



www.pinfoundations.com
253 858-8809 ph
858-8607 fx

MANUFACTURER'S INSTALLATION INSTRUCTIONS

Diamond Pier™ - Model DP-100

The following are generic instructions for the DP-100 – the hundred pound pier. They may be varied for specific projects or unique applications as necessary. See the Installation Video on the website – www.pinfoundations.com.

For applications in frost heaving or expansive soils, see the “*Heave & Expansion*” document on the website.

You will need: Diamond Piers with the corresponding number of Pins and Pin Caps, a shovel, automatic driving hammer with driving head, a sledge hammer or sliding post driver, a small level, tamping plate and a steel cutting saw. (Note: *Most applications will not require the use of a saw or tamping plate.*) **Note:** Check for buried utilities before Pin Driving.

Step 1: Dig a hole with a conical base which is approximately the shape of the base of the concrete pier and slightly larger than the width of the pier itself to allow for adjustment. (*On sloping terrain, dig the hole deeper on the uphill side so that the concrete pier sits level.*)

Step 2: Position the concrete pier in the hole, and plumb - brace as necessary. (*The hole may be backfilled as a substitute for bracing, provided that no further adjustments for plumb or centering will be required.*) See Note 1.

Step 3: Slide opposing Pins through the driving cavity in the concrete pier, and, making sure to support them in the center of the cavity, set the Pins a foot or two into the soil with the sledge hammer or sliding post driver. Then drive each Pin alternately in increments with the automatic hammer, periodically checking for plumb and centering. (*Avoid hitting the Pier with the automatic hammer.*) Do not attempt to drive the pins all the way down just with the sledge hammer, or allow the weight of the auto-hammer to force the pin against the lower half of the cavity. The piers are concrete and may crack if subjected to continued impact blows with the Pin in this orientation.

Step 4: Finish driving the Pin with the automatic hammer, leaving 1” protruding from the top of the cavity, and being careful not to damage the precast pier, or upper ends of the pin. (If the soils are soft or the piers will be supporting vehicle loads, affix the tamping plate to the top of the pier, and, using the automatic hammer and plumb downward pressure, vibrate the pier to “seat” it fully on the interlocking Pins.) Once the dead loads of the structure have been applied, verify the length of the protruding pin, adjust as necessary by tapping with the sledge, and cover the exposed end of the Pin with the cap, sealing it against the concrete with a 50 year, siliconized adhesive caulk, or equal. Repeat steps 1 through 4 for the remaining Concrete Piers.

Note 1: Do not drive a Pin all the way down at once if this causes the Pier to be pulled to one side. Continue to rotate around the Pier, driving the Pins in increments, until the growing strength in the pile group is sufficient to allow final driving. If loss of plumb is not a problem, the Pins may be driven all the way one at a time.

Do not continue to hammer away at a Pin which is bouncing or rattling against an impassable object if it causes the Pier to ride up the Pin, pushes the pier to one side, or risks cracking the pier. Ensure that the pier will remain in place when encountering difficulties in the soil, and when following the steps in Note 2.

Note 2: If a Pin meets substantial resistance in the soil before it has been driven its full length, it may be left in this partially driven position and cut off, provided: 1) using caution to avoid cracking the pier, the pin will not drive more than an inch during a full 60 seconds of uninterrupted automatic hammering with a 90 lb. hammer, 2) using caution to avoid cracking the pier, attempts to drive the pin with single sudden sledge hammer blows have been made, and 3) if after a reasonable period, attempts to redrive the Pin using both methods 1) and 2) have been made. *The pin must be driven at or below local frost line if it is to be cut off. If this is not the case, the obstruction may be close enough to the surface that it may be dug up and removed, the soils recompact, and the pier reset and Pin redriven. The pier may also be turned, or relocated within the parameters of your superstructure design in order to avoid underground obstacles.* See “Pin Removal” video on the website.

Temporary Product Storage

To avoid the bulky white deposit known as “wet-storage stain,” all galvanized products shipped in bundles, stacks, or cardboard cartons, should be protected from moisture until they are separated and put to use in exposed environments. If products are shipped wet, they must be separated and thoroughly dried before restacking or rebundling. If indoor storage of the products is not possible, they must be kept off the ground, covered with an opaque plastic or canvas tarpaulin covering, and the bundles or stacks slanted slightly to allow condensation to drain. (1)

1. American Society for Metals, Metals Handbook Ninth Edition, Vol. 1, (USA, 1978), p. 169.