PROFORM HD®

form • drain • vent

INSTALLATION GUIDE

PRINSCO
WATER MANAGEMENT SOLUTIONS

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rev. 041025

INTRODUCTION

PROFORM HD is an innovative, efficient alternative to traditional wood forms. This corrugated dual-wall HDPE system actually forms the footings while at the same time providing superior drainage and radon venting – all in one easy step. This installation guide outlines the basic steps typically used for a PROFORM HD project. Refer to local building codes/requirements regarding footing construction and drainage requirements.

SYSTEM LAYOUT

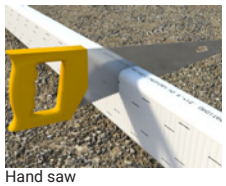
Begin with a rough layout of the required number of standard 10' lineals, elbows, drain outlets and other necessary accessories. Refer to *Estimating Materials for a PROFORM HD Project* for guidance on determining amount of materials that will be needed to complete the project.

CUTTING

Cutting the PROFORM HD lineals to the required lengths can be easily done with a hand saw, circular saw, or reciprocating saw. PROFORM HD is shipped with installed couplers, therefore, it is best to not pre-cut lengths. When reaching a corner, simply cut the PROFORM HD lineal to the required length, install an elbow, and use the remainder of the PROFORM HD lineal as the next piece to be installed. This will help minimize scrap by ensuring that numerous short pieces are not left over. Square cuts will help ensure proper alignment and fit for couplers and accessories.


Circular saw


Reciprocating saw


Hand saw

ASSEMBLY

Assembly of PROFORM HD should start at a corner with a full lineal piece or a scrap piece from a previous project. Start by inserting a corner fitting into the receiving/cut end of the PROFROM HD stick.

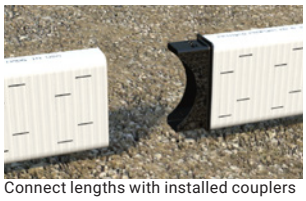

Start assembly at a corner

Be sure to install the slotted side AWAY from the concrete.

A circle and line is inscribed to show the location where rebar or flat metal stake can be driven through into the ground to hold the elbow in place.

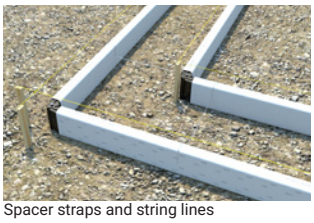

Location for rebar

Continue around the perimeter of the footing by connecting the PROFORM HD lineals with installed coupler ends or making a cut to attach a corner fitting.


Connect lengths with installed couplers

PROFORM HD fittings install with a "snap" and the locking cleats provide a secure fit so there is no need for lubricant or glue. Fittings should be connected to a field cut or plain end only. Since PROFORM HD lineals ship with couplers installed, the need to install couplers is minimized which speeds up the installation process. If needed, the installed coupler can be easily removed and another fitting attached.

Spacer straps may be used to ensure the proper footing width and can also be used as a chair for rebar.


Spacer straps and string lines

VARIABLE ANGLE ELBOW

The variable angle elbow works for 45º - 90º corners.

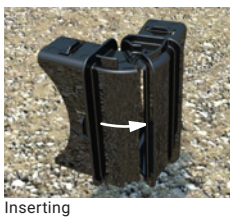
To convert the elbow to a different angle, simply cut it along the center rib seam as shown.

Cutting

Snap off the tabs on the top and the bottom to achieve the desired angle. Removing both tabs will produce a 45º angle.


Remove tabs

Then, take the side with the removed tabs and insert it into the other half until the desired angle is achieved.


Inserting

Optionally, secure with two screws in the joint.


