A MAJOR CAUSE OF OVEN-RELATED FIRE IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UtMOST IMPORTANCE THAT THIS OVEN BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.
WARNING

READ ALL INSTRUCTIONS BEFORE INSTALLING AND USING THE APPLIANCE. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY, OR EVEN DEATH.

When this oven is not properly installed, a fire may result. To reduce the risk of fire, follow the installation instructions. It is essential to use only building and insulation materials designed for the purpose.

Use proper safety equipment when installing this oven, including gloves and professional breathing masks.

Contact your local building or fire officials for clarification on any restrictions on installation of this oven in your area, or need for inspection of the oven installation.

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS.

DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

Keep children and pets away from hot oven.

Use firewood for burning only. DO NOT use charcoal, pressure treated lumber, chipped wood products, sappy wood such as pine, laminated wood or any material other than dry medium or hard firewood.

DO NOT USE liquid fuel (fire lighter fluid, gasoline, lantern oil, kerosene or similar liquids) to start or maintain a fire.

BEWARE of very high temperatures in the oven and use long oven gloves and mitts to handle pots and tools. DO NOT put unprotected hands or arms inside oven while it is lit.

Dispose of ashes using a metal shovel and place in a metal bin with a tightly fitting lid. The container should be stored on a non-combustible surface, away from all combustible materials. Ensure ashes are completely cold before disposing of them appropriately.

BEWARE of flying sparks from mouth of oven. Ensure that no combustible materials are within range of oven at any time.

DO NOT close the oven door fully while a fire is in the oven. Closing the door fully will cut off oxygen to the fire, causing the fire to erupt suddenly when the door is removed. Always keep door tilted to allow air to circulate in the oven.

DO NOT use water to dampen or extinguish fire in the oven.

DO NOT pack required air spaces with insulation or other materials.

When the curing of the refractories is not done as part of the manufacturing process, the manufacturer's recommended curing process shall be specified. Follow the instructions for curing the oven. Failure to follow the curing schedule can cause damage to the oven, and void the oven warranty.

SAVE THESE INSTRUCTIONS
Limited Warranty

Forno Bravo, LLC Pizza Ovens and Fireplaces

THE WARRANTY

Forno Bravo, LLC, an importer and producer of pizza ovens and fireplaces, warrants its ovens and fireplaces (herein referred to as Product) to be free from defects in materials and workmanship for a period of (1) one year from the date of shipment.

QUALIFICATIONS TO THE WARRANTY

The complete Product Warranty outlined above does not apply under the following circumstances:

(1) The Product was not installed in accordance with Forno Bravo installation instructions and local building codes.

(2) The Product is subjected to normal use including burning such natural Pizza Oven fuels as non-treated wood. Fuel products with abnormal burning characteristics including, but not limited to, fuel such as driftwood, coal or plywood and wood products using a binder, may burn at excessive temperatures and may cause damage to the Product or may cause it to function improperly. Forno Bravo does not warrant the Product when such fuels have been used.

(3) This Warranty does not apply to normal wear and tear.

(4) This Warranty does not apply to any cracking caused by over-firing or the failure to follow a proper curing schedule.

(5) In the event that the Listing plate has been removed, altered or obliterated.

(6) On parts that would be normally worn or replaced under normal conditions.

(7) Normal cracking due to expansion and contraction stress relief in either the dome or floor blocks.

LIMITATION ON LIABILITY

It is expressly agreed and understood that Forno Bravo's sole obligation and purchaser's exclusive remedy under this Warranty, under any other warranty, expressed or implied, otherwise, shall be limited to replacement, repair, or refund, as specified above, and such liability shall not include, and purchaser specifically renounces any rights to recover, special, incidental, consequential or other damages of any kind whatsoever, including, but not limited to, injuries to persons or damage to property, loss of profits or anticipated profits, or loss of use of the product.

In no event shall Forno Bravo be responsible for any incidental or consequential damages caused by defects in its products, whether such damage occurs or is discovered before or after replacement or repair, and whether or not such damage is caused by Forno Bravo's negligence. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. The duration of any implied warranty with respect to this Product is limited to the duration of the foregoing warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above may not apply to you.
INVESTIGATION OF CLAIMS AGAINST WARRANTY

Forno Bravo reserves the right to investigate any and all claims against this Warranty and to decide upon method of settlement.

DEALERS HAVE NO AUTHORITY TO ALTER THIS WARRANTY

Forno Bravo’s employees and dealers have no authority to make any warranties nor to authorize any remedies in addition to or inconsistent with those stated above.

HOW TO REGISTER A CLAIM AGAINST WARRANTY

In order for any claim under this Warranty to be valid, Forno Bravo must be notified of the claimed defect in writing or by telephone to Forno Bravo, 399 Business Park Court, #506, Windsor, CA, 95492. Claims against this Warranty in writing should include the date of installation, and a description of the defect.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contained in the Crate</td>
<td>6</td>
</tr>
<tr>
<td>Oven Clearances</td>
<td>8</td>
</tr>
<tr>
<td>Oven Dimensions</td>
<td>9</td>
</tr>
<tr>
<td>Getting Started</td>
<td>11</td>
</tr>
<tr>
<td>1. Foundation</td>
<td>13</td>
</tr>
<tr>
<td>2. The Oven Stand</td>
<td>16</td>
</tr>
<tr>
<td>3. The Insulating Hearth</td>
<td>19</td>
</tr>
<tr>
<td>4. Set the Cooking Floor</td>
<td>22</td>
</tr>
<tr>
<td>6. Chimney Installation</td>
<td>25</td>
</tr>
<tr>
<td>7. Insulate the Oven</td>
<td>29</td>
</tr>
<tr>
<td>8. Enclosure Design Styles</td>
<td>31</td>
</tr>
<tr>
<td>9. Igloo Enclosure</td>
<td>34</td>
</tr>
<tr>
<td>10. Walled Enclosures</td>
<td>36</td>
</tr>
<tr>
<td>11. Curing Your Oven</td>
<td>38</td>
</tr>
<tr>
<td>12. Firing and Operation</td>
<td>39</td>
</tr>
<tr>
<td>13. Maintenance and Cleaning</td>
<td>40</td>
</tr>
<tr>
<td>Appendix 1. Tools List</td>
<td>41</td>
</tr>
<tr>
<td>Appendix 2. Material List</td>
<td>42</td>
</tr>
</tbody>
</table>
Contained in the Crate

One Forno Bravo Artigiano Pizza Oven kit, including:

One-piece brick oven dome;

Multi-piece;

Steel vent for use with either a UL103HT steel chimney system or a terracotta flue liner (the chimney itself is owner provided);

Steel door;

3 x 1” FB Blanket dome insulation

1 x 2” FB Board floor insulation

FB Blanket insulating blanket

FB Board insulating board
Optional Equipment

Purchased separately or user supplied

Simpson DuraTech UL103HT steel chimney system, including:

- Chimney pipe
- Spark arrester
Oven Clearances

It is essential to maintain clearance space between the oven components and any combustible material, such as walls and ceilings. Failure to maintain these clearances can result in fire.

