



HANDI PIER®
ENGINEERED BY NCP INDUSTRIES

FAQs

Q: How many HANDI Piers® do I need for my project?

The amount of piers needed for a project is based on your specific project layout and load. Please see our load chart to determine what kind and how many piers are right for your project. If you're still unsure, contact a design professional or your local building code department to help assist in your calculations.

Q: What types of soils can the HANDI Pier® be installed in?

Some soils may not be appropriate for supporting HANDI Pier® foundations. Some examples include soils that are weaker than 1500 psf, soils that are highly expansive, shifting or sliding soils, soils on slopes greater than 2:1 (27 degrees), contaminated soils, or soils where traditional concrete piers, accepted by local codes, are unable to provide adequate bearing to support the loads of the project or to protect the structure from the negative effects of frost heave. Where unsound soils exist, a registered design professional may be required to review the project.

Soils can also be weakened when they retain standing water or are improperly drained, and in certain types of soil this can also cause heave problems. A site depression with standing water or the potential for water to pond, pool, or saturate the soil may be an indication that the soil is not sound. Downspouts that discharge at or near a foundation may also cause soil problems, and setting a HANDI Pier® foundation adjacent to any water body should be considered carefully. Depending on the variables involved, soils at the edge of or within lakes, ponds, rivers, streams, or tidal zones may be considerably weaker (as much as 40% or more) than dry or well-drained soils. Soils adjacent to existing foundations may also have been improperly or loosely backfilled, which may also cause poor drainage or poor soil conditions. Be sure to inform your project designer if any of these conditions exist.

Q: Can I use HANDI Pier® on backfilled soils?

Backfilled soils must be recompact to meet the minimum requirement defined in the IRC and the re-compaction must be confirmed and approved by the local building department prior to installation.

Q: Are HANDI Pier® approved in my area?

The HANDI Pier® is nationally code compliant for the uses listed in section 2.0 of our ICC ESR-4404: The HANDI Pier® DP-50 bearing pin piers are used as foundations for the support of gravity loads for exterior decks, including covered decks, elevated walkways, stairway construction, and accessory structures as defined in the IRC. The bearing pin piers are permitted for use in any of the weathering classifications defined in IRC. Like any other product, your local code official will determine if the HANDI Pier® is an acceptable foundation system for your specific project when you submit your permit application.

Q: How does HANDI Pier® work in the frost?

HANDI Pier® foundations resist heave pressures and are often used in areas requiring frost protection. Check with the local building code for criteria or limitations on installing foundations in frozen soil.

Rather than reaching a specific vertical depth or gross weight, HANDI Pier® foundations resist heave pressures with their wide-spreading pin pile groups. Embedded in the intact soil structure, the pins are prevented from changing angle under load by the concrete head, creating a stable foundation for both bearing and uplift forces. Because of the unique design of the HANDI Pier® head, the pins are also free to move along their axes without compromising the position of the head or its lock on the pin cluster. This feature allows the HANDI Pier® foundation to absorb soil strains caused by frost heave or expansive conditions without losing alignment or transferring these strains to the supported structure.

Q: What should I do if the utilities are close to the HANDI Pier®?

Verify the horizontal pin distance in the installation manual, if the utilities are within the safety zone defined, do not install the HANDI Pier®. Always call before you dig!

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Q: How is the HANDI Pier® inspected?

Hard plastic plugs are inserted in the bottom of each bearing pin prior to installation to keep soil from moving up inside the pins as they are driven into the ground. This allows inspectors to slide a tape measure down a pin from above to verify its length. You may also check with your building official or local inspector for other acceptable methods for verifying pin length.

Align the slot in the plug with the interior weld bead and insert. The allowable tolerance in pin wall thickness means that some plugs will fit high in the end of the pin, and some will fit down almost to the plug shoulder. In either case, tap the point of the plug with a hammer to seat it firmly enough in the end of the pin so that it will not drop out as you slide it through the driving holes in the pier. Don't worry that tapping the end of the plug with the hammer will blunt the point; it is not intended as a piercing or cutting tip, and this will happen anyway as the plug is driven into the soil.

Q: What tools do I need to install HANDI Pier®?

You will need to assemble the following tools and gear:

- Automatic driving hammer with 1-1/8' SDS Max shaft driving bit or a pneumatic hammer with a hex shaft bit
- Square-edge shovel
- Sledgehammer
- Torpedo level
- Tape measure
- Pipe wrench
- Proper protective gear, including safety goggles, ear protection, insulated gloves, protective clothing, and boots

Q: How can I get HANDI Pier® exactly where I want it?

