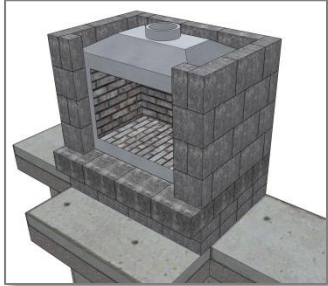
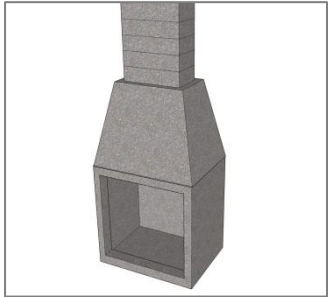


# Firebox Options

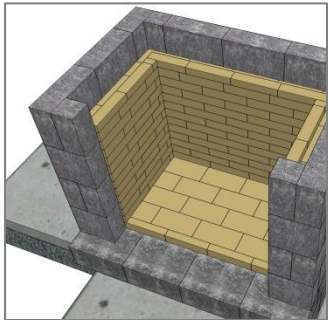
## Constructing the Combustion Chamber



Pre-engineered outdoor stainless steel fireplace inserts are available from your local fireplace dealer. Although these inserts are more expensive than using fire brick, they do make it easy for you to build the fireplace quickly. These kits usually come with log holders and screens as well.

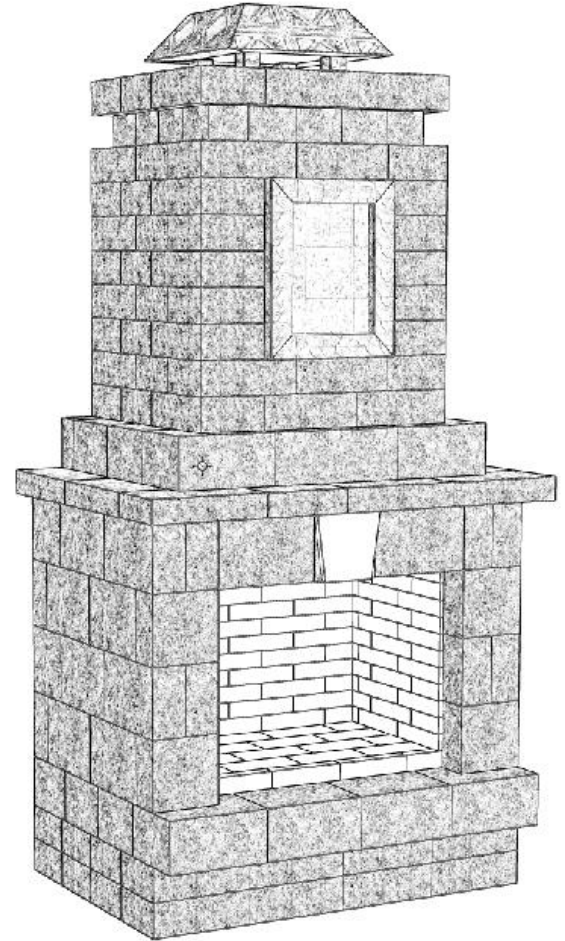


Refractory concrete fireplace inserts can also be used as the inner combustion chamber. Although more expensive than refractory brick, these inserts are ideal for larger fireplaces incorporating natural stone or other types of masonry. These inserts have more than double the lifespan of metal inserts.



Using refractory brick as shown here, is the least expensive material wise, but will take additional working time for the adhesives to cure resulting in extra time for construction. The main advantage of using fire brick is that you are not restricted in what size you can build the fireplace. Fire brick is also readily available from most building supply outlets.

# Build It.



# Getting Started

## Unilock Products and Materials



Plain fireplace



Fireplace with accents

We will be using 3 Unilock products to construct the outer shell of this basic fireplace and then adding a fire rated brick interior. Once you decide on colors, order the appropriate amount of product.