Securing

PINNING / LEVELING


Forming pin

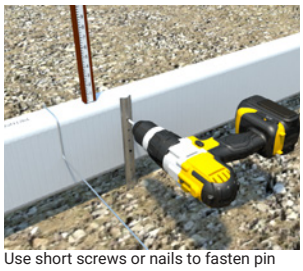

Grade stake


Wood stake

PROFORM HD should be secured upon completion of the assembly by using steel forming pins, grade stakes or wood stakes. It is recommended to fasten pins/stakes on the inside/concrete side of the forms.

PROFORM HD should be installed level around the entire footing. Raise the lineal slightly above the desired elevation when fastening to the pins/stakes. Once the fastening is complete, tap the pin/stake down to the desired elevation. This will help ensure that the correct elevation is maintained around the entire perimeter. Fastening to pins/stakes can be done with short screws or nails.

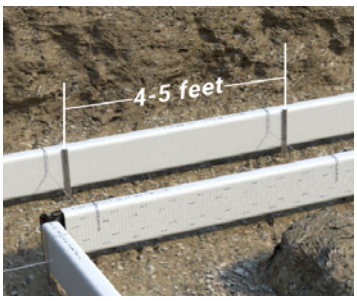

Tap pin to desired elevation


Use short screws or nails to fasten pin

Grade stakes and wood stakes can be left in place eliminating additional labor needed for removing forming pins.

REINFORCING

To minimize bowing from the lateral force of the concrete as it is poured, it is recommended that PROFORM HD be pinned every 4' – 5' along the lineals as well as at elbows and connections. The pins should be placed on the inside/concrete side of the forms and should extend far enough into the soil to provide adequate support for the PROFORM HD lineals.



Pin every 3'-5'

Spacer straps, which are available in 16", 20" or 24" widths, can help speed up the installation by ensuring the correct spacing between forms. Spacer straps can be left in place to be used as rebar chairs or can be removed as the concrete is poured.


Spacer strap

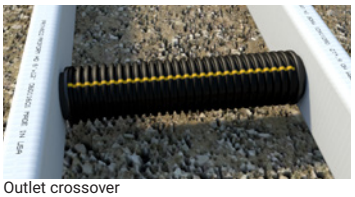
CHANGE IN ELEVATION

Occasionally foundation plans will require changes in elevation and PROFORM HD is fully adaptable with the use of a vertical elbow. The flow of drainage will remain continuous throughout the system.

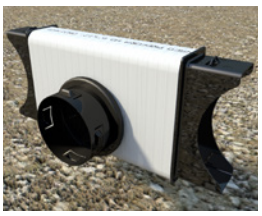

Vertical elbow

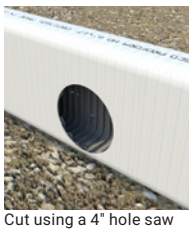
DRAINAGE

Drainage outlets and crossovers can be located at any point along the system. Drainage outlets are needed to direct the flow of water either to a sump basin or away from the footing. Crossovers are required to connect the inner and outer lineals to facilitate drainage. Refer to the foundation plans and local building codes for the number, locations, and type of crossovers/outlets required. Prinsco's recommendation is a minimum of one crossover per system with the distance between any two crossovers not to exceed 100'. See ICC-ES Evaluation Report ESR-4078 and/or CCMC 14520-R for additional information.


Outlet crossover

If using 3" or 4" corrugated tubing for crossovers or outlets, connections can be created using either a single outlet fitting or a crossover adapter. For a crossover adapter, simply cut a hole near the bottom of the lineals using a 4" hole saw and install the adapter with a section of 3" or 4" non-perforated corrugated pipe.

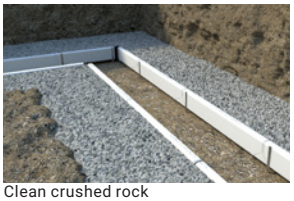

Single outlet adapter


Cut using a 4" hole saw


Insert crossover adapter

PLACING STONE

Place stone along the exterior of the PROFORM HD. Stone should be a clean crushed rock which promotes drainage. It is recommended that the rock is placed prior to pouring the concrete to help increase the lateral stability of the PROFORM HD. Refer to your local building code for the dimensions of the rock required.