Combustible Wall Clearance

The oven must have a minimum 1" (25 mm) clearance to combustibles from all sides, and 14" (356 mm) clearance to combustibles from the top.

If building materials will contact the oven, they must be completely noncombustible. Please note that standard drywall (or sheet rock) is considered a combustible.

The area directly above the doorway and 6" (152 mm) to each side of the doorway must be covered with non-combustible material.

Non-combustible construction may contact the oven and must then maintain 1" (25 mm) clearance to combustibles.

If the space between the legs of the stand is used for wood storage, it is recommended that it be a covered container or box to prevent the possibility of sparks or embers from making contact with the stored wood. An 8-1/2" (eight and one-half inch) air space clearance is required between the bottom of the oven and any wood storage container.

Floor Hearth Extension

The minimum floor hearth extension areas from the oven door opening to combustible floors are as follows:

- 30" (762) to each side of the door opening
- 36" (914 mm) in front of the door opening

The foundation should be at least 4" wider and deeper than the hearth, to allow for trim material.
Oven Dimensions

Top Elevation

<table>
<thead>
<tr>
<th>Oven Exterior</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artigiano80</td>
<td>38.1”W x 38.1”D</td>
<td>52”</td>
</tr>
<tr>
<td>Artigiano100</td>
<td>46.0”W x 46.0”D</td>
<td>60”</td>
</tr>
<tr>
<td>Artigiano120</td>
<td>46.0”W x 53.8”D</td>
<td>60”</td>
</tr>
</tbody>
</table>

These dimensions are based on 1” woven ceramic insulation, 4” vermiculite insulation, 2” upper walls and a 12” oven landing. Adjust your dimensions accordingly. Contact us for minimum dimensions.

To minimize the oven footprint, you can insulate the oven with 3” of woven ceramic insulation, use metal studs and concrete board for the enclosure, and minimize your oven landing.

The foundation can be wider and deeper than the hearth, to allow for trim material.

Front Elevation

7 ½” hearth; 4” insulating concrete on top of 3 ½” structural concrete.

Or, 4 ½” hearth; 2” FB Block ceramic insulating blocks on top of 3 ½” structural concrete.

Cross Section: Igloo

© Forno Bravo, LLC 2008/9. All Rights Served.
Cross Section: Walled Enclosure

Corner Installation: Artigiano 39" (internal)

Corner Installation: Artigiano 80 31" (internal)

Note:
This is a minimum installation footprint. If your design calls for a landing area in front of the Artigiano oven, leave room for it. You can (1) make the stand larger, (2) shorten the landing, or (3) extend the area in front of the oven landing, without making the entire stand wider.

If your opening arch is wider than 28", increase the stand accordingly.
Getting Started

Your Artigiano oven is comprised of a number of basic components, which we will define here to give you a better understanding of the installation process.

1. The Foundation Slab

Your oven enclosure rests on a wire mesh reinforced 5 1/2" concrete slab. It can be a stand-alone slab built specifically to support your oven, or it can be poured to accommodate other outdoor kitchen items including shelves, grills and tables. If you are in areas with deep frost, you will want to ensure that your slab is properly engineered to remain level during the winter freeze.

2. The Stand and Insulating Hearth

Your Artigiano dome and cooking surface are set on an insulating hearth stand that you build on your foundation slab. The hearth consists of a layer of structural concrete, topped with insulation, such as FB Board ceramic fiber insulating board.

The oven cooking floor should be set to a height where you can easily place and remove food -- typically around 40 inches. The insulating hearth and the block stand are the same width and depth.

The insulating hearth serves three purposes, providing your oven with:

- A rigid platform that spans the opening between the stand’s legs above the wood storage area.
- An insulation layer to stop heat from escaping through the rigid platform and down into the stand legs.

3. The Cooking Surface and Vent Floor

The Artigiano oven provides a round cooking floor and the floor under the vent. Pizza and bread are baked directly on the Artigiano cooking surface, while other foods such as vegetables and roasts are placed in cookware, or cooked on a Tuscan style grill over wood coals.

Additionally, you may want to build an additional landing area in front of the oven opening to provide a staging area for food that is being placed inside or removed from the oven.

The Artigiano cooking floor is set on a thin layer of sand, centered left and right on the hearth slab, with the oven dome resting around the cooking floor. Placement of the front edge of the oven floor depends on the depth of the oven landing, where the front of the oven butts up to the landing material.

4. The Oven Dome

The Artigiano brick dome shape is designed to efficiently absorb heat from a wood fire, and to evenly reflect the heat of a live fire to the cooking surface – where it both heats the cooking floor and food.

5. Ventilation

Unlike a fireplace, where the chimney is inside the firebox in the back, the brick oven’s vent and chimney are outside of the oven -- in the front. The Artigiano vent assembly is designed for use with either round steel chimney pipe or a refractory clay flue liner.

The type of chimney pipe you use depends on whether your installation is outside or inside, your design choice, and on your local building code. Be sure to check your local building code prior to installation. You must use a chimney cap to minimize rainfall infiltration into your chimney and oven, and to stop sparks from leaving the chimney.
6. Opening and Door

The Artigiano oven includes a freestanding steel door that fits tightly against the brick oven opening.