**Note:** Accent pavers are optional but will add interest to the overall design.



Estate Wall



Brussels  
Dimensional Stone



Brussels Block XL



Special  
fire bricks

### Important

You must use a special refractory heat resistant brick and a fire rated cement/adhesive for all surfaces exposed to direct flame.



For the remaining non-heat applications, you can use Unilock Concrete Adhesive or similar.



## Section 1 - Foundation

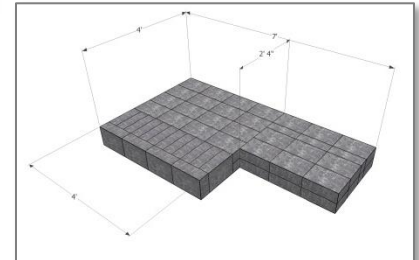


As with all vertical outdoor living features, construct this basic fireplace on a 4" reinforced concrete platform.

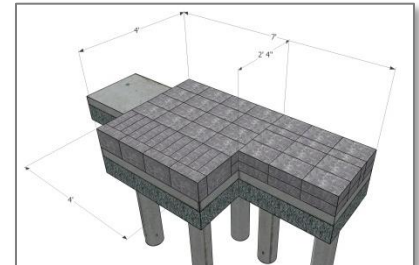
The platform should sit on a 4" thick bed of free-draining gravel.

For an optimal foundation, we strongly recommend pouring the pad on top of tubular support piers. This will help prevent settlement and/or frost movement.

**Layout.** Lay out the Unilock wall units on a flat surface and measure them to get an exact size before you pour the concrete pad.



**Note:** Be sure to form the pad **exactly level** and trowel the concrete **perfectly smooth** so that your Unilock wall units can be easily placed and glued onto the concrete.



**Establishing Elevations** Plan the elevations so that the top of your concrete pad ends up flush to the height of your finished patio.



## Section 2

### Constructing the Main Fireplace

Stack and glue two layers of Brussels Dimensional Stone units to achieve the proper fireplace height. **These units must be glued to each other using Unilock Concrete Adhesive.**

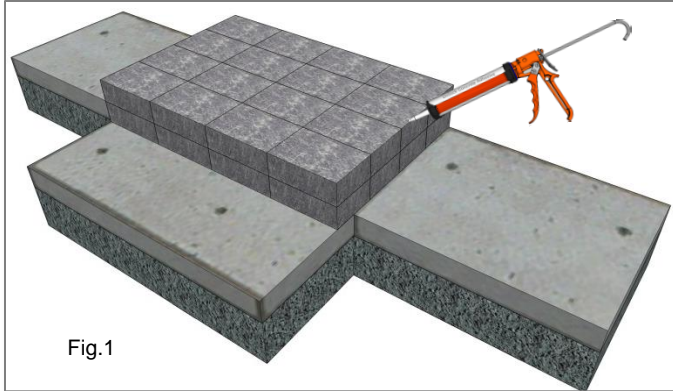


Fig.1

After these two layers of Dimensional Stone are in place (Fig.1), construct the base of the fireplace with a layer of Unilock Estate Wall Units (Fig.2). Some units may require cutting to ensure a good fit. **Use concrete adhesive liberally to ensure proper adhesion.**

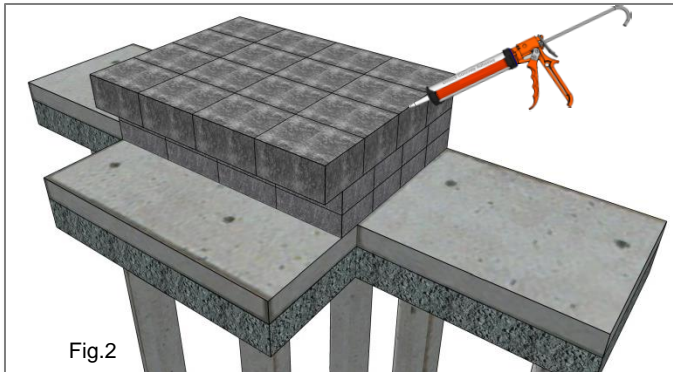
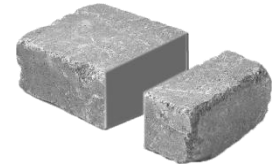