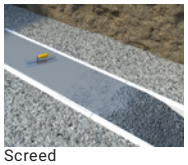


Clean crushed rock

CONCRETE POURING

Fill the footing form with concrete and screed off the top of the lineals upon completion. The PROFORM HD system is left permanently in place to act as the foundation drainage and radon venting system.

Fill form



Screed

DO NOT REMOVE PROFORM HD!

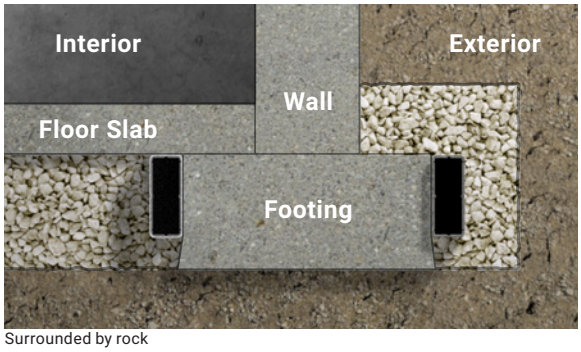
FORMING OPTIONS

Footings shall always be formed in accordance with local building codes/requirements. The methods described below provide some suggestions typically used for PROFORM HD installations.

Depending on the required footing depth, PROFORM HD can be raised so that the top of the form meets the top elevation of the footing. For example, 6" PROFORM HD can be used for 6" footings as well as 8" footings.

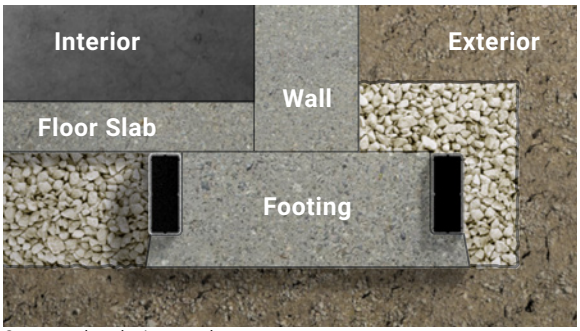
8" Footing

For an 8" footing, the space between the bottom of the form and the excavated ground would be filled in with rock or with concrete. It is recommended to place the rock around the exterior of the PROFORM HD to provide additional support and to minimize the amount of concrete spilling out from under the forms.



Surrounded by rock

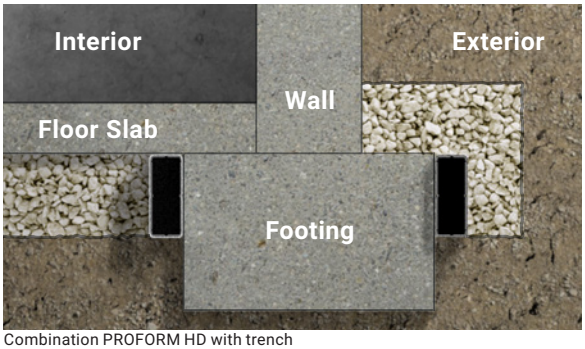
(8" Footing cont.)



Concrete placed prior to rock

10-12" Footing

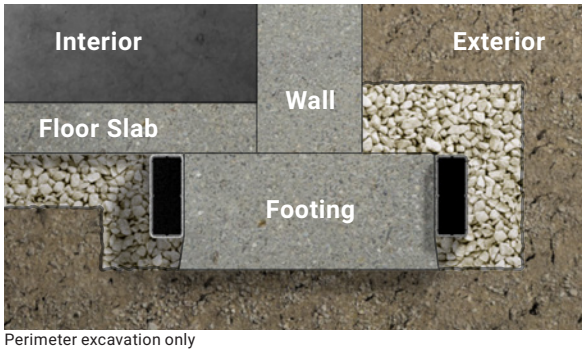
Deeper footing depths can be achieved by utilizing the PROFORM HD lineals with undisturbed soil. For example, a 10" or 12" footing can be formed by using 6" PROFORM HD in combination with either a 4" or 6" trench. This method provides a cost alternative solution to larger, more expensive forming options.



