

# DiamondPier®

FOUNDATION SYSTEM



**Structurally Rated  
Footings**

**For Decks, Gazebos,  
Screen Rooms and More**

**Code  
COMPLIANT**  
MODELS  
**DP-50  
AND DP-75**

**Install in Minutes**  
using hand-held tools...  
**Frame Immediately**

# DiamondPier®

FOUNDATION SYSTEM

From  
this...



...to this

**Before Lunch!**

Complete Projects 1 to 2 Days Faster

No Holes to Dig

Perfect for DIY Projects

Professional Builders  
Choose Diamond Pier

Uplift & Lateral  
Resistance  
Increased

Spread  
Pin Pile Design  
Distributes Loads  
Over a

**Greater  
Bearing Area**

than Conventional Concrete  
Footings

Uplift & Lateral  
Resistance  
Increased

Code  
COMPLIANT  
MODELS  
DP-50  
AND DP-75

GreenSpec®  
LISTED

# DiamondPier®

## FOUNDATION SYSTEM

Construction  
without  
Excavation

*Build Beyond the Standard*

A Structurally Rated, Code  
Compliant Foundation System



For over 25 years, the **U.S. Department of the Interior** has chosen Diamond Pier as the foundation system for some of their most challenging locations.



U.S. Fish and Wildlife Service, Nisqually Estuary Boardwalk

Strong Enough for Some of the Most Demanding Projects

*Commercial projects, as shown above, require site specific engineering. For details contact us at [info@DiamondPiers.com](mailto:info@DiamondPiers.com).*

Strong Enough for Decks, Porches, Pergolas, Gazebos and More

*For simple residential, home improvement projects use our code compliant DP-50 or DP-75 models and submit ESR-1895 Report with your permit application.*



[www.DiamondPiers.com](http://www.DiamondPiers.com)

## Planning Your Project Considerations before you buy

- Check Your Soil Type • Determine the Load
- Get Building Permit • Locate Buried Utilities

### Residential Diamond Pier Load Chart

**Silts/Clays Minimum 1500 psf** (CL, ML, MH, CH) see note 3 below

Model No./ Pin Length	Bearing Load Capacity	Equivalent Base Area	Cylinder Comparison	Frost Zone	Uplift Load Capacity	Lateral Load Capacity
DP-50/36"	2700#	1.8 sf	18" dia	24"	600#	600#
DP-50/42"	* 3000#	2.0 sf	19" dia	36"	* 900#	* 600#
DP-50/50"	3300#	2.2 sf	20" dia	48"	1200#	600#
DP-75/50"	* 3750#	2.5 sf	21" dia	48"	* 1400#	* 600#
DP-75/63"	4200#	2.8 sf	22" dia	60"	1600#	600#
<i>Equivalency to Traditional Concrete Footings</i>					* Interpolated from field test values	

**Sands/Gravels Minimum 2000 psf** (SW, SP, SM, SC, GM, GC) see note 3 below

Model No./ Pin Length	Bearing Load Capacity	Equivalent Base Area	Cylinder Comparison	Frost Zone	Uplift Load Capacity	Lateral Load Capacity
DP-50/36"	3600#	1.8 sf	18" dia	24"	600#	600#
DP-50/42"	* 4000#	2.0 sf	19" dia	36"	* 900#	* 600#
DP-50/50"	4400#	2.2 sf	20" dia	48"	1200#	600#
DP-75/50"	* 5600#	2.8 sf	22" dia	48"	* 1400#	* 600#
DP-75/63"	6400#	3.2 sf	24" dia	60"	1600#	600#
<i>Equivalency to Traditional Concrete Footings</i>					* Interpolated from field test values	

#### Notes:

1. This load chart is intended for simple structures supported by columns, posts, and beams loaded up to, but not exceeding, the stated capacities. It is not intended for structures with asymmetrical, rotational, overturning, or dynamic forces. Intended uses are described in section 2.0 of ICC-ES prescriptive bearing evaluation report ESR-1895. For projects that exceed the capacities or limitations defined herein, or the intended uses described in ESR-1895, contact PFI for additional information or site-specific capacity evaluation. See also the Use and Applications download at [www.DiamondPiers.com](http://www.DiamondPiers.com).
2. Capacities shown are tested to a Factor of Safety of 2, and are applicable in properly drained, normal sound soils only, with minimum soil bearing capacities as indicated. Copies of the field test reports are available from PFI upon request.
3. See IRC Table R401.4.1, "Presumptive Load-Bearing Values of Foundation Materials," for a full description of applicable 1500 psf and 2000 psf soil types. For soils below 1500 psf, or soils with unknown characteristics, additional site and design analysis is required. For soils above 2000 psf, the values in this chart shall apply.
4. All capacities use four pins of the specified length per foundation. Pin length includes that portion of the pin embedded within the concrete head. See "Check Your Layout" on page 9 of the Installation Manual for more information on pin/pier layout and spacing restrictions.
5. For professional engineers designing for short-term transient loads, contact PFI for further information.