Fig.2



Fig.3



Using Brussels Dimensional Stone again, begin construction of the firebox base unit. For best visual appearance and to achieve proper joint offset, you will need to cut some Brussels Dimensional Stone. These cuts are generally based on thirds. (Fig.3) **Be sure to use a hammer to rock face any smooth edges so the cut pieces blend visually with the uncut pieces.**

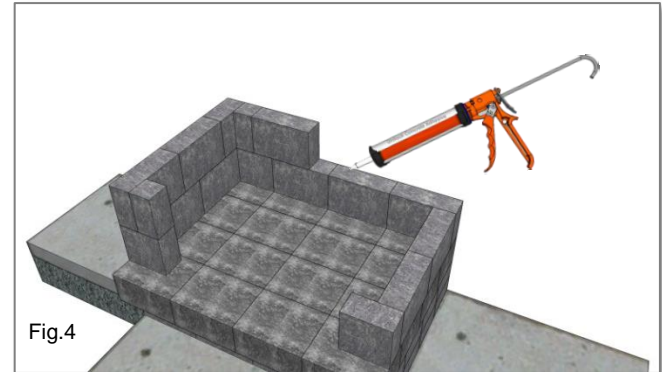


Fig.4

There are 4 layers (Fig.4) in the firebox base unit. If needed, you can use wooden braces and jigs during construction to ensure the units stay in alignment. **Construct the walls in 2 layer stages** so that the glue has a chance to cure before constructing subsequent layers.

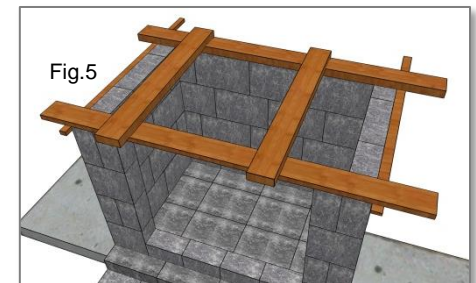


Fig.5

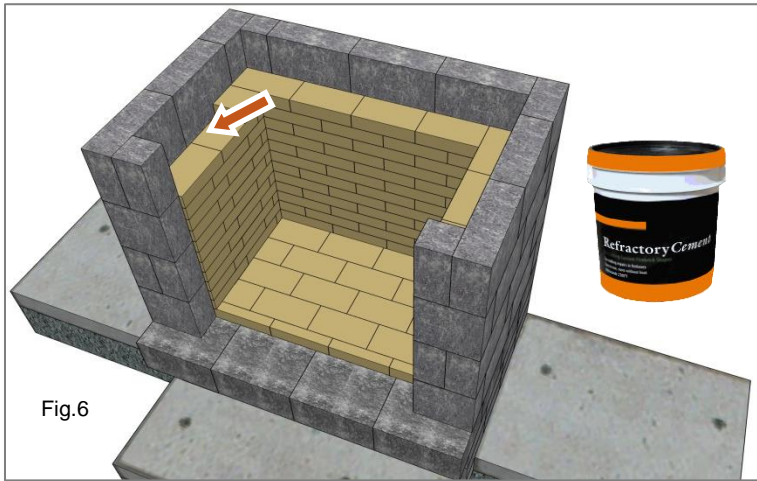


Fig.6

Line the inside of the firebox with fire bricks. The fire bricks are stacked up flat with fire-rated cement or adhesive between each layer. (Fig.6) The fire bricks used in these plans are 4 1/2" x 9" x 2" thick.

Both the bricks and cement are available from most building supply outlets.

