

# Isokern® VENT-FREE Gas Firebox

## Installation, Operation, Maintenance and Owner's Manual Isokern

Vent-Free Models 81036, 81042, 81046, 81060, 81072

See-Thru Vent-Free Models 81036ST, 81042ST, 81046ST, 81060ST, 81072ST

**Be Sure to Read Entire Manual Before Beginning Construction.**

Contents of this manual may change without prior notification

**IMPORTANT:** This manual contains assembly rules, installation steps and guidelines, use and maintenance instructions for the Isokern Vent-Free Gas Firebox (Vent-Free Series). This manual must become the property of and be reviewed by all current and future users of this product. It is the responsibility of the distributor, general contractor and the installer of this product that the instructions in this manual are followed exactly and, further, that the allowed gas log appliance used in this product be installed in strict accordance with the gas log manufacturer's listing and explicit installation and operation instruction.

**THESE FIREBOXES ARE DESIGNED FOR USE WITH:  
PROPANE (LP) or NATURAL GAS (NG) ONLY**

**Do not install the Vent-Free Gas Firebox in a manufactured home or mobile home or recreational vehicle.**

**FOR USE ONLY WITH A LISTED GAS-FIRED UNVENTED DECORATIVE ROOM HEATER NOT TO EXCEED 40,000 BTU/H.  
DO NOT BUILD A WOOD FIRE.**



### **WARNING:**

#### **FIRE OR EXPLOSION HAZARD**

Failure to follow safety warning exactly could result in serious injury, death, or property damage.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

**IF YOU SMELL GAS:** Do not try to light any appliance; Leave the building immediately; Do not touch any electrical switch; Do not use any phone in your building; Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions; If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Carefully review the instructions supplied with the decorative type unvented room heater for the minimum fireplace size requirement.

**DO NOT INSTALL AN APPLIANCE IN THIS FIREBOX UNLESS THIS FIREBOX MEETS THE MINIMUM DIMENSIONS REQUIRED FOR THE INSTALLATION.**

**INSTALLER:** Leave this manual with the appliance.  
**CONSUMER:** Retain this manual for future reference.



**Intertek**

SBCCI NO. 9626

INTERTEK TESTING SERVICES

REPORT NO. 13001A-764

ICC Report NO. ESR-4873

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## General Information

The Vent-Free Gas Firebox is a modular refractory masonry unit designed for field assembly. The unit consists of interlocking precast parts, which are glued together using Earthcore Adhesive supplied with the unit. The parts of the system are cast using a proprietary mixture of volcanic pumice aggregate and aluminate cement. Each piece is intended for a specific part of the enclosure and is designed such that only one means of assembly is possible. The system includes all the parts necessary for the assembly of a complete masonry vent-free decorative gas log enclosure.

In addition to the basic enclosure, a minimum standard one and one-eighth inch (1-1/8") thick, high temperature refractory brick is required to line the interior of the firebox.

Vent-Free decorative gas log sets are supplied by others and are limited to any listed vent-free gas-fired log sets with heat input ratings up to 40,000 BTU/hr.

### **PRODUCT DESCRIPTION**

The Vent-Free Firebox has been evaluated and listed by Intertek Testing Services (Warnock Hersey International) in accordance with ANSI Z21.91 2020 and is intended for use as a "zero clearance" rated enclosure when used with any listed unvented or dual listed gas log set that has a maximum input rating of 40,000 BTU/hr. The Vent-Free decorative gas logs chosen must meet the appliance manufacturer's minimum size dimension requirements for installation in this enclosure.

**WARNING:** Any application other than the intended use stated herein is in violation of the manufacturer's instructions and is hereby prohibited. Such violation may cause immediate hazard, property damage or loss of life and will void all liabilities to the manufacturer and will void all warranties explicit or implied.

**WARNING: These models CANNOT be installed in a bedroom unless maximum BTU rating of installed vent-free log set is less than 10,000 BTU/hr.**

### **FOUNDATION REQUIREMENTS**

Wood floor framing systems are suitable foundations for the Vent-Free firebox. Because the Vent-Free firebox is listed for "zero clearance" at the unit bottom, sides, back and top, it may sit directly upon wood sub-flooring.

The Vent-Free firebox weighs approximately 750-1,700 lbs. (excluding gas log appliance, firebrick, and finish trim). Since this weight is spread over an area of 7.5 sq. ft to 15 sq. ft depending on the standard unit size chosen, it is necessary that any wood floor framing where this unit is placed be designed to carry concentrated loading of approximately 150 lbs./sq. foot.

Standard residential concrete slab is a suitable foundation. This may be either a structural off-grade slab or a structural slab-on-grade.

### **BEFORE BEGINNING THE INSTALLATION:**

Read these instructions carefully before beginning the installation of this Vent-Free firebox. Also read the gas log appliance manufacturer's literature regarding sizing and suitability for installation into this enclosure prior to installation. (Look for gas log appliance manufacturer's label "A.G.A. Certified Vent-Free Gas Log.")

Since it is not possible to adequately define all installation and use circumstances in this manual be sure to check with and strictly adhere to local building codes and ordinances governing installation, inspection and use of gas fired equipment. In the absence of local codes, the installation and use of this Vent-Free Firebox – and the certified unvented gas log appliance placed in it – must be in accordance with each manufacturer's explicit installation instructions and must conform with National Fuel Gas Code, ANSI Z21.11.2 2019, NFPA54.

Local building and safety codes shall govern issues relating to the suitability of the use of unvented appliances as well as to room size requirements. Prior to purchase and installation, it should be determined if unvented gas log heaters are suitable to the proposed application where health matters are concerned.

**NOTE:** You may need to provide combustion and ventilation air from an outside source to adequately satisfy local codes.

Non-combustible hearth extensions are not required in front of the Vent-Free Firebox. However, it is the responsibility of the installer to refer to the Vent-Free gas log manufacturer's explicit installation instructions regarding their requirements for non-combustible hearth extensions. Requirements may vary among Vent-Free gas log manufacturers.

Refer to local codes governing the need for hearth extensions for Vent-Free gas log enclosures.

## Safety Instructions

The installation must be made by a licensed plumber or gas fitter in the Commonwealth of Massachusetts.

Vent-Free gas products are prohibited for bedroom and bathroom installation in the Commonwealth of Massachusetts.

**WARNING: This product contains or generates chemicals known to the state of California to cause cancer or birth defects or other reproductive harm.**

**IMPORTANT: Read this owner's manual carefully and completely before trying to assemble, operate or service this firebox. Improper use of this firebox can cause serious injury or death from fire, burns, explosions, and carbon monoxide poisoning.**

**DANGER: CARBON MONOXIDE POISONING MAY LEAD TO DEATH!**

This firebox is an unvented product and should be installed by a qualified service person.

Propane (LP) gas and natural gas (NG) are both colorless and odorless gases. An odor-making agent is added to each of these gases to help you detect a gas leak. However, the odor added to these gases can fade and gas may be present even though no odor exists.

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble flu symptoms, including headaches, dizziness, or nausea. If you have these signs, the fireplace may not have been installed properly, get fresh air at once! Have the firebox inspected and serviced by a qualified service person or your gas supplier. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung diseases or anemia, people at high altitude or under the influence of alcohol. Earthcore Industries strongly recommends the use of a carbon monoxide detector/alarm device wherever gas-fired appliances are in use.

All parties either involved in or associated with the installation, service and use of this firebox must read this entire manual. Keep this manual for reference and as a guidebook to safe operation of this firebox.