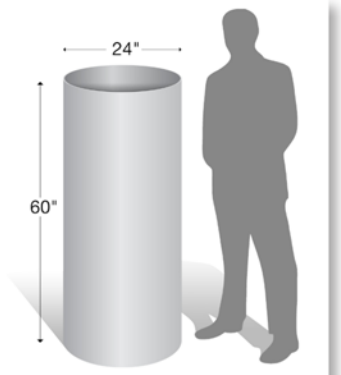
**USE AND APPLICATIONS** - The intended use for Diamond Pier DP-50 and DP-75 foundations sold through retail stores is to support simple residential projects constructed with columns, posts, and beams. Project loads are limited to the capacities defined in the "Residential Diamond Pier Load Chart" published by the manufacturer Pin Foundations, Inc. (PFI). The scope of project is defined as decks, covered decks, walkways, stairways, and accessory structures as defined in the International Residential Code (IRC), or similar projects that meet this intent. The DP-75 should be used for larger, more-complex structures, and the DP-50 for smaller, simpler projects.

**Local Building Code Compliance** - If a permit is required, your local building code official will require code compliance documentation to determine that the intent of code is being met. Code compliance documentation may be provided as an evaluation service report, state or municipal product certification, and/or third-party testing. Check with your local code official regarding code requirements for your municipality.

**Commercial and Special-Order Project Services** - For projects that exceed the capacities defined in the "Residential Diamond Pier Load Chart," or for projects beyond the scope defined above, larger Diamond Pier models are available by special order with a site-specific capacity review. PFI offers Project Services to analyze site-specific soils data and structural loading information, which must typically be provided by a registered design professional. With this information, PFI is able to provide a Manufacturer's Capacity Analysis and/or an Engineer Stamped Submittal. Contact PFI for specific requirements, as well as the typical time frame and fees for Project Services review. For further information, go to our website, click on Commercial and then on Project Services.

### Equivalency to Traditional Concrete Footing

A Diamond Pier DP-75/63" will support up to the same load as a 24" x 60" traditional concrete footing in 2000 psf soils (see note 3 above).



# DiamondPier®

## Quick Installation Overview

**IMPORTANT:** Read Full *Diamond Pier Installation Manual* and View the *Installation Video* at: [www.DiamondPiers.com](http://www.DiamondPiers.com)

### Before You Purchase

Page references refer to the Full Installation Manual

- 1. Know Your Soils** See "Normal Soil Conditions" (page 5) – 1500 psf min supporting soils.
- 2. Check Your Loads** "Residential Diamond Pier Load Chart" (page 6) shows Equivalency to Traditional Concrete Footings.
- 3. Get Building Permit from Local Municipality** Provide Diamond Pier model size and code compliance documentation. See "Use and Applications" (page 7).
- 4. Locate Buried Utilities** Determine safety zones and adequate clearances (page 8).

### Documents to Submit with a Permit Application

- ESR-1895 Code Compliance Document or Wisconsin UDC Approval Evaluation
- Detail Drawings and Load Chart
- See "Use and Applications" (page 7)

### To Get Started You will Need...

#### • The Proper Sized Diamond Pier

- Includes:
- 1 - Concrete Head
  - 4 - Pins
  - 4 - Plugs
  - 4 - Caps



#### • Driving Bit 1-1/8" hex shaft



#### • Demo/Breaker Hammer 35 lb.+

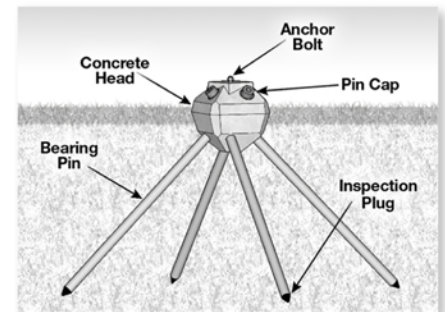


*Ask dealer about rental*

#### Other Common Tools Required...

- Square-Edge Shovel
- Torpedo Level
- Pipe Wrench
- Ear Protection
- Sledgehammer
- Tape Measure
- Proper Safety Goggles
- Insulated Gloves & Protective Clothing

### Diamond Pier® Detail



### Install in Minutes

A minimum two-person crew is recommended. See Full Installation Instructions pages (11-14).

