disconnecting the lifting hooks.

Alternant Installation Method (Preferred for ease of Installation)

Rather than placing all the posts first, an alternative method is to place a post then a panel and then a post, etc. After setting the first post the panel can then slide into position from only a few inches off the ground, reducing the wear on the concrete joint. The down line end of the panel then rests on the footing where the next post will be placed. That next post is then raised high enough to clear the rebar anchor an slid down along the panel until resting in place on the footing.

Caution: the panel will be temporarily supported by only one post using this method. During this time the panel is more susceptible to tipping over. Use extreme caution to ensure the panel is level and not left unattended until the final post is in place and filled with grout.

13. **Level.** Make one final check to ensure that each panel and post is square and level.

14. **Fill Posts.** Fill each post with concrete to anchor it to the footing. Fill each post at least to the height of the rebar (approx 1 sf of concrete per post). When anchoring things such as gate hardware or wrought iron fencing the post must be filled to the top. A ¼ yard hopper bucket attached to bobcat or forklift can facilitate the filling process. Caution: do not leave posts (with or without panels installed) unattended until filled with concrete.

15. **Set Caps**. After filling the post with concrete secure a cap to the top of each post with a standard masonry glue or urethane calk. Place a generous amount of adhesive or calk to the top four corners of the post, then set the cap in place. To ensure a solid cosmetic seal, calk the seam between the post and cap. If no stain will be applied, be sure to use a grey colored calking.

16.Stain. [For Verti-Crete Stain] Most applications include a neutral tan/taupe or grey color based coat plus two to four accent colors. The base coat is generally diluted with water 2:1 (i.e. 2 parts water to one part stain). The accent colors can be diluted as well

depending on the desired look. The base coat is applied with an airless spray gun. Accent colors can be applied shortly after with sponges.

LIST OF ITEMS/EQUIPMENT NEEDED FOR INSTALLATION

1. All terrain Fork Lift 10 thousand lb recommended
2. Skid steer (e.g. Bobcat) with auger
3. Spreader Bar with clevis & hooks
4. Double cable with hooks ½" cable 2' – 4' long (for lifting posts)
5. 2 Coil lifting rings
6. 2 Burke bars
7. 1 square nose shovel
8. 4' level
9. 300' tape measure (pre-marked every 13' 1")
10. Laser level (Specter Precision)/ with Story Pole
11. Nylon Cord
12. Can of marking paint (upside down spraying)
13. Hammer
14. Pre-marked Line with markings every 13' 1"
15. Several pier cap forms (Base Form) 24" square with Footing/Form stakes (4 per base form)
16. Box of plastic shims (often free from vinyl fence companies.)
17. Rebar (2 per footing, cut in 6' lengths)