7. Dome Insulation

The Artigiano oven is covered with woven ceramic insulation. The Artigiano oven kit includes one FB Blanket with provides roughly 1” of coverage, and requires additional insulation from either additional FB Blankets, or loose insulation, such as vermiculite or perlite. Unlike thermal mass, where too much can be a bad thing, there isn’t really such a thing as too much insulation. Woven ceramic insulation has the advantages of higher efficiency, requiring using less space, and providing better oven heat retention.

8. Oven Enclosure

There are two basic outdoor oven designs: the Walled House and the Igloo, both of which give you a virtually limitless range of design options and finish materials. Oven structures can be designed to incorporate a range of outdoor kitchen elements, such as counters, shelves, storage, and grills.

Never use wood, or any other combustible material to frame your oven enclosure.

The top half of the Gabled House can be constructed using either metal studs and concrete board, or half-wide concrete blocks (4”x8”x16”).

The Igloo is constructed using rebar, wire stucco lathe (mesh), rough stucco (scratch coat), and/or exterior finish stucco. The finish material must be waterproof.

The lower half of outdoor ovens that use a metal stand can be finished with metal studs and concrete board, and both the metal and concrete block stand can be finished to match to top of the oven.

Indoor ovens can be placed in corners, against walls, and when the oven is part of a larger re-modeling project, can be set back outside a room to make the front of the oven flush with an interior wall. Indoor ovens can easily be set behind a partition wall constructed from metal studs and concrete board.

9. Finish

Finish materials typically include stucco, brick, stone, tile, marble, travertine, and granite.
1. Foundation

Overview

Your oven stand and oven chamber are installed on a concrete pad. We recommend a minimum thickness of 5 ½ inches (14 cm) for the Foundation slab, however your location, soil conditions and local building ordinances will dictate the thickness required.

The slab dimensions listed below are 8” wider than the dimensions of your concrete block stand, providing you with 2” for finish material, and a 2” reveal on either side of the stand. The slab is also 10” deep, allowing for 4” in the back (2” finish and reveal), and 6” in front (the additional space makes a nice edge for your wood storage). The foundation slab will also be used to support forms that you will use during the hearth slab construction. The finished top of the slab should be 2”-3” above ground level.

Instructions

First, excavate your foundation. The slab frame for a 5 ½” (14 cm) foundation is best composed of 2x6 inch lumber set so the top of the form is 2-3” (5-8 cm) above ground level. The longer form boards should sit inside the shorter boards, and the completed form can be held in place by driving wooden stakes into the ground around the perimeter. Before securing everything permanently, check to make sure the form is located and faces exactly where you want it, and is level and square.

1.1. Use a tiller to break up the soil.

Lay a 3” base of pea gravel (or crushed rock), compact the rock, and cover it with a layer of 6 mil plastic sheeting to stop the slab from wicking water.

1.2. A gravel or crushed rock bed.

Place a sheet of wire mesh inside the foundation frame, and install a two-piece grid using 1/2” rebar (#4) set 4” and 8” inside the foundation frame. Tie the rebar together with tie wire, then set the wire mesh and rebar half way up the pad (2 3/4”), using either rebar stand-offs or fragments of brick.
1.3. Framed, lined, with wire mesh and rebar.

Mix and pour the concrete, and then level it. Use a 2"x4" to screed and level the concrete, then finish to a smoothness that works for you as the bottom of your wood storage area. Allow the slab to cure for a day or two. Keeping it damp will help it cure better and become stronger.

1.4. Using a mixer.

1.5 The finished foundation ready to cure.

Other Considerations

Depending on where you live, you may have to excavate 18” or more, of topsoil to reach a stable substrate such as hard clay. If you do excavate to a depth greater than the foundation form height, you will need to add a material, such as thoroughly compacted pea gravel or crushed rock, which will allow for the drainage of water from under the concrete slab. Placing a layer of plastic sheeting over the material will help prevent it from wicking water from the slab too quickly, making it brittle and prone to cracking.

You may also want to install your Casa oven as part of a larger outdoor kitchen project. Use the dimensions for the oven in conjunction with your other kitchen elements, such as counters, a grill, storage, a sink, and refrigeration. You might find it easier to form your entire kitchen at one time.
1.6. A complete outdoor kitchen foundation.

1.7. The foundation and first course of stand blocks.

Hints and Tips

Use a tiller to break up the ground before you excavate. You can rent one from Home Depot. If your ground is hard and/or dry, water it with a sprinkler for a couple of days before you start. Your site should be soft, but not muddy.

Compare both diagonal measurements of your foundation frame to ensure that your foundation will be square. Double check that your foundation really faces the exact direction you want your oven to face. Once the diagonals are of equal length, you may want to temporarily attach 2”x4” lumber horizontally to form triangles at the corners and hold your form square during the pour.

1.8. 2”x4” studs hold the form square and plumb.

The weight of concrete in the foundation can be heavy (40-80 lb. bags or more), and mixing it by hand in a wheelbarrow might use up energy and time that will serve you better later in the project. Rent a mixer from Home Depot, and ask a friend (or pay a local teenager) to help you mix and pour the slab.

There are also mix-on-your-site trucks that come and just make as much concrete as you need on site, so you might want to price this option if available in your area.

Check with your local equipment rental company for a 1-yard mixer that you can tow behind a standard pickup truck.

If your building site is far from your street or curb, you can hire a concrete pump to shoot the concrete where you want it. The pump rental is typically a different company from the concrete delivery truck.

Remember that while the slab has to be square, level, plumb, and structurally sound to get your oven off on the right foot, it will never be seen. It is worth saving your best finish work for later in the project.
2. The Oven Stand

Overview

The oven stand is typically constructed using standard (8” x 8” x 16” and 8” x 8” x 8”) concrete blocks, though it can also be made from brick or metal.

Instructions

Build a block stand comprised of four courses using standard 8”x16”x8” and 8”x8”x8” concrete blocks. The first three courses of the block stand form a three-sided U, leaving an opening in the oven front that provides access for wood storage. The fourth course of blocks spans the opening at the front of the U, by resting on two pieces of 2”x2”x3/8” angle iron.

Using a chalk line, mark the layout of your block stand directly on the foundation slab. Make sure that it faces exactly where you want your oven opening to face. Then, lay your first course of blocks directly on your slab. Use pre-mixed mortar where necessary to ensure that the first course of blocks is level, front and back, side to side, and on the diagonals.