### **WARNING: THIS UNIT IS NOT FOR USE WITH SOLID FUEL**

1. Always check local building codes governing fireplaces and fireplace installations. The Vent-Free Series installation must comply with all local, regional, state, and national codes and regulations.
2. The Vent-Free Series are listed for use with the decorative unvented gas log appliance only.
3. For propane (LP) use do not place propane supply tank(s) inside any structure. Locate propane supply tank(s) outdoors. To prevent performance problems, do not use propane fuel tank of less than 100 lbs. capacity.
4. Do not install the Vent-Free Gas Firebox in a manufactured home or mobile home or recreational vehicle.
5. This firebox reaches high temperatures. Keep children and adults away from hot surfaces to avoid burns or clothing ignition. Firebox will remain hot for a time after shutdown. Allow surfaces to cool before touching.
6. Turn the Vent-Free Gas Firebox off and allow to cool before servicing. Always shut off any electricity and gas to the Vent-Free Gas Firebox while working on it. Only a qualified service person should install, service or repair this firebox. Have your fireplace inspected annually by a qualified service person.
7. Keep all combustible material, gasoline, and other flammable liquids at a safe distance from the fireplace. Do not use the fireplace where these items are used or stored. Decorations, clothing, and other such combustible items should not be placed on the fireplace.
8. Do not use the Vent-Free Series to cook food or burn paper or other objects.
9. Do not use any solid fuels – wood, coal, paper, cardboard, etc. – in this firebox. Use only the gas type listed on the unvented gas log heater label.
10. Keep all insulation and vapor barriers a minimum of three inches (3") away from all Vent-Free Series and Direct-Vent chimney components.
11. This American Gas Association fact sheet provides an overview of the requirements for the electrical bonding of fuel gas piping systems to the electrical grounding system based on ANSI Z223.1/NFPA 54, National Fuel Gas Code – 2021 (NFGC). The bonding requirements in previous code editions, in local jurisdictions or in specific situations, may differ.
12. Do not pack or fill required air spaces with insulation or other material. No material is allowed in these spaces.
13. Do not use a fireplace blower insert, heat exchanger or any other product not specified by the manufacturer herein for use with this fireplace.
14. Do not use any Vent-Free Series decorative appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

## Safety Instructions

15. The Vent-Free Series is not intended to heat an entire home or to be used as a heat source.
16. Children and adults should be alerted to the hazards of high surface temperature and should stay away from this appliance to avoid burns or clothing ignition.
17. Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children, and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at-risk individuals in the house. To restrict access to the fireplace, install an adjustable safety gate to keep toddlers, young children and other at-risk individuals out of the room and away from hot surfaces.
18. Clothing or flammable material should not be placed on or near the appliance.
19. Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
20. Installation and repair should be done by a qualified serviceperson.
21. The firebox canopy shall not be modified or replaced with a canopy that may be provided with the unvented decorative room heater.
22. The manufacturer recommends the use of fireplace screens
23. Screens are to be closed before operating the unvented decorative room heater

### ANSI Z21.91 Rating Label

 <b>Intertek</b> W/N 04830 DO NOT REMOVE OR COVER THIS LABEL ESR-4873	MODEL <input type="checkbox"/> 81036	<input type="checkbox"/> 81042	<input type="checkbox"/> 81046	<input type="checkbox"/> 81060	<input type="checkbox"/> 81072
	<input type="checkbox"/> 81036ST	<input type="checkbox"/> 81042ST	<input type="checkbox"/> 81046ST	<input type="checkbox"/> 81060ST	<input type="checkbox"/> 81072ST
<b>Ventless Firebox Enclosure for Gas-Fired Decorative Type Unvented Room Heaters</b>		<b>ISOKERN</b>			
		MADE IN USA Chesapeake, VA 23323			
		Headquarters Jacksonville, FL 32256			
<b>WHI-</b>					
<p><b>Certified To: ANSIZ21.91-2020. May be installed at zero clearance to combustibles from floor, sides, rear, and top. Combustible mantel must be at least 12 inches above opening top. Decorative facing in contact with opening front must be non-combustible material. Fireplace screens or equivalent means designed to prevent unintentional access into the firebox interior, must be provided. For use with listed ANSI Z21.11.2 unvented decorative room heaters not to exceed 40,000 Btu/hr (11,723 W).</b></p> <p><b>WARNING: DO NOT BUILD A FIRE IN THIS ENCLOSURE-INSTALL ONLY ANSI Z223.1 LISTED UNVENTED GAS-FIRED APPLIANCES IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS PROVIDED WITH THIS ACCESSORY AND THE GAS APPLIANCE.</b></p> <p>Refer to the Intertek Directory of Building Products (<a href="https://bpdirectory.intertek.com">https://bpdirectory.intertek.com</a>) for detailed information</p>					
<b>A Product of Earthcore Industries, Jacksonville, Florida</b>					

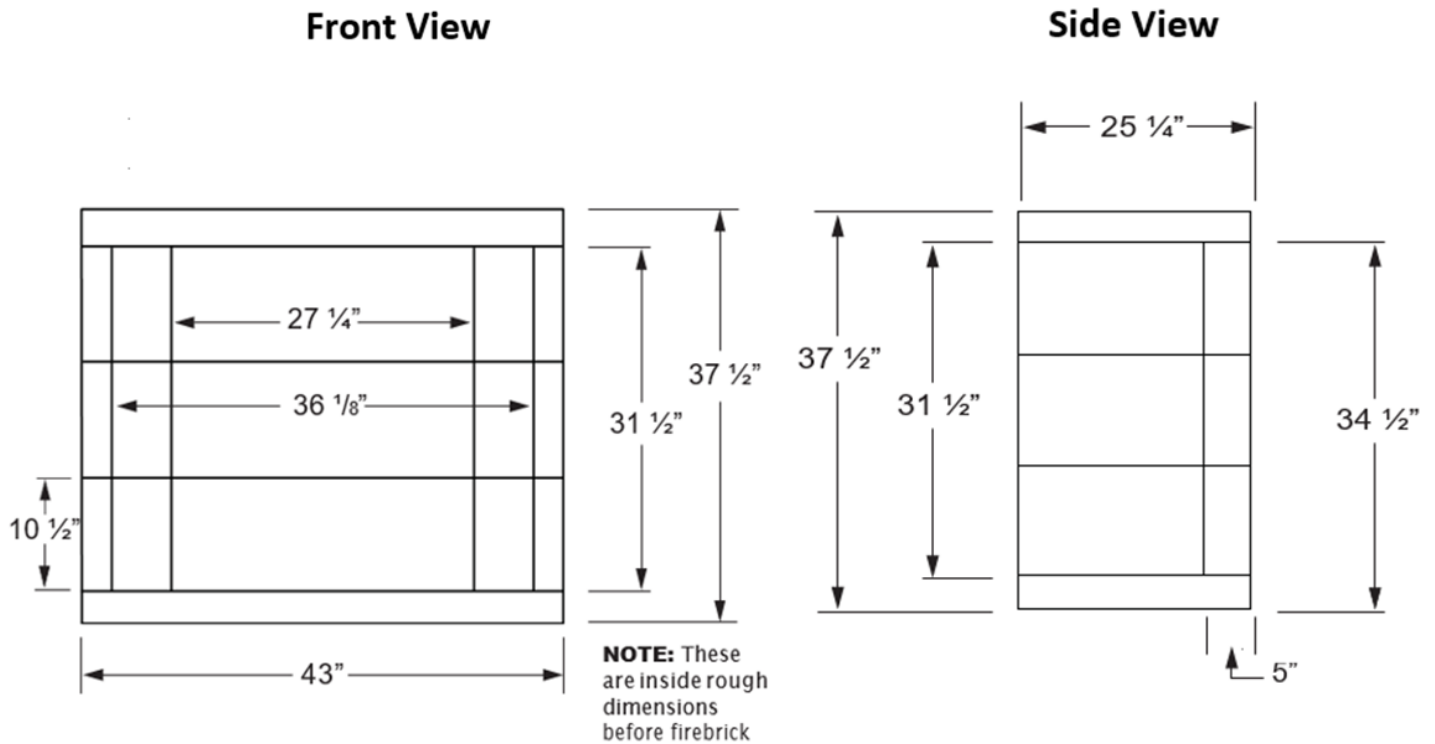
The latest version of this manual may be obtained at the Earthcore website:

