TYPICAL INSTALLATION PROCESS AND PROCEDURES

It is important to note that since all walls, their applications and the site conditions are not identical and the variables too numerous, we are providing typical installation procedures for demonstration purposes only. Each specific project design and installation should be determined by a professional engineer, contractor or architect. You should rely upon and Truline defers to your local engineer for specific design recommendations.

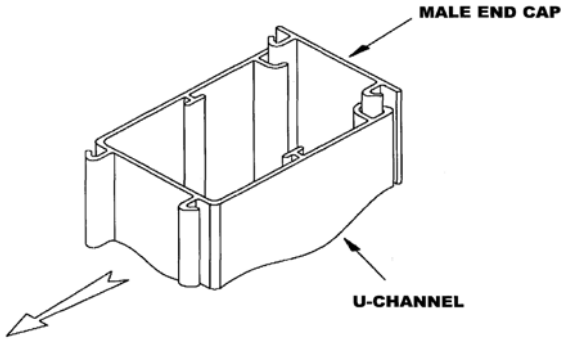
Preparation for Installation

Based upon soil properties, site conditions and driving depth you will determine the type of equipment to be used. Conventional methods and equipment used for pile driving are equally appropriate when installing Truline®. Equipment that can be used alone or in combination are vibratory hammers and plate compactors, drop hammers, jack hammers, water jets, air jets, and excavator bucket pressure. With very firm clays and dead pan, a steel mandrel may be required. Many contractors have chosen to fabricate a custom adaptor plate or "T-block" to make the installation process more efficient.

Installation Steps

1. Install a driving guide to establish the front of the wall and the proper elevation. This may be done with a string line to assist in the setting of a temporary wooden template using 2x6 boards attached to 4x4 posts. If setting a new wall in front of an existing wall, you can build out and attach the guide board to the existing wall after removing the top cap.

2. Pre-attach male end cap to u-channel prior to driving the first part as shown below. Please note Step 7 below at this time if you will be creating standard 90° returns so that the male end cap for the return can be pre-attached as well.



IMPORTANT
PRIOR TO INSTALLATION

It is important to pre-attach the male end cap to the FIRST u-channel prior to driving. Simply slide in place and fasten with coarse thread deck screws on 24" spacing to the u-channel. This will close the open end of the first u-channel and provide a rigid box to drive.

To maintain hook spacing, always construct the wall so that the closed end of the u-channel is the leading edge.

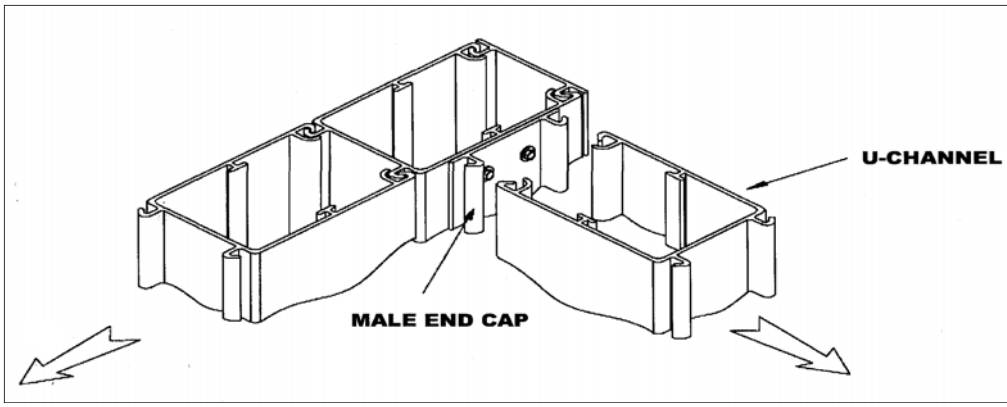
3. Set the first u-channel into position oriented in the direction shown above. The arrow indicates that you will be installing subsequent u-channels with the closed end as your leading edge. Drive the u-channel to the required depth. As with all piling it is important to **make sure that you stay plumb** in all directions as each u-channel will serve as a vertical driving guide for the next u-channel.