Take your time with getting the first course set correctly, because it will be increasingly difficult to correct problems later.

2.1. Carefully lay out the first course of blocks.

In the following courses, stagger your blocks using either 8”x8”x8” blocks, or cut blocks, to ensure that the joints are offset. Lay the next two courses, for a total of three.

After you have laid your first three courses, set your two pieces of 2”x2” angle iron across the opening between the two legs of the U shape. Note that the back piece of angle iron must be cut to allow clearance for the rest of the top course of blocks.

2.2. Cut the back angle iron to leave room for blocks.

Grind, or cut, 3/8” from the edges of each block that rests on the angle iron, so that they lie flush with the rest of the fourth course. Finish laying the rest of the fourth course of blocks.
2.3. The finished stand.

After you have completely assembled the block stand, check that the walls are square, level and plumb. Drop a section of 1/2" rebar in every other core, and fill those cores with concrete.

Variations

Variations include round stands, corner ovens, oven with an attached outdoor kitchen, pre-cast lintels, and metal stands.

2.4. A corner installation.

2.5. Custom metal stand with stud frame.

2.6. Stand with cast lintels.

Tips and Hints

When selecting the direction your oven will face, consider making sure that your opening does not face possible winds, which might disrupt your cooking and fire management.

We also recommend dry stacking your blocks, then filling every other core (or the corners) with concrete. It's a lot faster, and sturdier as well.

Block the cores that you have not filled with your empty concrete bag to stop your hearth concrete from spilling into the holes.
2.7. Filling the cores.
3. The Insulating Hearth

Overview

Your oven sits on a two-piece hearth, comprised of an insulating layer that rests on top of a structural layer. We recommend using FB Board for under oven insulation, as it is easy to install and very efficient at holding heat inside your Casa oven. If you are using FB Board, pour a rebar reinforced 3 1/2" pad using a 2"x4" form, and place the FB Board on top of the pad.

If you are using vermiculite concrete for insulation, you pour the hearth in two parts: a 3 1/2" layer of structural, rebar reinforced standard concrete, followed by a 4" layer of insulating concrete, using a 2"x8" form.

Instructions

The hearth form is built in two parts: a bottom tray and the frame sides, which will hold the hearth as it is poured. After the hearth has cured, the form is removed (and usually becomes part of the first fires that will cure your oven).

Bottom Form Support

First, using 2"x4" lumber build the frame for the bottom of the form. The frame should be roughly 3/8" smaller than the opening of your block stand, so that it can be easily removed after the hearth has cured.

Next, cut (12) lengths of 2"x4" that will serve as the legs that hold the bottom frame in place inside the stand opening. You will use 1/4" shims to accurately set the top of the frame. The top of the 2"x4" frame should be about 1" below the top of the stand (to allow for the 3/4" plywood and shims). Measure and cut your 2"x4" legs accordingly -- stand height, minus 2 1/2" (1 1/2" for the 2"x4" and 1" for the plywood and shim).

Set two 2"x4" legs at each corner and one in the middle of the span, then lay the frame on top. Place shims between the legs and frame, and then tap the shims to raise the frame up until its top is 11/16" (the true thickness of 3/4" plywood) from the top of the stand. After the bottom tray is built, you will add more 2"x4" legs to support the center of the tray.
3.2. Form supports.

The Side Forms

Next, build the sides of the form using either 2”x4” or 2”x8” lumber to fit around the block stand edges. This frame forms the sides of your insulating hearth. The form board will be set at the top of the outer edge of the block wall, and will need to be supported by 2”x4” legs and shims.

3.3. Form sides held in place with 2”x4” supports.

The Bottom Form

Cut the sheets of ½” Hardibacker to fit inside the wood form and lay on top of the block stand. If you are using plywood, cut it to fit into the opening (3/8” shorter so that it will easily come out later), and lay it on the frame. Tape the joint with masking tape. Set your last two 2”x4” legs supporting a 2”x4” on its side directly under the joint, which will support the weight of the wet hearth while it is curing. Shim to level. You have finished the bottom of your form.

3.4. Hardibacker and form set in place.

For the two-layer hearth, draw a line 4” down from the top of the frame to mark the top of the structural concrete layer.

Lay a grid of 1/2” rebar slightly shorter than the external dimension of the wood forms, on 12” centers, starting 6” in from the edges of the form, set half-way up the 3 1/2” concrete layer (about 1 3/4”). Then, pour the 3 1/2” layer of structural concrete.
3.6. Structural layer waiting on insulating layer.

Next, lay your insulating blocks in the center of the hearth, making sure the Casa oven floor, vent landing and dome will rest completely on the insulating blocks.

3.7. FB Block set in wet concrete.

Using Insulating Concrete

If you are using insulating concrete under your oven, rather than the FB Board, make sure you have built your form to allow for the extra 4”. Prepare the insulating concrete using a ratio of 5 parts vermiculite to 1 part Portland cement (5:1). Thoroughly mix the vermiculite and Portland cement when they are still dry, then add water and mix until you reach an oatmeal consistency. Pour the insulating material to the top of the form.

If you will be building a landing in front of your oven opening, it is not necessary to pour vermiculite concrete all the way to the front of the hearth. Rather, you can end the form where your oven vent will begin, and only pour vermiculite directly under the oven chamber and vent area. Fill the form under the landing in front of the oven with standard concrete.

3.8. Insulating concrete on top ready to cure.

3.9. Vermiculite concrete poured under the oven chamber.

Tips and Hints

Cut your frame and plywood for the bottom of the hearth form about 3/8" shorter than the actual opening. The concrete will not escape when you pour, and it will be easier to remove the form when your hearth has cured.

We recommend mixing your vermiculite concrete by hand, rather than in a mixer, which tends to break the vermiculite up and reduce its efficiency. It is a light mixture that is easy to work with. Dry mix the vermiculite and Portland cement, so that the cement covers the vermiculite, then add water until you reach an oatmeal-like consistency.
4. Set the Cooking Floor

Overview

The Artigiano cooking floor is set on a thin layer (1/8”) of sand. Measure your hearth to ensure that you are centering your oven left and right on the hearth. How far back you set the cooking surface will depend on the size and material you are using for the oven landing in front of the oven opening. Do a trial layout using your oven landing material and your oven floor. This will help you place your oven to the correct depth on the hearth slab.