<https://www.earthcore.com/installation-manuals/>

Or scan this QR code

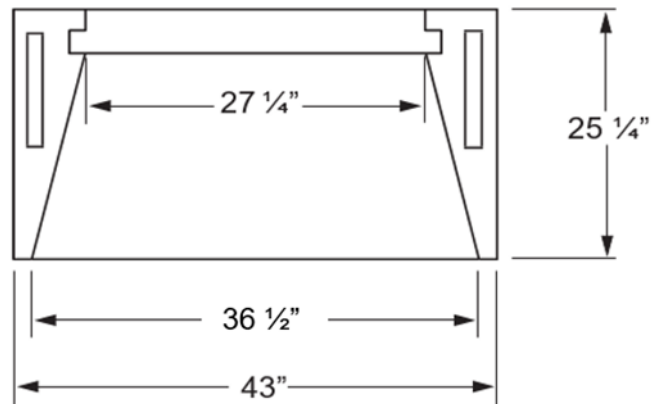


## Vent-Free Series 36" (81036) Firebox Dimensions & Component List



Component	Part#	Description
	21	Base & Top Plate (Qty. 2)
	20	Side wall (Qty. 6)
	25	Back wall (Qty. 3)

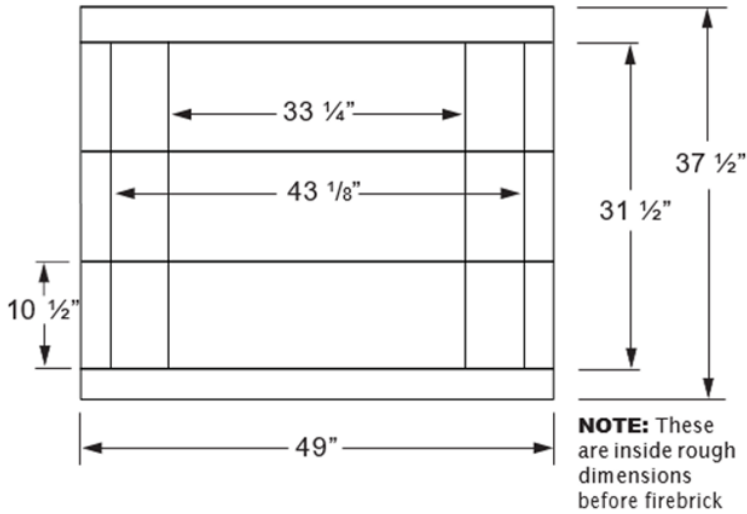
### Plan View



**Replacement parts can be ordered from your local ISOKERN dealer**

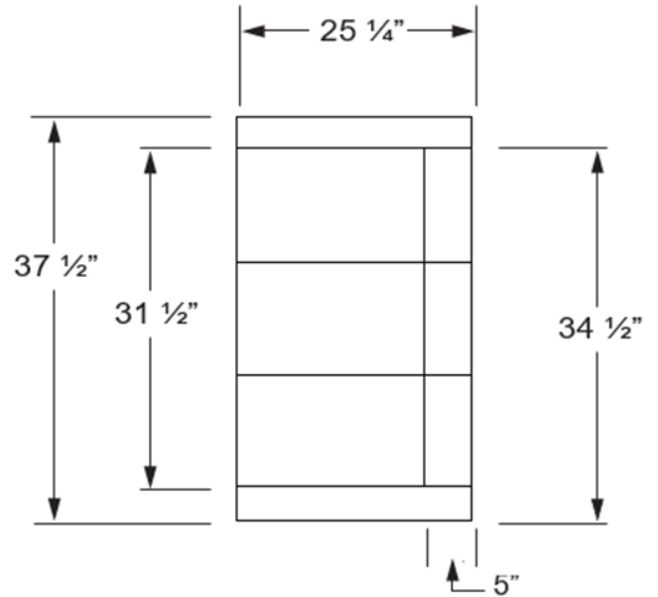
## Vent-Free Series 42" (81042) Firebox Dimensions & Component List

Front View



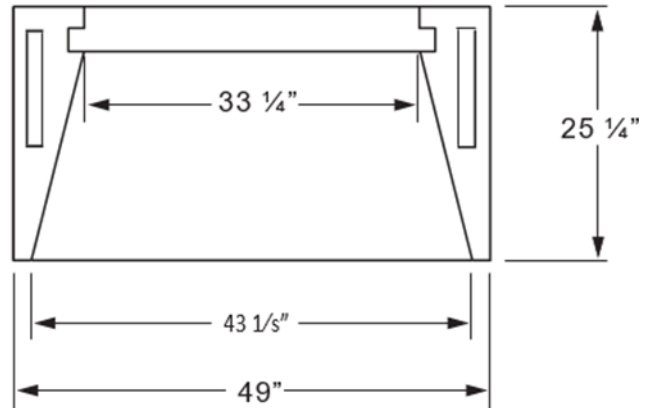
**NOTE:** These are inside rough dimensions before firebrick

Side View



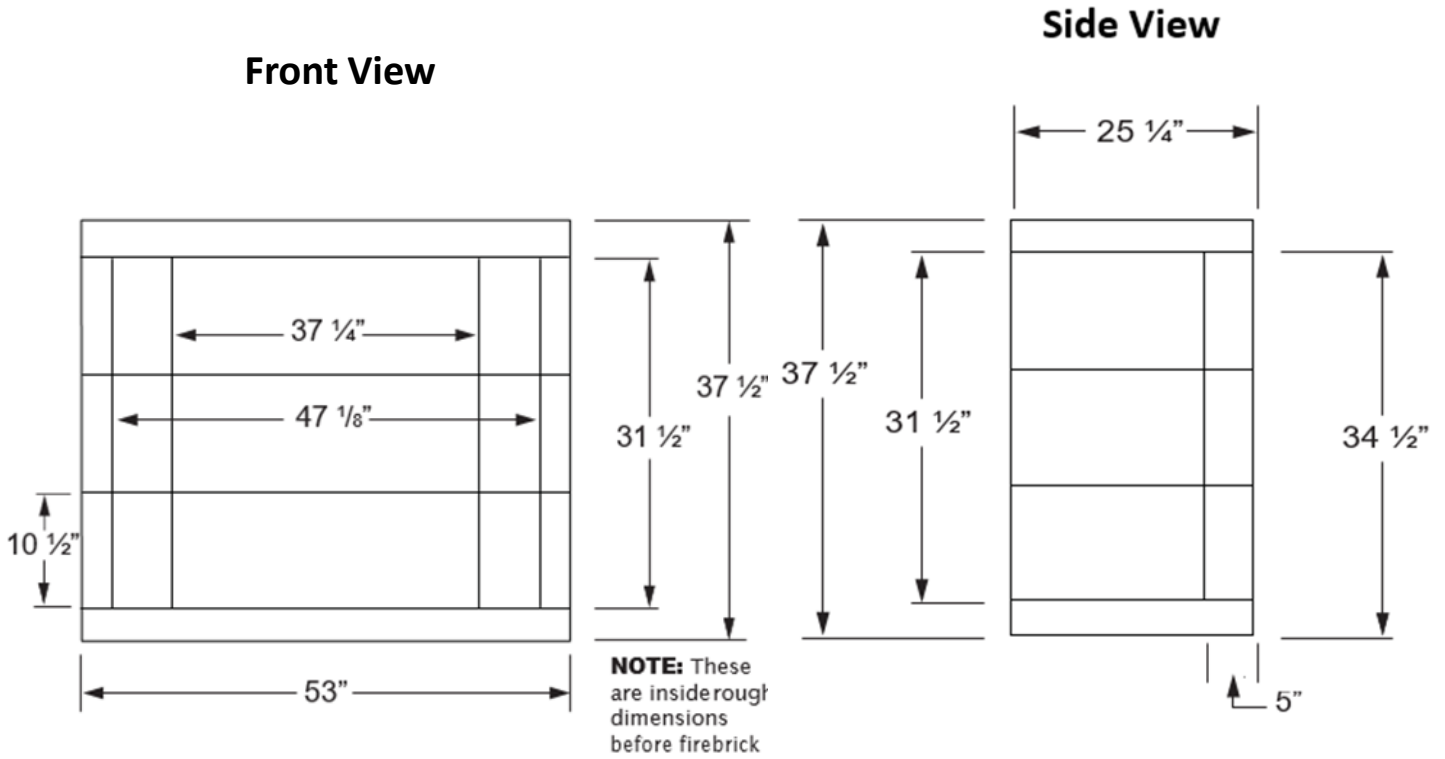
Component	Part#	Description
	22	Base & Top Plate (Qty. 2)
	20	Side wall (Qty. 6)
	28	Back wall (Qty. 3)