Combination PROFORM HD with trench

Perimeter Excavation

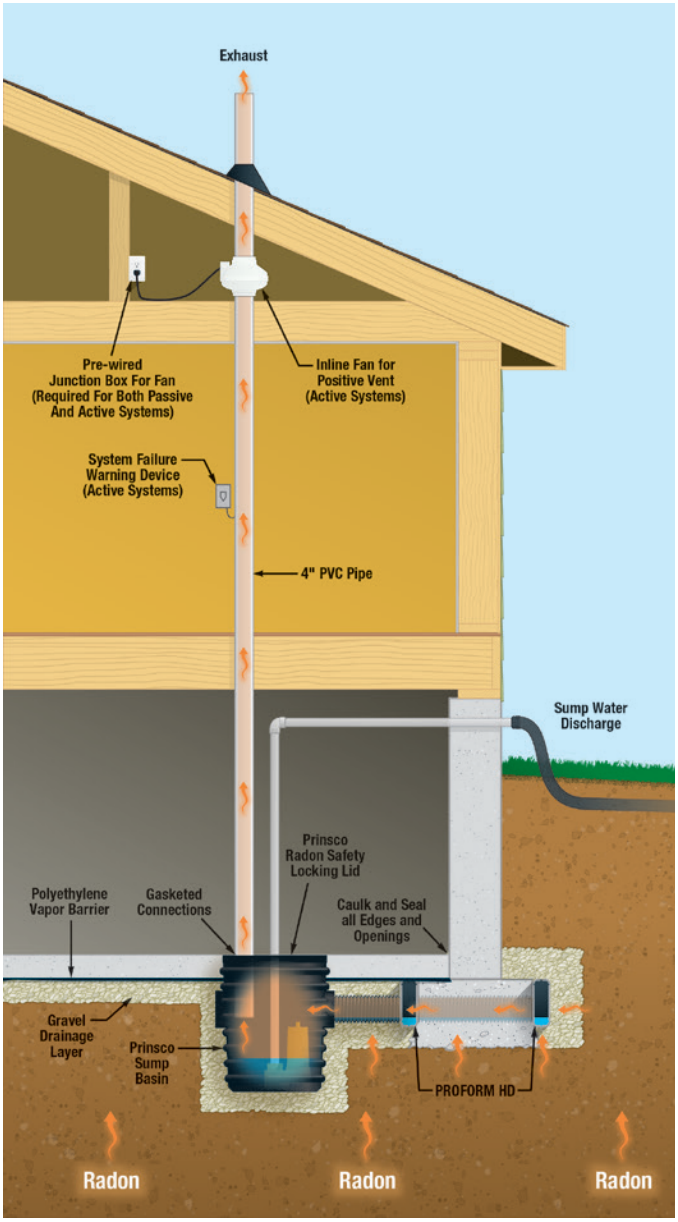
Some contractors prefer to excavate to the footing depth only around the perimeter of the floor plan. This method saves on excavation as well as the amount of rock required. The PROFORM HD lineals should be installed such that 4" of the footing height is above the elevation of the center excavation. This allows for 4" of rock spread over the undisturbed soil to serve as the sub-base for the basement slab.



Perimeter excavation only

RADON VENTING SYSTEM GUIDE

One of the additional advantages of PROFORM HD is that while it provides superior foundation drainage, it also functions as a part of a radon venting system. This guide provides a recommended solution for sub-slab perimeter radon venting. Alternate venting configurations may be utilized provided they meet all applicable codes and environmental agency requirements.