Instructions

Spread a thin layer of fine sand on the insulating layer, and set the cooking floor pieces tightly together. Keep the floor pieces clean to stop sand from getting into the floor joints.

After all of the floor pieces have been set, tap them into final location with a rubber mallet. Take care to ensure that the cooking floor is level, and that each floor piece is set to the same height and there are no ridges or high/low spots that will catch your pizza peel.
5. Dome/Vent Assembly

Overview

The Artigiano dome is delivered as a single piece, with four handles. The Artigiano vent is a separate vent component, and can be installed either on brick supporting walls, and attached to the enclosure wall.

Instructions

Place the Artigiano dome “around” the oven floor, taking care to not chip or crack the floor pieces. Before lifting and placing the dome, set the front floor piece roughly 6” (15 cm) backward, overlapping with the rear floor pieces. This will help you position the oven dome without having to worry about hitting the oven floor.

With the help of 3-4 strong men, lift the Artigiano by the handles, and set it on the oven hearth. Reposition the front floor piece, taking care to make sure that it is flush and level.

5.2. Artigiano centered on FB Board.

Depending on your enclosure design and overall design goals, the vent can be attached either to the enclosure walls using metal studs, or it can be attached to brick vent walls. Both work equally well, and it is up to the builder or designer to make decide which method works for each installation.

5.3. Artigiano vent attached to metal stud frame.
5.4. Artigiano vent attached to brick vent walls.

5.5. Artigiano vent walls attached to decorative arch.
6. Chimney Installation

Overview

Your chimney may be constructed using either the Simpson DuraTech chimney system (or similar UL103HT listed system), or a refractory chimney flue liner. DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

The Artigiano vent works with 8" internal dimension chimney pipe. If you have purchased an Artigiano80, and wish to use 6" chimney pipe, you can use a DuraTech reducer.

Instructions

Slide the chimney pipe over the Artigiano vent and if necessary, secure the chimney pieces in place using metal straps. Using standard masons mortar or furnace caulk, seal the vent/chimney intersection to ensure that no smoke or hot air can escape.

Internal Installation

For internal installations, the minimum air space clearance between interior masonry chimneys and combustible materials shall be 2". Any chimney with at least one interior wall shall be treated as interior. All spaces between chimneys and floors or ceilings through which chimneys pass shall be fire stopped with non-combustible material. The fire stopping of spaces between chimneys and wood joists, beams or headers shall be galvanized steel not less thinner than 26 gage in thickness or non combustible sheet material not more thicker than 1/2 in.

If it is necessary to pass through combustible walls to connect the oven to a chimney liner, the following clearances must be maintained.

Method A. 12” (304.8 mm) Clearance to Combustible Wall Member: Using a minimum thickness 3.5” (89 mm) brick and a 5/8” (15.9 mm) minimum wall thickness clay liner, construct a wall pass-through. The clay liner must conform to ASTM C315 (Standard Specification for Clay Fire Linings) or its equivalent. Keep a minimum of 12" (304.8 mm) of brick masonry between the clay liner and wall combustibles. The clay liner shall run from the brick masonry outer surface to the inner surface of the chimney flue liner but not past the inner surface. Firmly grout or cement the clay liner in place to the chimney flue liner.
Method B. 9” (228.6 mm) Clearance to Combustible Wall Member: Using a 6” (152.4 mm) inside diameter, listed factory-built Solid-Pak chimney section with insulation of 1” (25.4 mm) or more, build a wall pass-through with a minimum 9” (228.6 mm) air space between the outer wall of the chimney length and wall combustibles. Use sheet metal supports fastened securely to wall surfaces on all sides, to maintain the 9” (228.6 mm) air space. When fastening supports to chimney length, do not penetrate the chimney liner (the inside wall of the Solid-Pak chimney). The inner end of the Solid-Pak chimney section shall be flush with the inside of the masonry chimney flue, and sealed with a non-water soluble refractory cement. Use this cement to also seal to the brick masonry penetration.

Method C. 6” (152.4 mm) Clearance to Combustible Wall Member: Starting with a minimum 24 gage (.024” [.61 mm]) 6” (152.4 mm) metal chimney connector, and a minimum 24 gage ventilated wall thimble which has two air channels of 1” (25.4 mm) each, construct a wall pass-through. There shall be a minimum 6” (152.4 mm) separation area containing fiberglass insulation, from the outer surface of the wall thimble to wall combustibles. Support the wall thimble, and cover its opening with a 24-gage minimum sheet metal support. Maintain the 6” (152.4 mm) space. There should also be a support sized to fit and hold the metal chimney connector. See that the supports are fastened securely to wall surfaces on all sides. Make sure fasteners used to secure the metal chimney connector do not penetrate chimney flue liner.

Method D. 2” (50.8 mm) Clearance to Combustible Wall Member: Start with a solid-pak listed factory built chimney section at least 12” (304 mm) long, with insulation of 1” (25.4 mm) or more, and an inside diameter of 8” (2 inches [51 mm] larger than the 6” [152.4 mm] chimney connector). Use this as a pass-through for a minimum 24-gage single wall steel chimney connector. Keep solid-pak section concentric with and spaced 1” (25.4 mm) off the chimney connector by way of sheet metal support plates at both ends of chimney section. Cover opening with and support chimney section on both sides with 24 gage minimum sheet metal supports. See that the supports are fastened securely to wall surfaces on all sides. Make sure fasteners used to secure chimney flue liner.
According to the Simpson DuraTech installation guide, DuraVent has been approved for use with solid fuel appliances, including wood stoves, fireplaces, fireboxes, furnaces, water heaters, stoves, ranges, and other residential types appliances using gas, coal or wood, according to UL103HT. The system specifies a clearance of at least 2” between the DuraTech chimney system and any combustible materials, and a height of 3” above the roof, and 2” above any roof within 10’.

6.4. Simpson DuraTech chimney system.

Chimney Height and Size

For outdoor installation, flue length depends on such local conditions as prevailing wind, height of chimney, proximity of taller, nearby structures, etc. A good rule of thumb is to choose a flue that has an area of about 3-4 times the door height. Depending on what is nearby, you may need a taller chimney. One option is to test your oven after it has cured with a single section of chimney pipe to see how well it draws. If it is not enough, you can add another section to extend it.