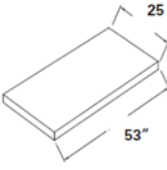
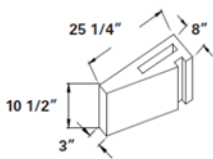
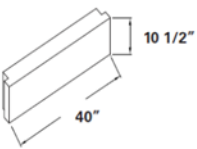
Plan View



**Replacement parts can be ordered from your local ISOKERN dealer**

## Vent-Free Series 46" (81046) Firebox Dimensions & Component List



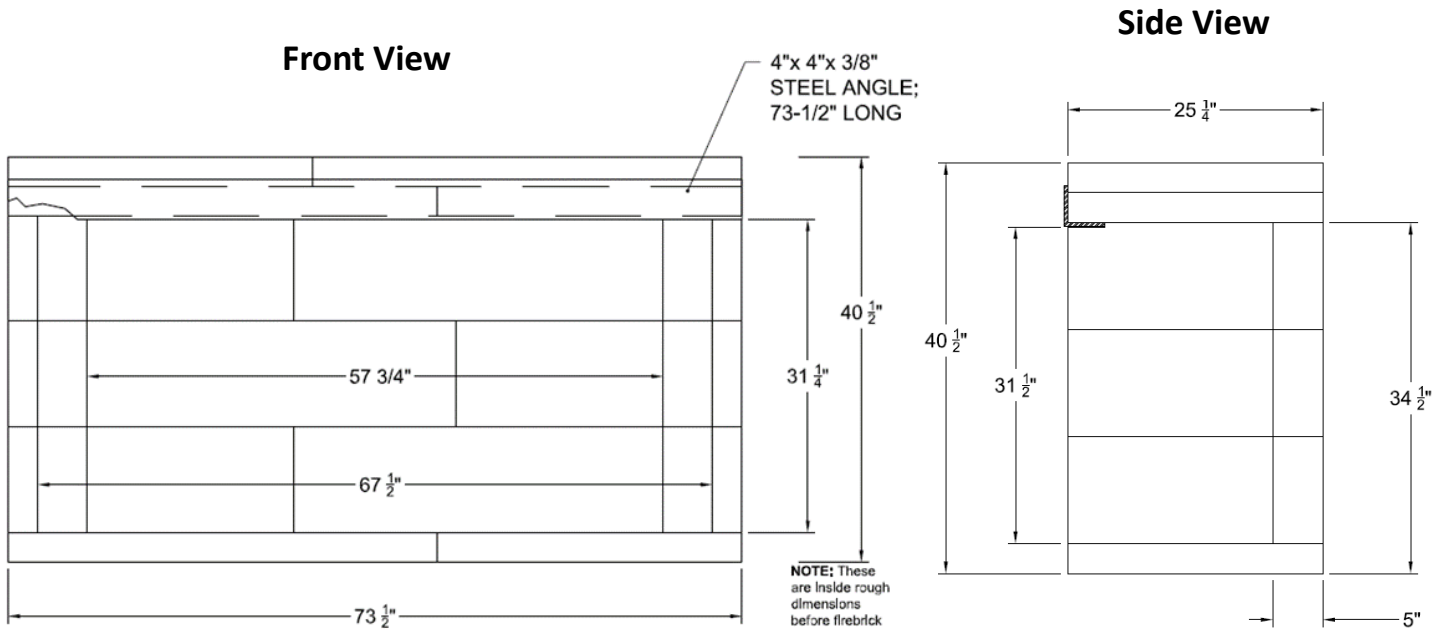
Component	Part#	Description
	23	Base & Top Plate (Qty. 2)
	20	Side wall (Qty. 6)
	31	Back wall (Qty. 3)

**Replacement parts can be ordered from your local ISOKERN dealer**

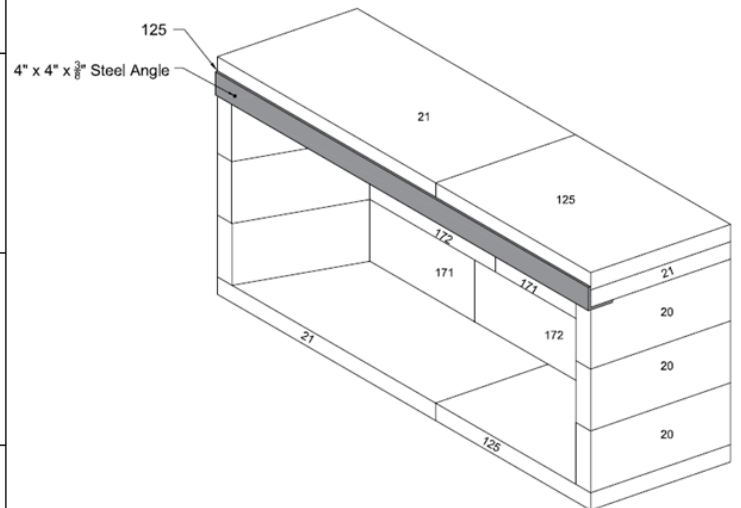
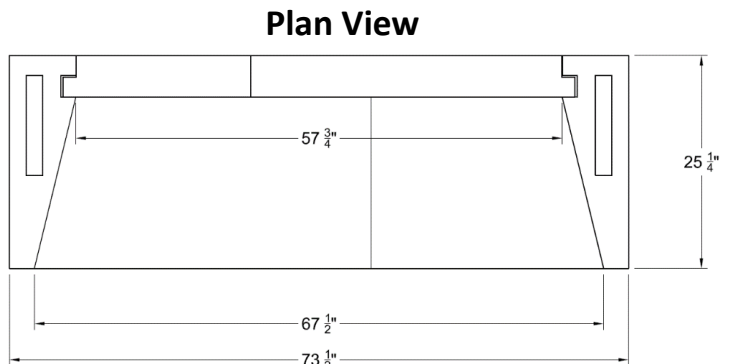


# Vent-Free Series 60" (81060) Firebox Dimensions & Component List

**REQUIRES 73-1/2" LONG, 4" x 4" x 3/8" STEEL ANGLE FOR INSTALLATION**



Component	Part#	Description
	21	Base and Top plate; Long (Qty: 3)
	125	Base and Top plate; Short (Qty: 3)
	20	Side wall (Qty: 6)
	171	Back wall; Short (Qty: 3)
	172	Back wall; Long (Qty: 3)

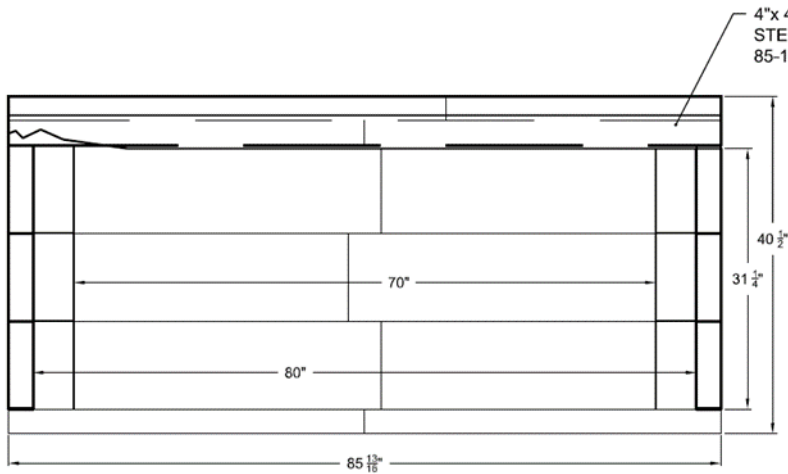


**Replacement parts can be ordered from your local ISOKERN dealer**

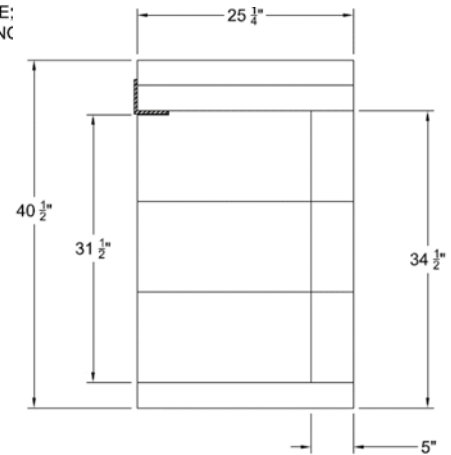
# Vent-Free Series 72" (81072) Firebox Dimensions & Component List

