



How to Build an Outdoor Wood-Fired Pizza Oven

For those homeowners who like a challenge and have the necessary skills, building a wood-fired pizza oven can be a rewarding do-it-yourself project. There are two basic approaches to building a wood-fired pizza oven. Plans are available that allow the do-it-yourselfer to build an oven from scratch.

Building from scratch requires certain knowledge of masonry. For the rest of us, there are kits available that make the task of building a wood-fired pizza oven a little easier. Whatever path you take, the end result will be a unique cooking appliance, using principles that date back thousands of years and are still practiced today.

What Type of Wood-Fired Oven to Build

There are two basic types of wood-fired ovens and either configuration will work, though with a major difference. A white oven provides for two chambers, one for baking and the other for firing the fuel. The fuel chamber allows for air to flow through and vent through a flue, carrying with it the smoke, ash and other products of combustion. The baking chamber is completely separate from the fuel chamber, hence the name white oven.

A black oven combines the burning of fuel in the same chamber as the food is baked. Often, the fuel is removed after the oven has been heated and before the food is placed in the oven. The concept of the black oven is centuries old and is still used today. Today, most backyard pizza ovens are of the white variety.

Masonry Materials

A key to successfully building a wood-fired pizza oven is using the proper materials. The basic materials are similar to the materials needed to build a fireplace. To withstand the expansion and contraction caused by rapid heating and cooling, the use of refractory brick and mortar are recommended. There are many designs that make use of earthen materials like adobe brick, though this building method is not recommended for the novice oven builder.

Depending on the design, stucco mortar, reinforcing steel, and concrete building blocks may also be needed. Concrete building blocks can be used to build a support base and should not be exposed to the high temperatures of the oven or fire chamber.

Constructing a proper floor requires the use of fire or refractory brick, packed tightly together. The fire brick should be set on a concrete base. Various plans call for a combination of vermiculite insulation and Portland cement for the base. Remember that the temperature inside your wood-fired oven can reach 900 degrees Fahrenheit so take extra care in building the floor.

A Word About Vermiculite Insulation

Since the goal is to keep the heat in the oven evenly distributed, insulation is another key ingredient. Many modern brick oven designs incorporate the use of vermiculite as an insulator around the baking chamber. A great deal of controversy has swirled around vermiculite products since vermiculite can contain asbestos. Asbestos has been tied directly to the respiratory disease asbestosis and mesothelioma, a fatal cancer of the lungs and chest wall. Starting in the early 1990s, commercially mined vermiculite is tested for the presence of asbestos so it is considered safe to handle. Vermiculite is one of the few materials suitable for insulating outdoor wood-fired ovens.

Sheet Metal

Depending on the design and local building and safety codes, constructing the vent flue for the fire chamber may require the use of metal vent pipe. It is always a good idea to use a spark arrestor screen on top of the vent, since a single stray ember could result in serious personal injury or property damage.

Tools

The tools you will need depend on the type of oven you will be constructing. Basic hand tools such as a hammer, bubble level, masonry trowels, power drill, hacksaw and circular saw are a must. The circular saw should be equipped with a masonry blade available at any hardware store or home improvement center. In addition to hand tools you will need a wheel barrow or mortar trough, shovel, garden hoe and a plastic tarp. The tarp is needed to cover the completed oven. Covering the oven will allow the masonry to cure without losing moisture too quickly.

Curing the Oven

Building a backyard wood-fired pizza oven is not a weekend task and several weeks are often required to properly preheat the oven and cure the masonry. This is a process that cannot be rushed. Failing to properly season by heating and cooling could compromise the integrity of the masonry. Firing the oven to too high a temperature before the masonry is completely cured can lead to cracking due to steam fractures.

Get Cooking

Once you have properly seasoned your oven its time to get cooking. In addition to pizza, these unique outdoor ovens can be used for baking bread, roasting meats and general baking. It may take some time to perfect your technique but the effort will be well worth it.