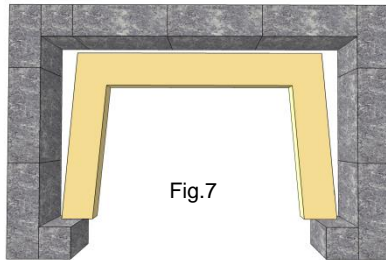


Fig.7

**Important:** Do not adhere fire brick to Brussels Dimensional Stone. **Leave a 1" gap between Brussels Dimensional Stone and the firebrick.** Tapering the walls (Fig.7) will require cutting of the fire brick but provides optimal radiation of heat.

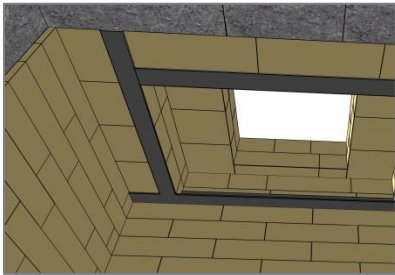
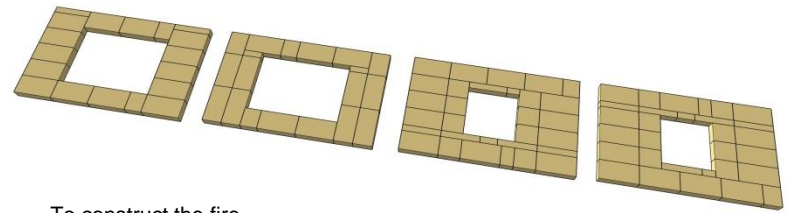


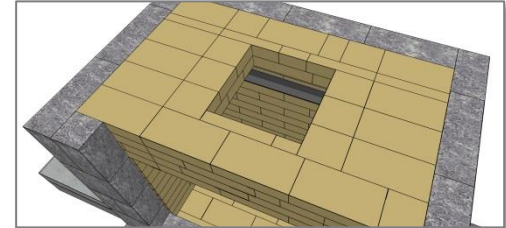
Fig.8

While the side walls of fire brick are setting up, construct a fire box top.

For support, you will need to fabricate a 1 1/2" x 1 1/2" angle-iron frame under the fire box top. (Fig.8). **Notch the fire brick to seat these supports.**



To construct the fire box top, creating a two stage opening with 4 layers of fire brick, with the top layer supporting a 12" x 12" clay chimney flue.



Use any combination of firebrick to accomplish the desired size while making sure the flue opening is centered over the fire area. (Fig.9)

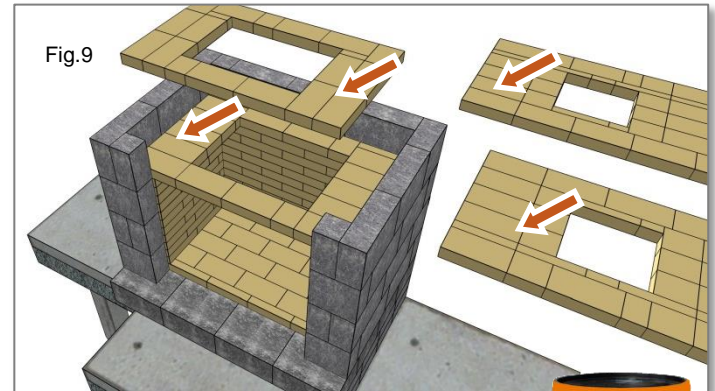


Fig.9

**Important:** Always use fire-rated refractory cement between all units. Let it set up the recommended time so that it is solid enough to receive the flue liner and the balance of the chimney.