**REQUIRES 85-13/16" LONG, 4" x 4" x 3/8" STEEL ANGLE FOR INSTALLATION**

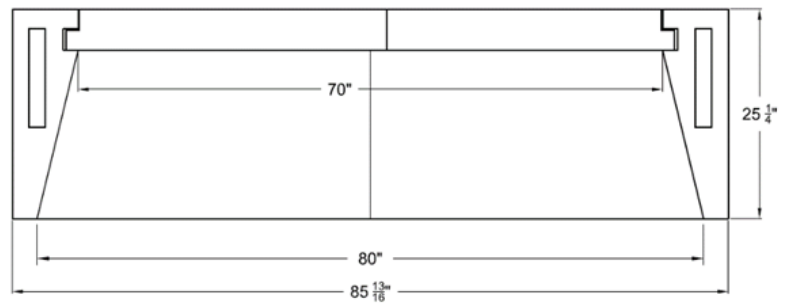
**Front View**



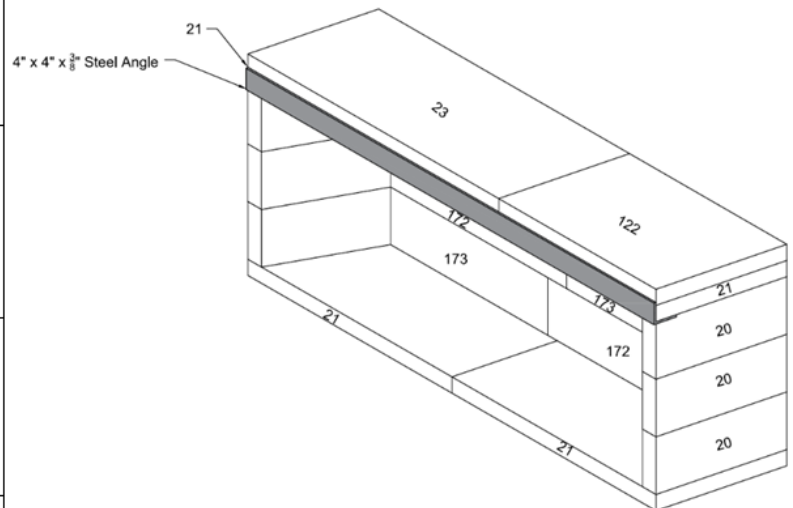
**Side View**



**Top View**



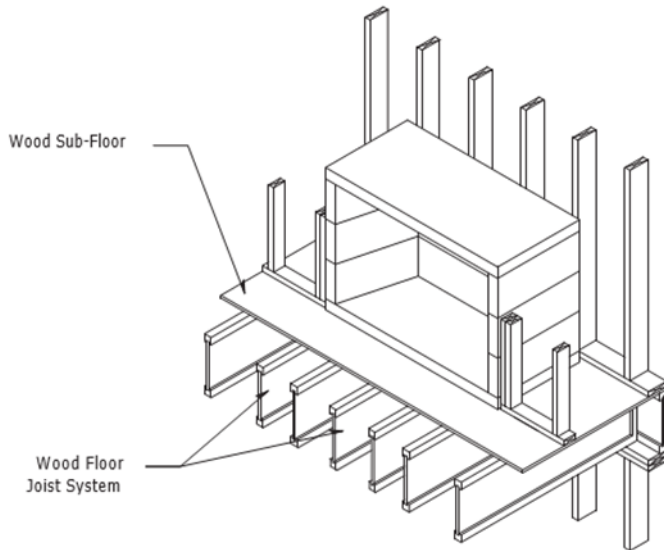
Component	Part#	Description
	21	Base and Top plate; Medium (Qty: 4)
	122	Base and Top plate; Short (Qty: 1)
	23	Base and Top plate; Long (Qty: 1)
	20	Side wall (Qty: 6)
	172	Back wall; Short (Qty: 3)
	173	Back wall; Long (Qty: 3)



**Replacement parts can be ordered from your local ISOKERN dealer**

## Required Clearance to Combustibles & Rough Framing Dimensions

**FIGURE 1**



### CLEARANCE TO COMBUSTIBLES

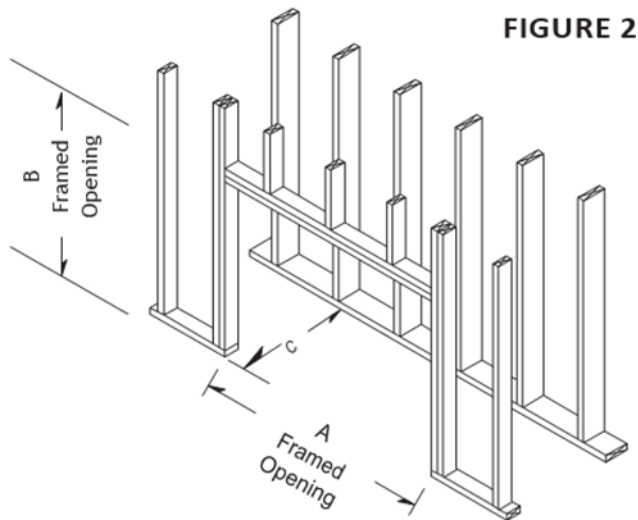
The Vent-Free Firebox may be installed at “zero clearance” to plywood sheathing and to un-insulated wood framing members at the unit bottom, sides, rear and top when used for enclosing any listed unvented gas-fired log set with maximum heat input ratings up to 40,000 BTU/hr. (Reference Intertek Testing Services Report No. 13001A-764.) **(Figure 1)**.

However, when a Vent-Free Firebox is to be installed on carpeting, tile, or any combustible material other than wood flooring or concrete, the Vent-Free Firebox shall then be installed on a metal or wood panel extending the full width and depth of the Vent-Free Firebox.

**NOTE:** Keep all insulation material to a minimum of three inches (3”) away from the outside surfaces of the Vent-Free Firebox.

### TYPICAL INSTALLATION FRAMING DIMENSIONS

**(Figure 2)**



Vent-Free	Width - A	Height - B	Depth - C
81036	43”	37 ½”	25 ¼”
81042	49”	37 ½”	25 ¼”
81046	53”	37 ½”	25 ¼”
81060	73 ½”	40 ½”	25 ¼”
81072	86”	40 ½”	25 ¼”

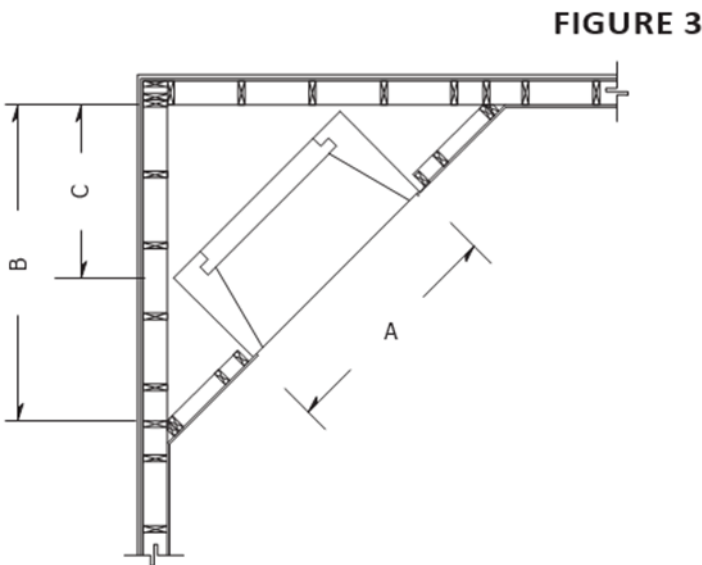
**NOTES:**

**B** includes the 3” thick base plate.

“Raised hearth” requires additional rough opening height at **B** equal to the height of the raised hearth detail.

### CORNER INSTALLATION FRAMING DIMENSIONS

**(Figure 3)**



Vent-Free	A	B	C
81036	43”	49 ¾”	32 ½”
81042	49”	52 ¾”	37”
81046	53”	54 ¾”	39½”
81060	73 ½”	85 ½”	52”
81072	86”	94 ¼”	60 ¾”

**NOTES:**

**A** reflects the width of framed fireplace opening.

**B** dimension reflects the distance from the inside frame wall perpendicular to the firebox to the inside corner of the frame wall. (Based on 2” frame wall).