Spark Arrestor/Chimney Caps

Use a spark arrestor chimney cap. It uses heavy gauge steel and is similar in style to a window screen. Its purpose is to trap burning embers that may float up the chimney and stop them there. Once the fuel of the ember has been used, its temperature will decrease and the by-product will be a small amount of ash. A chimney cap will also keep rain from pouring down the flue. There are many styles, ranging from a plain metal arrangement, to whimsical ceramic gargoyles.

The Simpson DuraTech chimney system contains a UL-approved chimney cap.

6.5. Simpson Spark Arrestor.

ASTM 1283 (Standard Practice for Installing Clay Flue Lining):

Flue liners shall be surrounded by masonry on all sides but shall not be bonded to the surrounding masonry. The flue liner shall contact the chimney wall only as necessary for support and alignment in order to permit the flue liner to expand and contract freely.
6.6. Example of clay flue liner.

The separation of the flue liner from the surrounding concrete or masonry shall not exceed the wall thickness of the flue liner. Where Seismic Reinforcing requires the space between the flue liner and the chimney wall to be grouted solid the flue shall be wrapped with ceramic fiber paper capable of withstanding temperatures of 2100°F to prevent the flue liner from bonding to the chimney walls.

Flue liners should conform to ASTM C 315 (Standard Specification for Clay Flue Liners). They should be thoroughly inspected just prior to installation for cracks or other damage. Steel should be ASTM-A 36 (max of: 0.26% Carbon, 0.04% Phosphorus, 0.05% Sulfur).
7. Insulate the Oven

Each Artigiano oven comes with one 50 sq. ft. box of FB Blanket, 1” thick, woven ceramic insulating blanket. The insulating blanket is rated at over 1800°F, and will effectively block the heat retained in the oven dome from leaking out the top of the oven.

You will need to add further insulation around your oven dome to complete your installation, either an additional 2” of ceramic blanket insulation, for a total of 3”, or an additional 4” of loose insulation or insulating concrete (vermiculite or perlite), for a total of 5”. The type of insulation you use depends on your oven enclosure type. We recommend purchasing additional FB Blanket, as it requires less space, is easy to install and is very efficient.

7.1. FB Blanket over the oven dome.

Instructions

Blanket insulation such as FB Blanket is easy to work with, is easy to cut and shape, and it tends to stay where you place it. Always use a mask when working with any ceramic insulation. Take care to overlap any joints in the blanket by roughly 2”. It will hold in place as you proceed to your next step. Alternatively, you can hold it in place with a metal band or wire mesh.

If you are building an Igloo design that uses insulating concrete as part of the Igloo shape, you can add the insulating concrete directly on top of the blanket insulation. Alternatively, you can construct the Igloo shape using rebar and stucco lathe, using either blanket or loose insulation in the cavity between the oven and the enclosure.

7.2. FB Blanket on a Casa100.

For Walled House and Indoor partition wall installations, you can again use 3”+ of all blanket insulation, or 1” blanket insulation and 4” loose insulation. The recommended thickness of the insulation remains the same.

7.3. Loose Vermiculite between the dome and walls.

Tips and Hints

If your walled enclosure is significantly larger than your oven, you can block off the corners with concrete board to minimize the amount of vermiculite that will be required to fill the open chamber.
7.4. Concrete board blocks off the corners.
8. Enclosure Design Styles

Overview

The oven enclosure must be sealed to protect your Casa oven and its insulation from water. It can be constructed from concrete block, rebar and stucco mesh, metal stud and concrete board or free standing brick or stone. Basically, the style of the enclosure is up to you, your imagination, and the availability of local materials. The examples shown here from around the country will give you a start.

A MAJOR CAUSE OF OVEN-RELATED FIRED IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UTMOST IMPORTANCE THAT THIS OVEN BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.

For more design ideas, visit us at www.fornobravo.com.
9. Igloo Enclosure

Overview

The Igloo is a traditional Italian and Mediterranean pizza oven design style where the enclosure follows the basic lines of the oven dome and chimney -- thus the Igloo.

Instructions

There are two ways of making the Igloo shape, both of which follow the guidelines set forth in Graphic 9.1. First, you can create the Igloo using stucco lathe and insulating concrete. The insulating concrete is then covered with a thin finish coat of waterproof stucco.

Second, the Igloo shape can be created with rebar and stucco lathe, separately from the dome. Drill 1/4" holes around the perimeter of the oven hearth, the distance you want away from the exterior of your oven, to accommodate your insulation thickness. Insert pieces of pencil rebar in the holes, and bend them to the desired Igloo shape. Cover the pencil rebar with stucco mesh, and secure it in place with concrete tie wire to make the Igloo frame solid.

Fill the gap between the stucco mesh and the oven with a vermiculite-based insulating concrete. Cover the entire structure with a 1/2"-3/4" undercoat of stucco, followed by a finish stucco coat to the style you prefer. Finally, seal the entire oven with a weatherproof stucco coat or paint.

9.1. The layers of an Igloo oven.

9.2. The oven dome and lathe shape the Igloo.

9.3. Rebar and lathe shape the Igloo.

9.4. Rough coat of stucco on wire lathe.
Hints and Tips

Consider using modern, latex-based color-in stucco for your final Igloo finish coat. It is waterproof and crack-proof, and can be tinted to match a specific color.
10. Walled Enclosures

Overview

The Gabled House, or walled enclosure, is one of the most traditional ways to finish a brick oven. There are examples of these ovens throughout the Italian countryside.

The basic process for finishing your oven this way is straightforward. Construct walls around your oven using metal studs to a height of at least 6" higher than the top of your insulated oven dome. Face the metal studs with concrete board, and finish the exterior of the oven with stucco, brick, or stone. The roof design is up to the builder, and it can be finished with stone, clay tile or modern composite tile.

The gap between the oven and the house walls is filled with loose vermiculite insulation.

Instructions

Using traditional partition wall building techniques, build a wall using a single metal stud lying flat as a bottom plate, and two metal studs lying flat as the top plates for each wall. Attach the bottom plate to the concrete hearth slab using concrete screws. Set metal studs every 16" in the body of the wall to support the concrete board.