## Section 3

### Constructing the Chimney

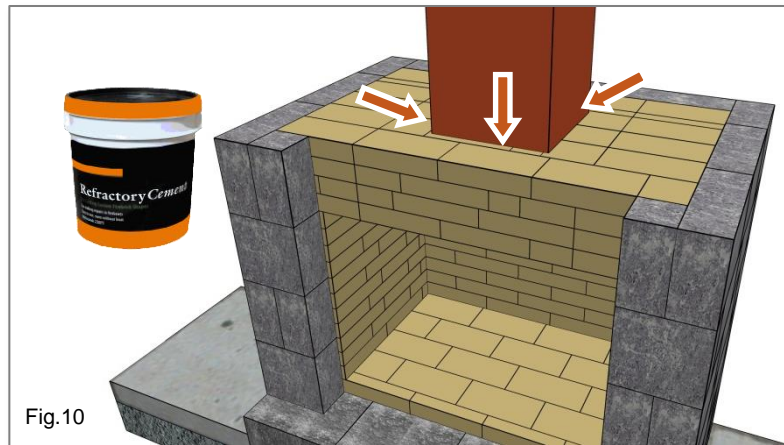


Fig.10

Once the firebox lid has been put in place, you're ready to install the first section of the flue. We suggest a 12" x 12" flue size. (Fig.10) The flue should sit on the firebox lid, over the hole but not in the hole. **Be sure to use extra fire-rated refractory cement to ensure a good seal.**

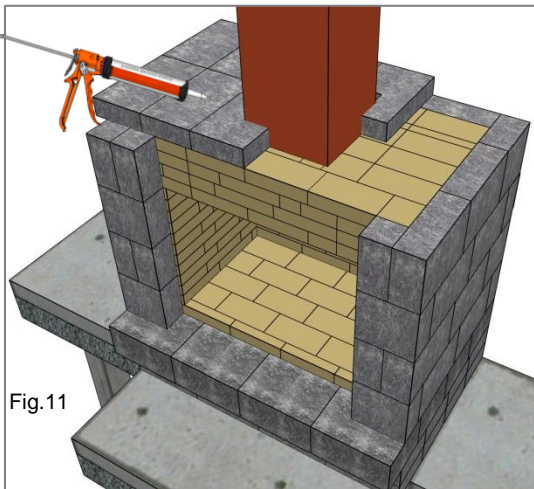


Fig.11

Brussels Block XL units can be used to make the mantel. However, any complementary material such as Unilock LedgeStone, Fullnose or a precut slab of natural stone, could also be used.

**Note:** Use Concrete Adhesive to secure the mantel units. (Fig.11)

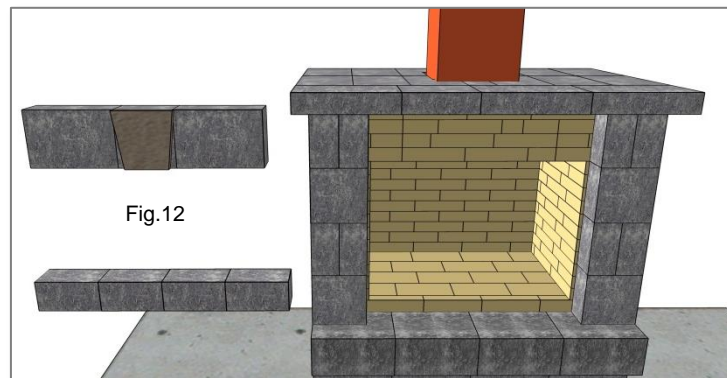
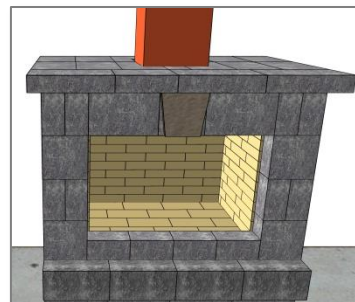


Fig.12

Once the mantel units have been set, the upper and lower fascia panels (Fig.12) can be placed.



A keystone accent can be made from a variety of materials. Consider choosing something that will match other accents in your project for a cohesive look.

Following the mantel layer is an accent row of Estate Wall units. (Fig.13) You may need to adjust or cut a few of the split face edges to make good joints. Use Estate Wall corner units for each of the four corners.