**C** dimension reflects the distance from the corner of the firebox positioned 1-1/2” from frame wall to inside corner of frame wall.

## General Assembly Instructions

When beginning the assembly process, mix the Earthcore Adhesive with clean water to a smooth, workable texture (without lumps or dry pockets) of a “toothpaste” consistency. This mixture is suitable for application onto Isokern components by using a masonry grout bag supplied with the unit.

Attention should be paid that the adhesive mixture is not too thin or runny, as this will not allow the adhesive to reach its maximum bonding strength.

Mark out the position of the base plate on the supporting floor system. Apply a thin layer of Earthcore Adhesive to the area and set base plate in the adhesive (**Figure 4**).

Earthcore Adhesive is then squeezed from a grout bag onto the contact surfaces of the Isokern components as they are fitted together.

**NOTE:** It is important that a 1/2” bead of adhesive is piped onto all the components’ contact surfaces, about 1/2” in from all edges (**Figure 5**).

When setting the next component onto the contact surface of the base plate, some adhesive should squeeze out along the face of the entire joint as a sign of complete and proper sealing of the joint.

On broader contact surfaces, it is advisable to apply several additional 1/2” beads of the Earthcore Adhesive to the area to assure proper sealing of the joint.

Properly assembled firebox requires approximately 100 pounds (dry measure) of Earthcore Adhesive.

### LEVELING AND ALIGNING COMPONENTS

Be sure to assemble all Isokern components level and flush with adjoining components.

Earthcore Adhesive is not intended to create a joint of any thickness for leveling purposes.

Therefore, leveling and alignment adjustment are made by the use of small plastic shims supplied with the unit (**Figure 6**).

The shims can be inserted under a component to level and align it with adjacent Isokern components. Be sure to re-grout any and all gaps resulting from shim insertion to maintain components to full bearing.

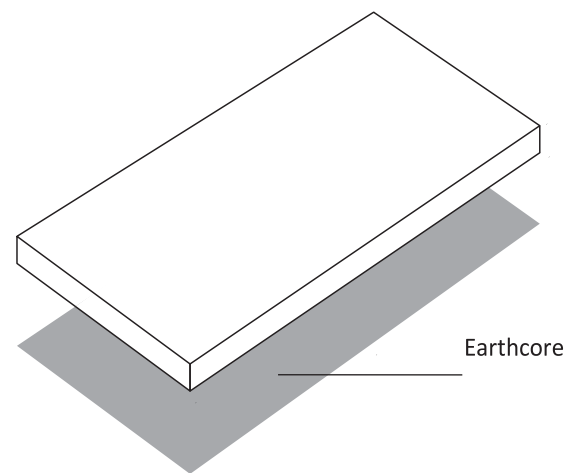
### BROKEN COMPONENTS

Components can be repaired by using Earthcore Adhesive along the break line as the component is set into place. Components broken into multiple small pieces should be discarded and replaced.

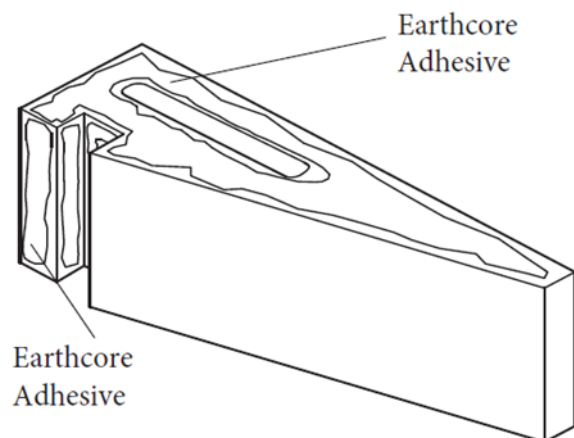
### IMPORTANT:

1. Do not mix Earthcore Adhesive with anti-freeze agents.
2. The maximum recommended joint thickness at Isokern components is 1/4”.

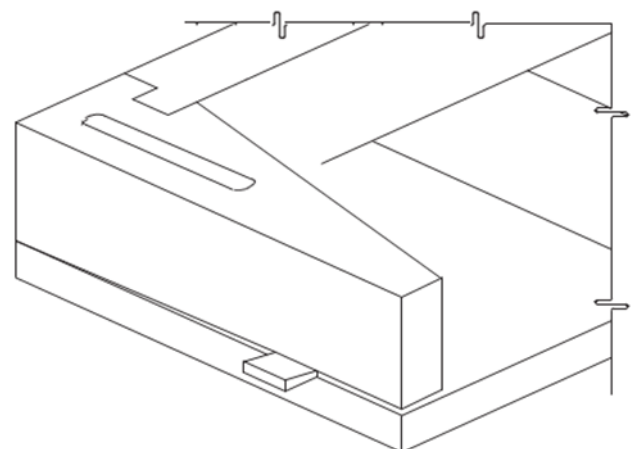
**FIGURE 4**



**FIGURE 5**

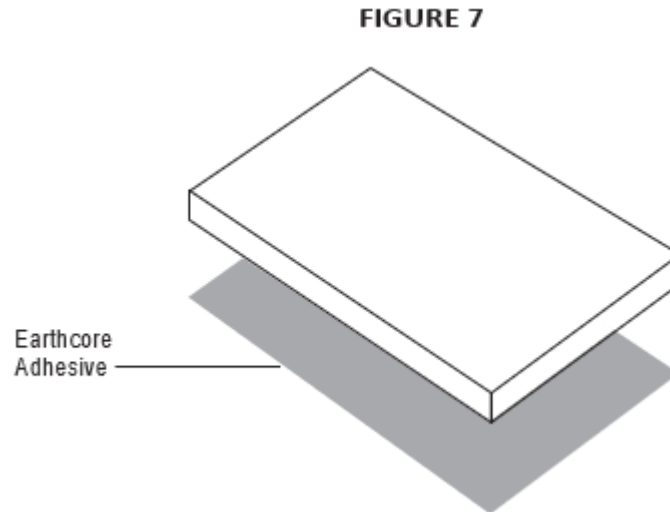


**FIGURE 6**



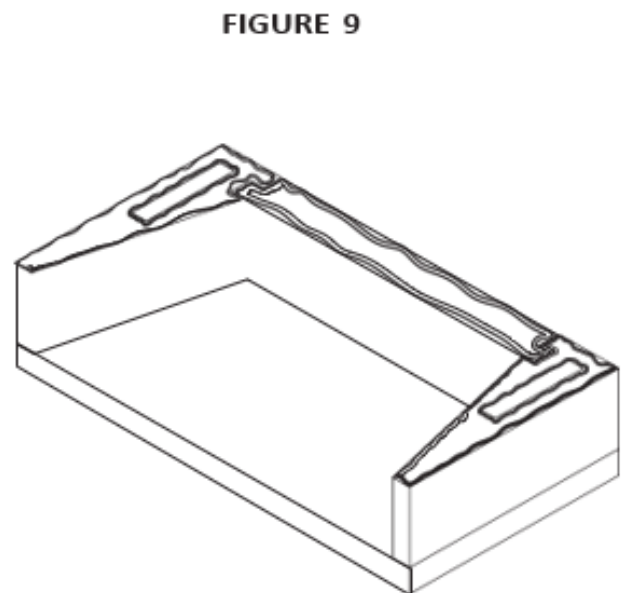
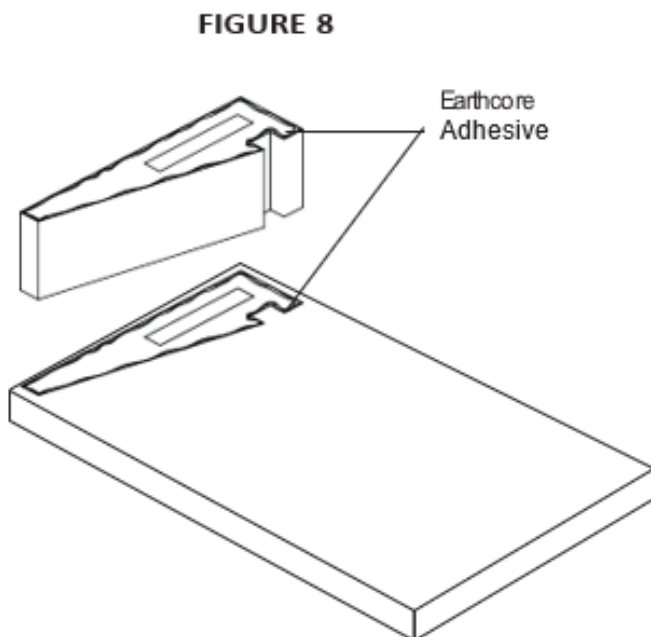
## Assembly Instructions

1. Begin assembly by setting the Vent-Free Firebox's three-inch (3") thick base plate flat on a suitable level surface at zero clearance. This surface can be a concrete slab or a wood floor system capable of 150 lbs./sq. foot loading. The base plate can also be set on a concrete block raised base or on a raised wood platform, either of which can be built upon a structural slab or upon a structurally suitable wood floor system. Do not set the base plate so that it is in span (**Figure 7**).