- 1. Install plugs in pins** to prevent soil from entering as they are driven into the ground. Inspectors can then use a tape measure to verify pin length after installation.
- 2. Lay out string** approx. 12–14" above the ground on center location of post/pier to allow for quick reference point.
- 3. Remove soil** the same size as bottom half of concrete head, approx. 6" depth. Note: Pier can be buried for aesthetic reasons, but access to top of pier needs to be maintained. Concrete slabs, patios, and other products installed **MUST NOT** interfere with the Diamond Pier system and the attached post/beam assembly. Expansion joints are commonly used to protect the system. Proper drainage must also be maintained.
- 4. Set concrete head** in hole and, keeping the pin centered in the driving hole, carefully set each pin 6–12" into soil tapping with a short grip on sledgehammer until pier is locked into a level position. Note: The edges on the flat top of the concrete head do not have to align exactly with the sides of the post or post bracket as long as the bracket is fully supported by the concrete for proper weight distribution. Piers can be nested next to each other to provide more loading, but if closer than 3' on-center, a 13% load reduction should be applied to each pier.
- 5. With driving bit** attached to the automatic hammer, drive pins in evenly from side to side in equal increments, approx. 1–2" each until pin is approx. 6" out. Then double check pier position before final driving of the pins to ¾" out for cap attachment. Note: One person should hold pin to limit vibration to pier while pin is driven.
- 6. Be sure the pin length** is inspected per permit requirements before caps are applied.

### Removal/Repositioning if Obstruction Encountered

If a pin stops moving when being driven in, STOP driving the pin. Put pencil mark on pin by head to indicate if pin is moving. With other pins part way in, use the automatic hammer for approx. 10–20 seconds, or give the pin one or two firm square hits with the sledgehammer. If it still will not move, then remove and reposition the pier. To remove, spin and pry a pin simultaneously using a pipe wrench and pry bar. If the obstruction is close to the surface, it may be dug up and removed. Then recompact the soils with the sledgehammer, and reset the pier. See Installation Manual (page 13) and Removal Video available at [www.DiamondPiers.com](http://www.DiamondPiers.com).



### Register Your Product Warranty

See information at [www.DiamondPiers.com](http://www.DiamondPiers.com)

**WARNING:** Do not install Diamond Pier foundations before all underground utilities have been located, marked, and de-energized. See "Locate Buried Utilities" in the full Installation Manual at [www.DiamondPiers.com](http://www.DiamondPiers.com)

# DiamondPier®

## FOUNDATION SYSTEM

### Proven Performance... What People are Saying

"I'm very impressed with the performance, ease of installation, and the no-mess application of the Diamond Pier. I will continue to use them on my future deck projects."

*Jon Truax • Tru Decks, LLC • Twin Cities Area, MN*

"...After Hurricane Dennis AND Hurricane Katrina, not a single Diamond Pier had been compromised."

*Taj Goodpaster • Construction Proj. Mgr. • North Wind, Inc.*

"After believing in and selling Diamond Piers for a year and a half now, I personally installed 5 piers in 1 hour 15 minutes total! Amazing product!"

*Shayne Jordan • Contractor Sales • Maki Building Centers  
President of Home Builders & Remodelers Association of Central Massachusetts.*

"I've been using these all over the west metro area... all the piers have remained structurally sound through repeated frost cycles."

*Bob Januik • Precision Decks • Mound, MN*

"...A lifetime warranty on one of the most critical elements of a deck is why my clients choose Diamond Pier."

*Brian Jacobson • 4 Quarters Design & Build • Plymouth, MN*

"Started with Diamond Pier in May 2015 and they have made a WORLD OF DIFFERENCE to my business opening up an entire new world in terms of revenue!"

*Norm Buteau • Norm Buteau Construction • Millbury, MA*

"This is an amazing product... it is incredibly low-impact and very easy to install."

*José Galarza • Prof. of Sustainable Design/Build • UMass Architecture+Design*

"10,000 piers and counting. DP has changed the way we build decks. Time and cost savings, ease of install and lifetime warranty makes it a better foundation system."

*Pat Noonan • Deck and Basement Company • Richfield, MN*



#### Documents to Submit with a Permit Application

- ESR-1895 Code Compliance Document or Wisconsin UDC Approval Evaluation
- Detail Drawings and Load Chart
- See "Use and Applications" in the Full Installation Manual on page 7

The Diamond Pier DP-50 and DP-75 Models are recognized by the International Code Council (ICC) for residential applications. The ESR Code Compliance Document and Detail Drawings are available on our website... [www.DiamondPiers.com](http://www.DiamondPiers.com)



Featured on  
*This Old House* and  
*Hometime*

Watch the *PBS Hometime* segment Here



## DiamondPier® Limited Lifetime Warranty

Covering Parts and Labor

The Pin Foundations, Inc., Diamond Pier DP-50 and DP-75 Foundation Systems are warranted to perform to the published capacities for the life of the original supported structure. The warranty shall apply only if the product is used in accordance with Pin Foundation's published "Use and Applications" document and installed in accordance with Pin Foundation's published "Residential Diamond Pier Load Chart" and Installation Manual.