Fig.13

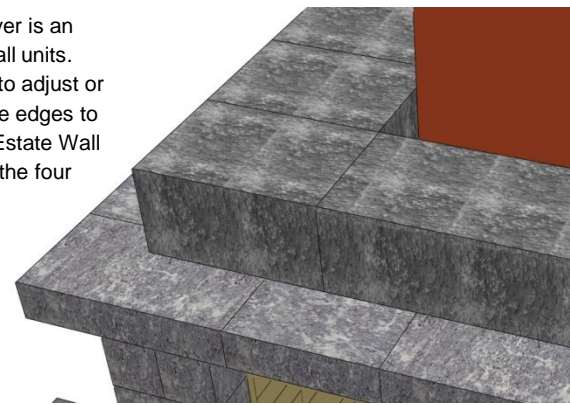
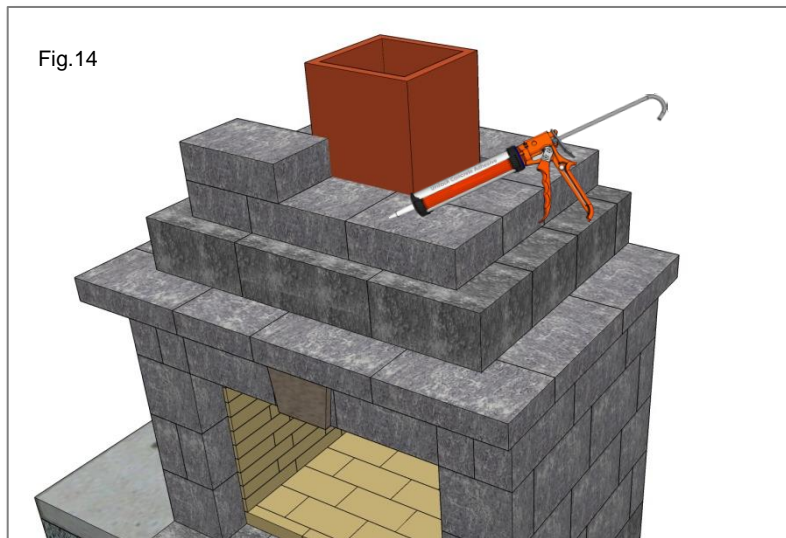
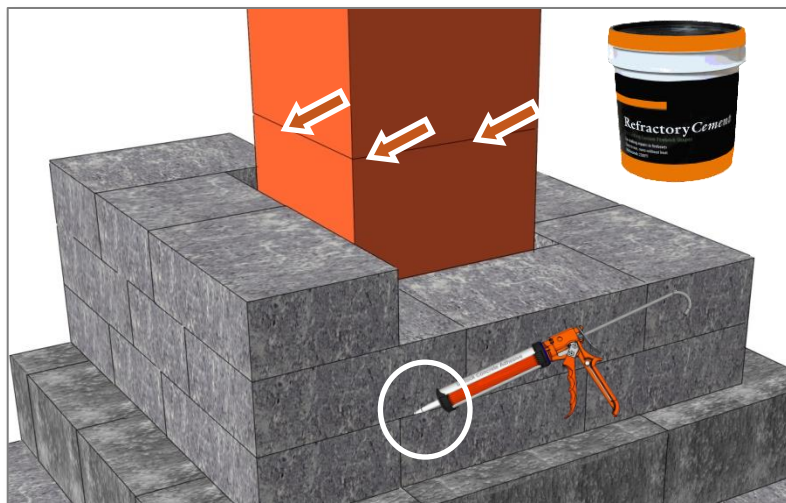


Fig.14



The balance of the chimney can now be constructed with 8 rows of Brussels Dimensional Stone (Fig.14). **Be sure to offset the joints every other row as shown.** Use Unilock Concrete Adhesive or similar to glue all the units together. After installing the third row, attach **the next flue liner with refractory cement.** Use liberally to ensure a good seal.