2. Next, set the first course of back wall and side walls into place. It may be convenient to scribe the location of the first layer of side walls and back wall on the base plate and then apply Earthcore Adhesive to these scribed areas on the base plate, where the side walls and back wall will sit. In this way, the first layer of walls can be set directly into grout already applied to the base plate.

Be sure to grout the vertical joints where the side wall to back wall connect as each component is joined to its mate. Look for adhesive to squeeze out of all contact joints as a sign of proper and complete sealing of the joints (**Figures 8 & 9**).



## Assembly Instructions

3. Continue with the sequential assembly of the second and third courses of the side walls and back wall by first applying grout to the top of the previous layer, setting the next course into the grout already applied to the horizontal contact surface of the component below. Again, be sure to apply grout to the vertical joints of the side wall to the back wall connection, as each component is joined to its mate. Look for some adhesive to squeeze out along all joints as a sign of proper sealing of the joint (**Figure 10**).
4. Once the third or top course of side walls and back wall are set in place, their top surfaces are to be grouted with adhesive to receive the Vent-Free Firebox top plate.

**NOTE:** For 81060 and 81072 models, the top course sidewall must be notched to accommodate the 4x4x3/8" steel angle (**Figure 11**).

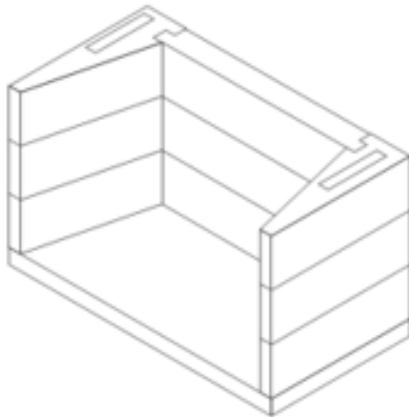
5. Set the top plate upon the completed side wall/back wall assembly seeing to it that the grouted contact surfaces are properly sealed. This completes the assembly of the Vent-Free Firebox rough box components (**Figure 12**).

**NOTE:** For 81060, 81060ST, 81072, and 81072ST models, two layers of top plates are utilized. (**Figure 13**).

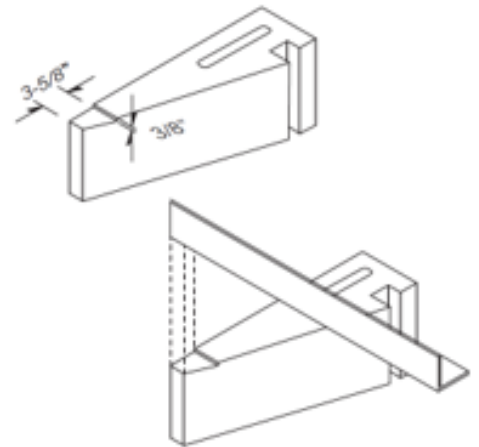
**NOTE:** Make sure that the rough box assembly has been set level and square. Adjust to level and square, as necessary, while adhesive is still wet. Make a final inspection of all contact joints to be sure they are properly sealed. Fill any and all gaps as necessary with Earthcore Adhesive

The manufacturer requires a minimum one and one eighth inch (1-1/8") thick fire brick as a liner to the inside of the Vent-Free Firebox. Thicker rated fire brick may be used as an option. Also, the pattern for the fire brick interior lining is not specified and is to be at owner option.

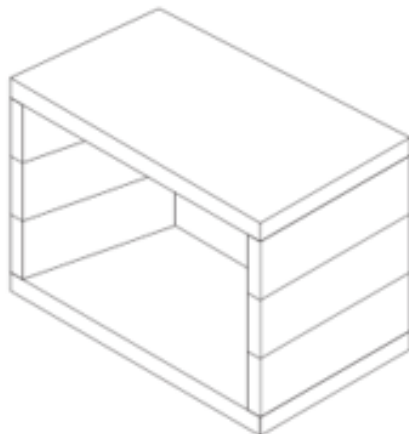
**FIGURE 10**



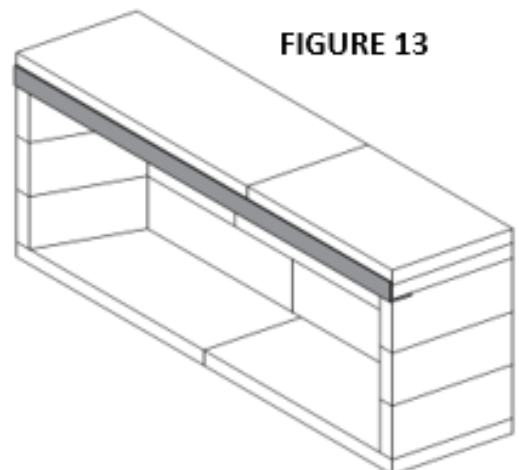
**FIGURE 11**



**FIGURE 12**



**FIGURE 13**



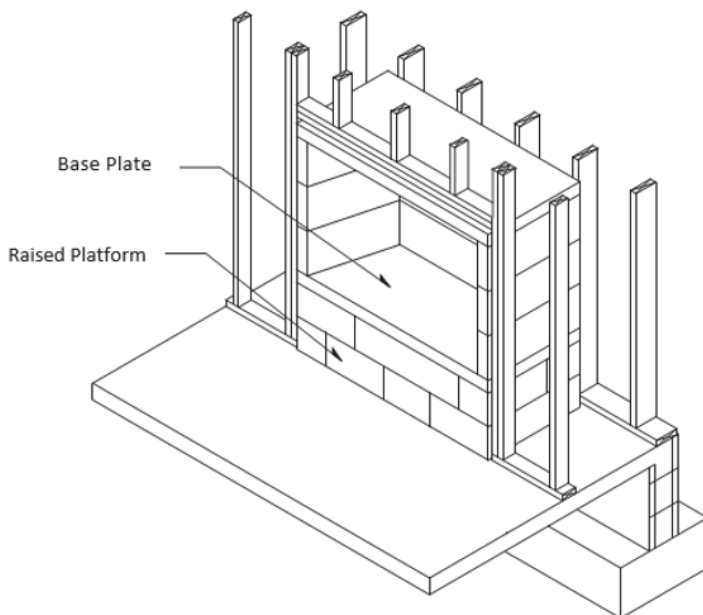
## Raised & Flush Hearth Application

**For a raised hearth** (floor of the firebox elevated above the room's floor), the Vent-Free base plate can be set on a concrete block platform that is built up to the desired raised hearth height on the concrete support slab (**Figure 14**). The base plate shall be fully supported. The base plate shall not be in span.