Locate where you would like the center of the pier anchor bolt to be. Mark the location by using reference points that will easily identify the center location of the pier even after the topsoil is removed.

Tip: Set a string line centered on the anchor bolt approximately 12-14' above the ground for a quick reference point and to maintain alignment.

Q: Can I bury the HANDI Pier®?

The HANDI Pier® may be buried for aesthetic considerations if it is preferred to only see the post, but access to the top of the pier needs to be maintained. Concrete slabs, patios, and other products installed **MUST NOT** interfere with the HANDI Pier® foundation and the attached post/beam assembly. Expansion joints may be used to protect the foundation. Proper drainage must also be maintained.

Q: Can I use HANDI Pier® by the lake or submerged in water?

The HANDI Pier® can be installed in water if the soil in the water is a soil type that is not degraded by water saturation. Silty soil and/or clay soils may degrade in water and lose strength. Soil strength is what is needed to support the HANDI Pier®. The HANDI Pier® needs soil strengths of at least 1500 psf. If proper soil strength exists the water is irrelevant. Contact a design professional competent in understanding soil strength or talk to your local building department.

Q: What do I do if I hit a rock?

If a pin stops moving when being driven in, STOP driving the pin. Be sure the other pins are at least halfway in to stabilize the pier and ensure that the pier will remain in place before trying to drive the obstructed pin in any further. Attempt to drive the obstructed pin with the automatic hammer for approximately 10 to 20 seconds, or give it one or two firm square hits with the sledgehammer, which may drive it past the obstruction. If you can remove the pin, you may also try removing the soil plug and re-driving. Inspection plugs may only be omitted when approved by the building official. With the plug removed and less surface area at the lower end, the pin may drive easier, and not be forced by the angle of the plug past an obstruction, but off its trajectory. Many small rocks will roll, potentially allowing the pin to move directly past. If the pin begins to move, continue with the automatic hammer, but make sure that it is not being forced out of line. If its trajectory is off, this can cause eccentric stress on the pier and crack it.

If the trajectory is off or the pin will not go in at all, remove all the pins (see "Removing Pins"), rotate the pier around its center alignment, and reinstall to avoid obstruction. The pier may also be relocated, within the parameters of your structural design, if necessary to avoid underground objects. If the obstruction is close enough to the surface, it may be dug up and removed. Once accomplished, recompact the soils with the sledgehammer, and then reset the pier.

NOTE: The edges of the top of the concrete pier do not have to align exactly with the sides of the post or post bracket as long as the bracket being used is fully supported by the concrete and provides proper weight distribution.

Q: How do I remove HANDI Pier®?

The jacking method is used to spin and pry a pin out from the pier simultaneously by using a pipe wrench and a pry bar. This method works best when the pin is approximately 6' extended out from the pier. A pipe wrench, a flat bar, and a pry bar are required. Follow the instructions below to turn the pin while corkscrewing it upward.

1. Using your right hand, place the pry bar flat against the concrete angle at the outer edge of the pier and perpendicular to the pin to be removed.
2. With your left hand, place the pipe wrench on the pin and slide it down tight to the pry bar. The pipe wrench handle should be pointing up slightly and perpendicular to the pry bar to allow the pipe wrench to turn the pin as it is pried (see Figure 6).
3. Pull up on the pipe wrench handle to lock.
4. Pull up on the pry bar with your right hand to move the pin out approximately 1' to 2'.
5. Slide the pry bar back to be flush with the concrete angle on the pier.
6. Repeat lock and jack (steps 3–5) until the pin can be pulled out by hand.

Note 1: For the first 4' of removal use the flat bar with the pipe wrench. After the pin is 4' removed you may use a pin as a pry bar.

Note 2: For an alternate removal technique, an internal pipe locking tool with an electric impact wrench may be used to spin the pin and draw it from the pier.

Q: How close together can I put HANDI Pier®?

To meet the load-bearing capacities shown in the "Residential HANDI Pier® Load Chart" in the installation manual, HANDI Pier® foundations must be spaced a minimum of 3 feet apart (from the center of the pier anchor bolt to the center of the pier anchor bolt). If they are spaced less than 3 feet apart, the bearing capacity must be reduced by 13% for each closer-spaced pier. The piers must also be set back the correct horizontal distance from existing foundations or other buried obstacles. Tributary loads from the supported structure must be properly calculated, and the piers spaced accordingly so that each pier is supporting only up to its designated allowable loads.