Interlock the top two metal stud top plates at each corner to give the structure more strength. Set two vertical studs at each corner for a larger face to attach the concrete board, and to give the structure more strength.

The Oven Opening

Set the location of the front wall of the oven enclosure so that the brick arch at the oven opening projects forward by a couple of inches. Set one horizontal stud at the top of the arch, and set two additional studs at a 45-degree angle on the sides of the arch to provide support for the concrete board.

Finish

Attach your concrete board using metal stud screws. You can finish your enclosure walls with stucco, brick, or stone. The roof design can be finished with stone, clay tile or modern composite tile. The gap between the oven and the enclosure walls is filled with either additional FB Blanket, or loose vermiculite insulation.
10.3. Metal studs and a gabled roof.

10.4. Metal studs walls with a shed roof.

10.5. Attach concrete board.

Tips and Techniques

Build your walled enclosure the same way you would build a partition wall using wood studs. Set the vertical studs on 16” centers, and always center your concrete board seams directly on your vertical studs.

Use the flat head screws design specifically for attaching concrete board to metal studs, as they do a good job of drilling into the metal studs, and leave a flat surface that can be easily finished with stucco or stone.
11. Curing Your Oven

Although it may seem that your oven is dry by the time you are finished with your installation, there is still moisture in the oven, mortars and concrete that must work its way out. It is important at this point that you cure your oven slowly, by building a series of five increasingly larger fires, starting with a low temperature. If you begin building large fires in your oven right away, you will compromise your oven's longevity and ability to cook well, and cause damage, including cracking.

After you have installed your oven, there is still a great deal of moisture in the mortars, hearth concrete, vermiculite, and the oven chamber and vent. Each of these oven components was recently produced using an air-drying, water-based process. Simply letting the oven stand for a week does not "cure" the moisture out of them oven.

Before you start the curing process, let the complete oven sit for one week. Then, start a series of low and growing fires, using the analog temperature gauge provided in the oven door/frame. The temperature gauge reads the oven's air temperature. For a more accurate temperature reading of the oven refractory surfaces, which can be use for many types of cooking, you can use the optional Digital Infrared Thermometer, which can be purchased in the Forno Bravo Store.

Day 1. Maintain a fire temperature of 300°F throughout the day and as long as possible into the evening.

Day 2. Repeat at 350°F.

Important Note. While it is difficult to maintain consistent, low temperature fires, it is critical for proper curing that you do not go above these temperatures during the first two days.

Day 3. Repeat at 400°F.

Day 4. Repeat at 450°F.

Day 5. Repeat at 500°F.

Close the oven door every evening to preserve dryness and heat.

Enjoy your oven. You have earned it. For additional information on how to get the most from your Forno Bravo Casa oven, read our guide to Wood-Fired Cooking, available on the Forno Bravo CD-ROM provided with this oven, and through our web site – www.fornobravo.com.

Salute,

Forno Bravo

Important Notes

Use solid wood fuels only. DO NOT use charcoal, pressure treated lumber, chipped wood products, sappy wood such as pine, laminated wood or any material other than dry medium or hard firewood.

Do not use products not specified for use with this oven.

DO NOT USE liquid fuel (fire lighter fluid, gasoline, lantern oil, kerosene or similar liquids) to start or maintain a fire.

Never use water to lower temperature inside the oven, or to extinguish the fire.

There must be a period of time between completing the masonry work and beginning the actual firing cure. Longer is better than shorter, particularly for the actual dome cement. The cement and mortar must cure first and this process is actually improved by keeping the cement moist and not letting it dry out. Cement is exothermic and gives off heat. If you were to start the Oven curing too soon, you drive this exothermic action the wrong way and damage the new cement.

Also, using a space heater can help, but only so far. It is not an alternative to fire curing. We tested a space heater in an assembled Forno Bravo precast oven for two days, then quickly heated the oven up, (don't do this at home -- it was an experiment to see what would happen to an oven that we have here) and we found that we created a very large amount of steam from the oven, mortars and vermiculite, which went on for hours and hours.
12. Firing and Operation

Start your fire using a taste-free, odor-free fire starter and dry kindling. Build your fire up slowly, adding wood to the back and sides as the fire grows.

Continue to add wood until the oven reaches the desired temperature. Then, move the fire to one side and brush the oven floor. Only use the copper brush that was provided with your oven, and do not use steel wire brushes, natural fiber brushes or wet clothes to clean the oven floor.

The fire must be built directly on the oven floor.

You can monitor your oven temperature using the analog oven air temperature gauge provided with the oven, or with an optional Digital Infrared Thermometer.

DO NOT over fire your oven, or build a fire where flame exits the oven door opening.

BEWARE of very high temperatures in the oven and use long oven gloves and mitts to handle pots and tools. DO NOT put unprotected hands or arms inside oven while it is lit.

BEWARE of flying sparks from mouth of oven. Ensure that no combustible materials are within range of oven at any time.

DO NOT close the oven door fully while a fire is in the oven. Closing the door fully will cut off oxygen to the fire, causing the fire to erupt suddenly when the door is removed. Always keep door tilted to allow air to circulate in the oven.

Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or “freshen up” a fire in the oven. Keep all such liquids well away from the oven when in use.

The oven should be operated only with the doors fully opened or fully closed. When doors are left partially open, gas and flame may be drawn out of the oven opening, creating the risk of both fire and smoke.

Keep the oven door opening free of all combustible materials when the oven is in operation.

Disposal of Ashes. Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a non-combustible floor, or on the ground, well away from all combustible materials pending disposal. When the ashes are disposed by burial in soil, or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

Wood can be stacked in the area under the oven hearth.
13. Maintenance and Cleaning

The oven can be inspected through the door opening. Allow the oven to completely cool before inspecting the vent and chimney pipe for creosote build up.

Have your chimney cleaned by a professional chimney sweep if you have doubts about your ability to clean it. Use a plastic, wood, or steel brush. Do not use a brush that will scratch the stainless steel liner of your chimney. Scrub the spark arrestor with a wire brush.