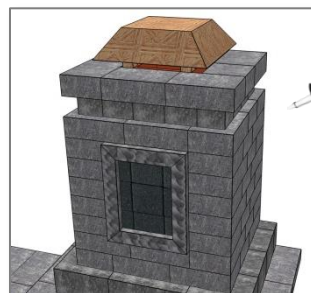


To add additional flair to your chimney design, you can recess a row of units or use a paver accent as we did here in the ninth row. The tenth and final row of Brussels Dimensional Stone should be flush with the flue liner. (You may need to adjust the length of the flue). **Note:** Consider increasing the height of the chimney in windy locations in order to improve draw.

Any row of Brussels Dimensional Stone can be substituted with a row of accent pavers for visual interest (Fig. 15). *For best appearance, use only those paver products that are dimensionally compatible.*

**Glue all chimney rows using Unilock Concrete Adhesive.**

(Chimney caps are available from most building suppliers or online).



You can also add framed accent panels. Build the frame separately on a flat surface and then glue or insert the panel on or into the face. The possibilities are endless!

## Section 3

### Constructing the Wood Boxes

A fireplace can be constructed as a stand alone feature or, if space and the design permits, with a wood box flanking each side and a hearth on the front.

To construct a wood box, the process is very similar to building the main fireplace box. If you are planning to have wood boxes it is important to pour the appropriate foundation slab under the entire structure at the start of the project in order to keep things level and in alignment.

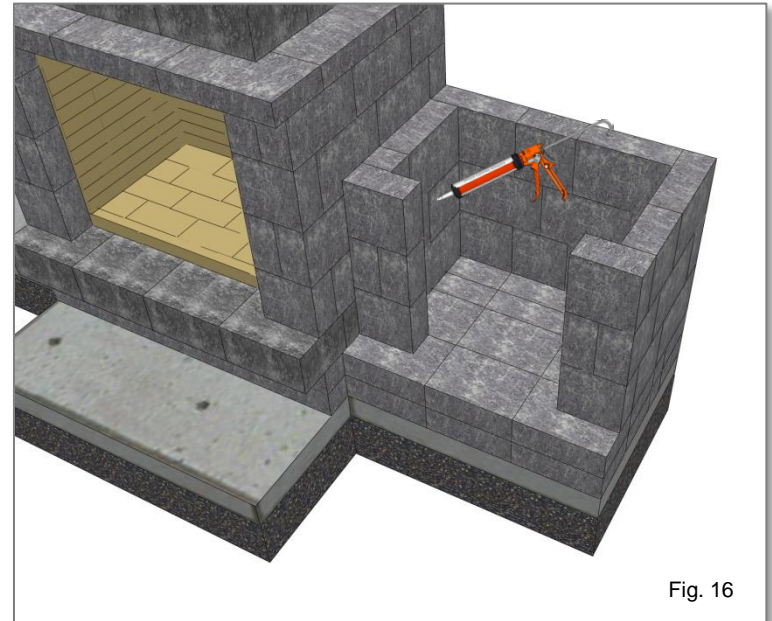


Fig. 16

Similar to the main fireplace, you will need to install two rows of base units using Brussels Dimensional Stone. This is followed by three layers of Dimensional Stone on edge. (Fig. 16)

