



Transform Compost Systems

turning waste into an opportunity

Foundation Aerated Floor Design Detail

In development of an aeration floor, there are five “Foundational” considerations:

1. Operate loaders on the floor without damaging piping
2. Construct and install the aeration system efficiently
3. Provide air consistently throughout the length of the pipe
4. Minimize the risk of hole blockage and simple to clean
5. Ease of shipping aeration system around the world



Foundation Air spigots can be easily mounted on 4" (10 cm) or 6" (15 cm) PVC or HDPE pipe. The pipe can be embedded completely in the concrete, or only partially, depending on load requirements. There is no risk of air leakage as the spigots are sealed onto the pipe. The holes are tapered successively

larger from the top to the bottom to minimize risk of clogging. A 1" x 2" wooden strip on top of the spigots ensures an adequate trench that protects the aeration system from wear on the concrete

Choice of Pipe Material

The Foundation Air system allows a choice of piping materials. PVC pipe is more commonly used, but maximum temperature restrictions make PVC a poor choice for negatively ventilated systems. HDPE pipe is able to tolerate higher temperatures and therefore can be used for negative aeration. HDPE

pipe also has higher thermal expansion, which needs to be taken into consideration in the design.

The Foundation Air Spigots can be attached to either 4 inch (10 cm) or 6 inch (15 cm) diameter pipes. The spigots can accommodate various thicknesses of pipe.

The Foundation Air Spigot is produced from HDPE, and is therefore completely compatible with HDPE pipe.

It is important to note that dissimilar plastics cannot be glued, therefore we have designed the Foundation Air Spigots to be attached using screws and sealant.



The Foundation Air Spigots can accommodate 4 or 6" diameter PVC or HDPE pipe of various wall thicknesses.

Air Spigots to the HDPE or PVC Pipe

Installation steps

1. Drill 1" holes at the spacing along the 4 or 6" diameter pipe
2. Use silicone sealant to create a seal for the spigot base

Attaching the Foundation



3. Attach the spigot base to the pipe using two screws



4. Insert the spigot into the base



5. Screw the 1" x 2" section of wood onto the top of the spigots. Using narrow diameter screws will allow the 1" x 2" wooden strip to be easily removed after the concrete pour.

The 1" x 2" section of wood acts as the screed for leveling the concrete floor as it is being poured.

The 1" x 2" section of wood should be removed before the concrete is fully set. Using some grease on the 1" x 2" will make removal easier.



Installing Pipe into the Concrete

The depth of concrete for the floor and the reinforcing steel requirement is determined by an engineer based on the load requirements of the equipment on the floor. For larger facilities that are using large loaders, we recommend embedding the piping fully in the concrete. For lighter applications where smaller loaders are used, the concrete can be poured to the top of the pipe, which is 5 ¾”.

If the pipe is to be embedded in the concrete, it is important to fasten the pipes to the ground because pipes will float during a concrete pour. It is usually recommended to pour the floor in two stages – the first stage to fix the pipe, and the second to finish the floor.