To remove the Chimney Cap for cleaning, either twist counter-clockwise to remove the entire cap, or unscrew the four (4) screws that attach the cap’s support legs to the cap base. The Tee Cleanout Cap can be removed by turning counter-clockwise. Be sure to replace Tee Cleanout Cap when you are finished cleaning the chimney.

Creosote – Formation and need for removal. When wood is burned slowly, it produces tar and other organic vapors that combine with expelled moisture to form creosote. The creosote vapors condense in a relatively cool oven flue and exhaust hood of a slow burning fire. As a result, creosote residue accumulates on the flue lining and exhaust hood. When ignited, this creosote makes an extremely hot fire.

The oven flue should be inspected at least twice a year to determine when creosote buildup has occurred.

When creosote has accumulated, it should be removed to reduce risk of fire.
Appendix 1. Tools List

Tools

- A circular saw with three blades: general-purpose wood, metal and diamond masonry. The diamond masonry blade costs more, but last longer and cuts quickly.
- A hammer.
- A rubber mallet.
- 2’-3’ level.
- Grinder (optional). You can use the grinder to cut rebar, wire, and concrete block. It will save you time from not having to frequently change blades on your circular saw.
- A chalk line.
- A builder’s pencil.
- A notched tile trowel for setting the cooking floor.
- Goggles and a dust mask.
- A mixing tub.
- A hoe for mixing.
- A square-edged transfer shovels.
- A tamper.
- Concrete mixer (optional). You can rent one.
- A bucket, scrub brush and sponge for clean up.
- A garden sprayer to keep your masonry damp.
### Appendix 2. Material List

#### FB Board (12”x36”x2” panels) Under Oven Insulation

<table>
<thead>
<tr>
<th>Oven</th>
<th>Number of panels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artigiano80</td>
<td>3</td>
</tr>
<tr>
<td>Artigiano100</td>
<td>5</td>
</tr>
<tr>
<td>Artigiano120</td>
<td>7</td>
</tr>
</tbody>
</table>

#### Additional Dome Insulation

<table>
<thead>
<tr>
<th>Oven</th>
<th>Number of boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artigiano80</td>
<td>1</td>
</tr>
<tr>
<td>Artigiano100</td>
<td>2</td>
</tr>
<tr>
<td>Artigiano120</td>
<td>3</td>
</tr>
</tbody>
</table>

Or, loose vermiculite or perlite insulation.

### Artigiano80

Please calculate your exact requirements depending on your oven size and enclosure design.

#### Foundation
- (30) 80 lb. bags of Ready-Mix concrete
- (8) 1/2” x10’ rebar, (4) cut to 80”;(4) cut to 94”
- (4) 2”x6”x8’ studs, (2) cut to 83”;(2) cut to 94”
- (48) Sq ft of wire mesh
- (12) Rebar stand-offs
- (104) Sq ft of 6 mil plastic sheeting
- Handful of plastic zip-ties, or ball of tie wire
- 1/2 cu yd of gravel
- (1) Box 2 1/2” framing nails

#### Block Stand
- (50) 8”x8”x16” blocks, (12) of which are cut to 8”x8”x12”
- (5) 8”x8”x8” blocks
- (3) ½” x 10’ 1/2” rebar, each cut into (3) 40” sections to fill nine block cores
- (14) 80 lb. bags concrete for filling every other core
- (2) 1.5”x1.5”x56” angle iron (for front span)
- (3) 60 lb. bag mortar (to level first course of blocks)

#### Insulating Hearth
- (2) 4’x8’x3/4” sheets of plywood or particle board
- (4) 2’x4’x8’ wood studs
- (4) 2’x6’x8’ wood studs
- (1) Box shims (or make your own from scrap wood)
- The rest of the 2 1/2” framing nails
- (12) ½” x 10’ rebar, (6) cut to 72”; (6) cut to 84”
- (17) 80 lb. bags of pre-mixed concrete
- Either, (2) 4 cu ft bags of Vermiculite or Perlite
- (1) 90 lb. bag of Portland cement
- Or, FB Board panels (see chart for quantities)

#### Chimney
- 6” round, or 4”x8” clay flue liner, spark arrester
- Or, 6” DuraTech anchor plate, chimney pipe, and cap
Artigiano100/Artigiano120

Foundation
- (46) 80 lb. bags of Ready-Mix concrete
- (8) ½” x 10’ rebar, four cut to 80”; four cut to 94”
- (4) 2”x6”x8’ studs, two cut to 83”; two cut to 94”
- (48) Sq ft of wire mesh
- (12) Rebar stand-offs
- (104) Sq ft of 6 mil plastic sheeting
- Handful of plastic zip-ties, or ball of tie wire
- 1/2 cu yd of gravel
- (1) Box 2 1/2” framing nails

Block Stand
- (63) 8”x8”x16” blocks, 12 of which are cut to 8”x8”x12”
- (10) 8”x8”x8” blocks
- (3) ½” x 10’ rebar, each cut into three 40” sections to fill nine block cores
- (14) 80 lb. bags concrete for filling every other core
- (2) 1.5”x1.5”x56” angle iron (for front span)
- (30) 80 lb. bags mortar (to level first course of blocks, if needed)

Insulating Hearth
- (2) 4’x8’x3/4” sheets of plywood or particle board
- (4) 2”x4”x8’ wood studs
- (4) 2”x6”x8’ wood studs
- (1) Box shims (or make your own from scrap wood)
- The rest of the 2 1/2” framing nails
- (12) ½” x 10’ rebar, (6) cut to 72”; (6) cut to 84”
- (30) 80 lb. bags of pre-mixed concrete
- Either, (3) 4 cu ft bags of vermiculite or perlite
- (2) 90 lb. bag of Portland cement
- Or, FB Board panels (see chart for quantities)

Hints and Tips

Check Home Depot to locate vermiculite and perlite. You might find it in their garden center. If not, try pool supply (chemicals, etc.) and agriculture supply (fertilizer, etc.) stores. The large bag costs less than buying lots of small bags from a nursery.

We recommend using a dust mask when working with the loose fill. Caution. Perlite can be coated with silicone to make it slide easily into block cores, where it's commonly used as an insulator. Make sure you locate plain, horticultural grade perlite, not the construction grade. The insulative properties are nearly identical.