**Note:** For structural strength and the best appearance be sure that all joints are offset.

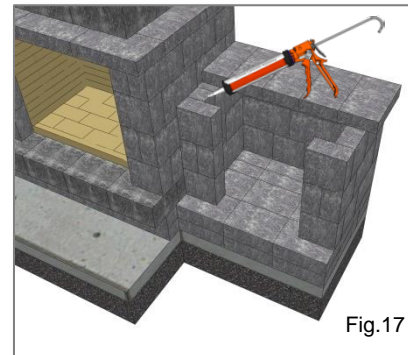


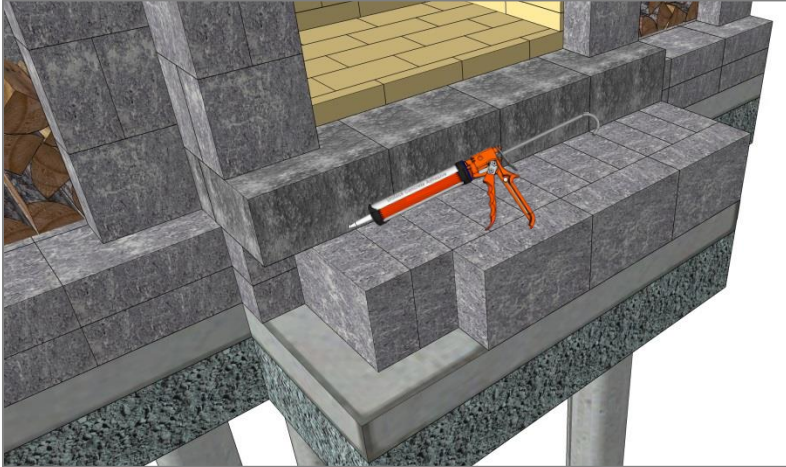
Fig.17

Construct a top using Brussels Block XL units, Ledgestone, Fullnose or natural stone. (Fig.17)

To ensure minimal water penetration, use liberal amounts of adhesive between units.

## Section 3

### Constructing the Hearth



Construct the hearth as shown using Brussels Dimensional Stone and then cap it with a layer of Brussels Block XL units, LedgeStone, Fullnose or custom cut natural stone. (Fig.18)

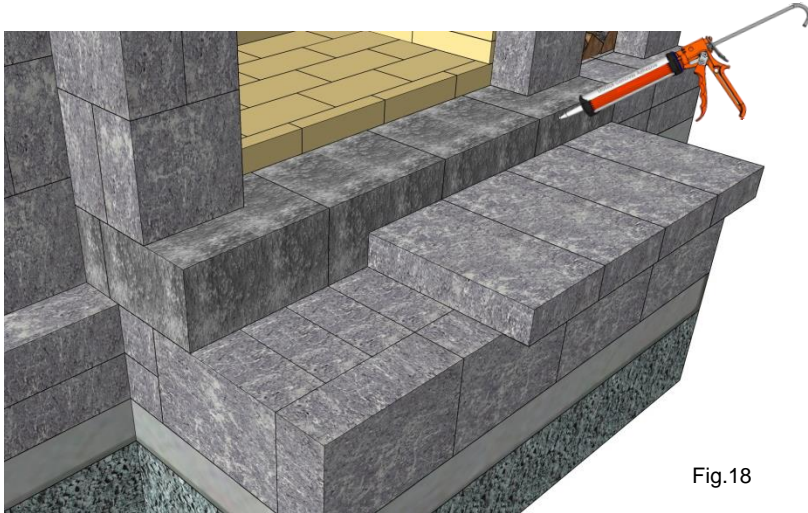


Fig.18

**Caution:** For your safety, always use a screen when operating a fireplace. Gas fire starters should only be installed by an experienced and licensed gas professional.



**Notes:** Fireplace accessories such as screens, tools, log racks etc. can be purchased through any fireplace dealer.

Wait 24 hours (min) to make sure that all refractory mortar and concrete adhesives have cured before using the fireplace.

Always observe mortar and adhesive manufacturer's instructions and specifications.

**Disclaimer:** This is a basic outdoor fireplace construction design only. Outdoor fireplaces should always be constructed by a knowledgeable professional. Location, chimney height, flue size and prevailing winds can affect the performance of a fireplace. Unilock cannot guarantee the performance or structural integrity of this fireplace. Use only industry accepted materials, cements and adhesives when constructing an outdoor fireplace. Always observe building codes and local bylaws.