4. Continue to drive remaining u-channels by simply setting the next u-channel's dual interlocks into the prior u-channel's dual interlocks and dropping the piles into place, continuing to drive with equipment to required depth. If using corner parts to navigate any radius or angle, the same procedure applies.

5. Once you are ready to drive your final u-channel, pre-attach the female end cap to the u-channel using the same method as described in Step 2 for the first u-channel. You can now set into place and drive to the required depth.

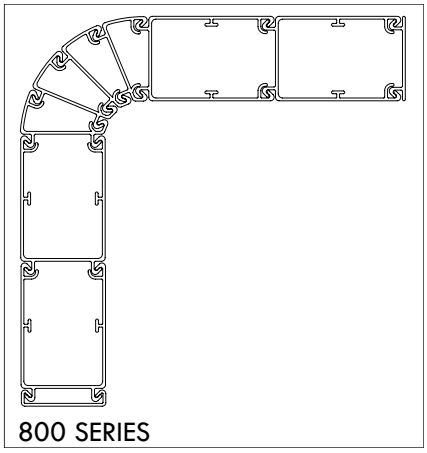
(continued on back)

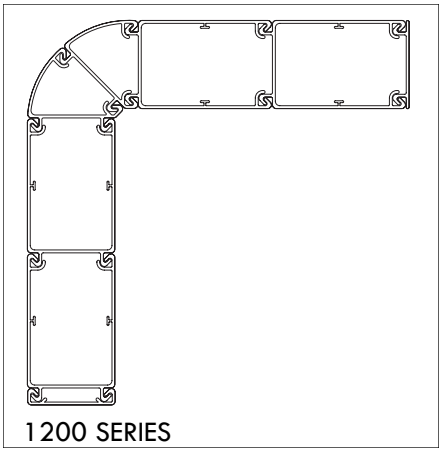
6. For standard 90° returns you simply pre-attach a male end cap to the back face of the wall in the predetermined position for the return and then begin setting and driving the u-channels off of it as shown below. You can then attach the female end cap to the last u-channel of the return as described in Step 5.



To create a 90 degree corner/ return anywhere on the wall, simply pre-attach a male end cap to the u-channel face with stainless steel bolts, nut and flat washers on 24" centers prior to driving the u-channel. You can then begin driving u-channel parts starting on this end cap as shown.

7. For radius returns you would use corner parts to create a 90° radius return. You simply set and drive the corner parts to the desired depth as you would a u-channel part as shown below. With this design you will not pre-attach the female end cap onto the last u-channel of the wall face as described in Step 5. It will instead be pre-attached to the final u-channel of the return.


800 SERIES


1200 SERIES

8. If designed and required per project engineer, install any wales.

9. As designed and required per project engineer, install tie rods & deadmen or anchor systems if not using a cantilever design.

10. For seawall / bulkhead applications install weep holes as required by project engineer at mean water height to help alleviate hydrostatic pressure build up behind the wall.

11. Fill the u-channel cells with inorganic material such as gravel, sand or concrete. If filling with concrete, placement of steel reinforcement into each cell may be recommended or required by the project engineer. Note that the weight and fluid properties of concrete require special measures be taken to prevent the side wall of the u-channel from deforming under its pressure. The two options for preventing this are 1. Pour in lifts in which a concrete top cap can be incorporated as part of the final lift or 2. Insert the cross tie part into the bottom ⅓ to bottom ½ of each u-channel cell which would allow you to pour the entire cell in one pour.

12. Install top cap as designed. Formed concrete caps, treated wood or composite lumber/decking materials may be used. In addition, commercially available stock size aluminum caps can also be used. If using a concrete cap designed with expansion joints please refer to "CREATING TRULINE EXPANSION JOINTS" drawing.

13. Remove the temporary guideboard template. Backfill with a clean and free draining backfill compacted in level layers 1 – 2 ft. making sure there are no voids.