Passive Venting Systems

1. A passive venting system, which is installed without a fan, must have the vertical stack vent pipe installed on the interior of the structure. This is to ensure that there is sufficient temperature differential within the stack to promote an adequate draft.

2. With the PROFORM HD draining to an interior Prinsco Sump Basin, no additional outlets will be needed. The vertical stack vent pipe will be connected to the sump basin with the use of a gasketed Radon Safety Locking Lid. Other outlet vent configurations can be utilized as well.

3. Fill the sub-slab space with a minimum of 4" of a gas-permeable material, such as a clean gravel.

4. Place a continuous layer of polyethylene sheeting or an air-gap membrane under the entire slab, overlapping at the seams to serve as a soil-gas retarder.

5. After the basement floor is completed, seal and caulk around the perimeter of the basement floor and around any openings in the floor such as floor drains, utility entries, or cracks to retard any soil-gas entry.

6. Install a 4" vertical stack directly over the sump pit location. Do not use 90° elbows in the vertical stack vent run. Properly seal and flash the vent outlet at the roof line.

7. All exposed and visible interior radon vent pipes should be identified with at least one label on each floor level which reads: "Radon Venting System".

8. Provide for rough-in wiring in the attic area near the vertical stack for the installation of a fan and system failure warning device. If subsequent tests indicate radon levels in excess of 4 pCi/L or the maximum level defined by local code or practices, the passive system shall be converted to an active system.

Active Venting Systems

A ventilation fan is incorporated into the vertical stack pipe to convert from a passive system to an active system. For active systems with a fan, the vertical stack pipe may be located on the exterior of the house. The ventilation fan should be installed in the attic or on the exterior of the house, never in the basement.

A system warning device must also be installed in an easily accessible location to monitor the system.

PROFORM HD and related system components should be installed in accordance with all applicable codes and in conformance with EPA "Model Standards and Techniques for Control of Radon in New Residential Buildings." Contact the United States Environmental Protection Agency and/or state and local environmental agencies for more specific information on radon control.

PROFORM HD

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INSPECTION, HANDLING AND STORAGE

Upon receipt of a shipment of PROFORM HD and accessories, check to ensure that all items listed on the packing list are accounted for. A visual inspection will also indicate any damage that may have occurred during transportation.

PROFORM HD is manufactured from High Density Polyethylene (HDPE) which is very durable and resistant to impact, UV degradation, as well as harsh chemicals.

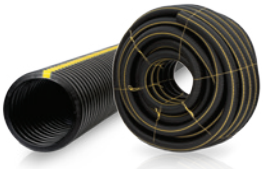
However, care should be taken to ensure that the PROFORM HD is not damaged by mishandling or improper storage. PROFORM HD can be easily unloaded in full bunks using a forklift or other mechanical device.

PROFORM HD should be stored on a flat surface. If the PROFORM HD is to be stored for a prolonged period, it is recommended that it be left in the original bunk packaging.

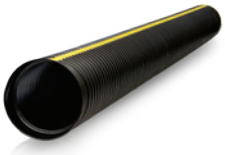
NOTES:

PROFORM HD FITTINGS & ACCESSORIES

	Item	Number
	6" x 10' PROFORM HD®	PFHD33010
	with sock	PFHD3305
	6" 90° / 45° Elbow	PFHD33051
	6" Vertical Elbow	PFHD33054
	6" Coupler	PFHD33050
	6" End Cap	PFHD33055
	4" Crossover Adapter	PFHD33057
	8" x 16" Spacer Strap	PFHD33816
	8" x 20" Spacer Strap	PFHD33820
	8" x 24" Spacer Strap	PFHD33824
	Single Outlet	PFHD33060
	12" Metal Grade Stake	PFHDGS12
	18" Metal Grade Stake	PFHDGS18



GOLDLINE®
SINGLE-WALL



GOLDFLO®
DUAL-WALL STICKS

PROFORM®
FORM DRAIN VENT

FITTINGS

SUMP DRAINAGE