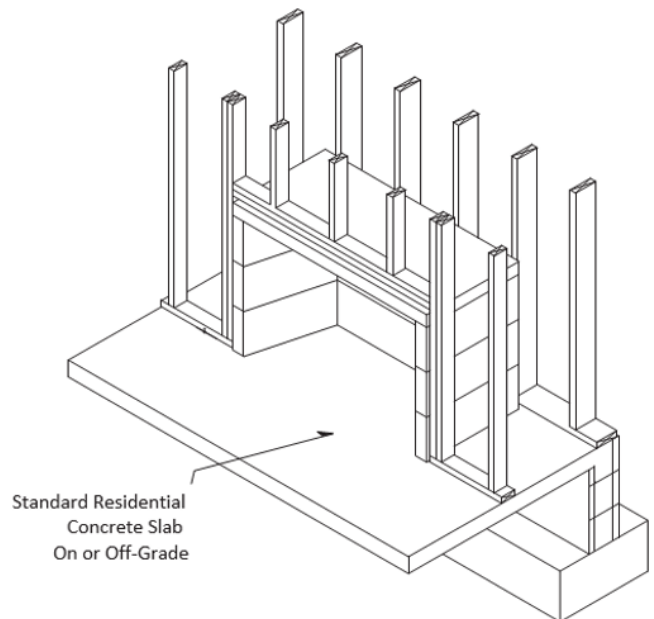
When calculating raised hearth height, be sure to allow for the three inch (3") thick base plate plus the one and one-half inch (1-1/2") thick fire brick floor in addition to the height of the concrete block platform. CMU used for base plate support should be rated ASTM 90.

**For a "flush hearth"** (firebox floor flush with the room's floor), the base plate can be omitted from the assembly, and the firebox walls can be built directly on the concrete support slab as long as there are no wood underpinnings. This makes the firebox finished fire brick floor approximately one and one-half inches (1-1/2") above the top of the concrete support slab. For installation directly on a combustible floor, the base plate must be used (**Figure 15**).

**FIGURE 14**



**FIGURE 15**





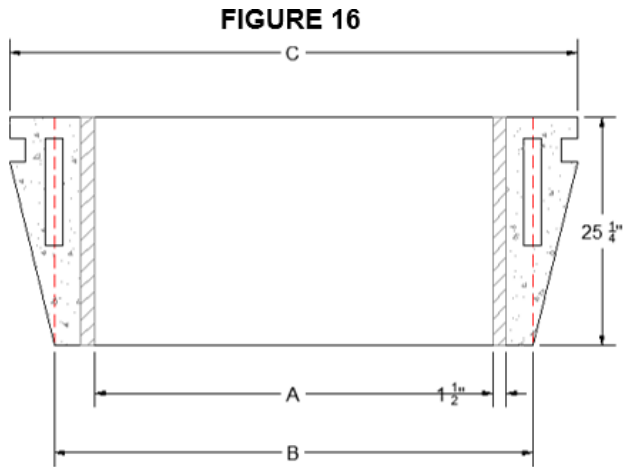
## See-Thru Application-Option

This model is constructed entirely from the standard open-front fireplace's components.

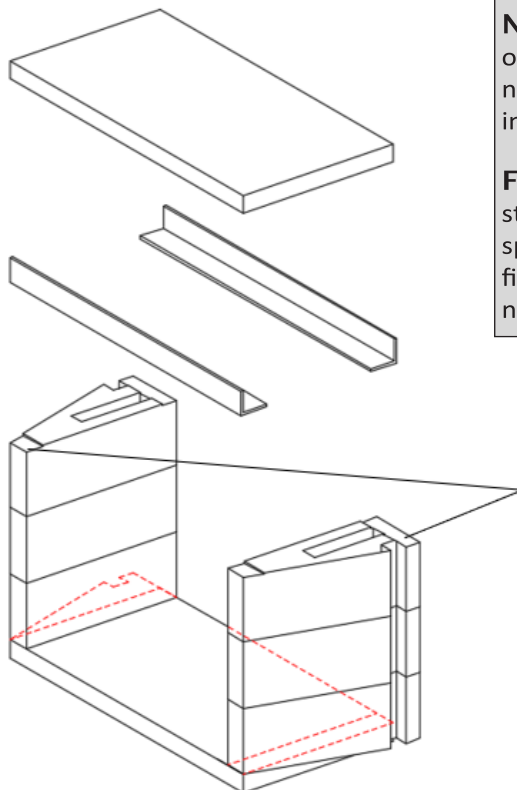
In this installation, the orientation of the sidewalls is reversed so that the flat side is oriented towards the interior of the firebox. The sidewall must sit 3" on the baseplate. The outside portion of sidewall tapers from the front to the rear. Approximately 5" of the sidewall will overhang from the baseplate as shown in (Figure 16 and 17). It is recommended that the overhanging material be supported by masonry.

**NOTE:** the opening dimensions of the firebox will be reduced to those as shown in (Figure 18).

**IMPORTANT:** If installing a See-Thru application, installer shall mark the appropriate model on the rating plate



**FIGURE 17**



**FIGURE 18**

See-Thru Models			
Model #	Finished Width "A"	Baseplate Width "B"	Overall Width "C"
81036ST	34	43	53
81042ST	39 1/2	48 1/2	58 1/2
81046ST	43 3/4	52 3/4	62 3/4
81060ST	64 1/2	73 1/2	83 1/2
81072ST	77	86	96

*Dimensions are nominal*

**NOTE:** Two pieces of steel angle iron with measurements of 3" x 3" x 1/4" cut to span firebox openings will be needed to assemble the firebox. These items are **NOT** included in the components and can be sourced locally.

**For Models 81060ST and 81072ST,** two pieces of steel angle iron with measurements 4" x 4" x 3/8" cut to span firebox openings will be needed to assemble the firebox. These items are **NOT** included in the components and can be sourced locally.

**NOTE:** Sidewall must be notched to accommodate  
3" x 3" x 1/4" or  
4" x 4" x 3/8" angle steel



## Firebrick Installation

The manufacturer requires for the Vent-Free fireboxes be lined with a minimum 1-1/8" thick firebrick. Thicker firebrick may be used as an option. The pattern for the firebrick lining is an owner option. The ISOSET Mortar by Earthcore is to be used when lining the Isokern Firebox.

### ISOSET FIREBRICK MORTAR APPLICATION:

- Add .75 quarts of water per 10 lbs. of dry product until completely blended.
- Only mix what can be utilized within 15 minutes.
- Do not retemper (the addition of water after the chemical reaction has begun).
- The use of warm water will accelerate setup.
- Joint thickness should be thin (1/4" - 3/8")

### INSTALLATION INSTRUCTIONS:

1. Wet mop the inside of the fireplace with a damp sponge to remove dust and loose particles from the interior before installing firebrick. Keep the fireplace damp while installing firebrick.

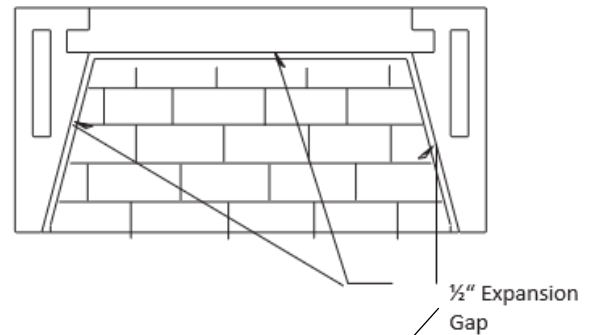
#### FOR BEST RESULTS:

- After wetting the sponged interior of firebox apply a 1/4" notch bed joint on rear sides and floor.
  - Dip each firebrick in container of water before applying mortar to one side for adherence to firebox.
2. Face joint dimensions of 1/4" - 3/8" in the brick work are recommended and have the best appearance. Other face joint dimensions are acceptable; however, smaller joints may not leave room for heat expansion of firebrick.
  3. Start the firebrick at the front edge of the floor of the Isokern firebox, proceeding inward toward the back. Let the floor brick gap approximately 1/2" off the back wall and side walls. This air space allows heat expansion of the firebrick and is to be left empty of mortar (**Figure 19**).
  4. Next, apply firebrick to the back wall of the unit. The back wall firebrick covers the 1/2" expansion gap left at the brick floor along the back wall of the firebox (**Figure 20**). Leave 1/2" expansion gap at the top and sides.
  5. Set the side wall firebrick by starting at the front edge of the unit's side wall and working inward toward the back wall firebrick. The side wall firebrick, when completed, covers the 1/2" expansion gaps where both the floor firebrick and the back wall firebrick were held off the units side walls (**Figure 21**). Leave 1/2" expansion gap at the top.

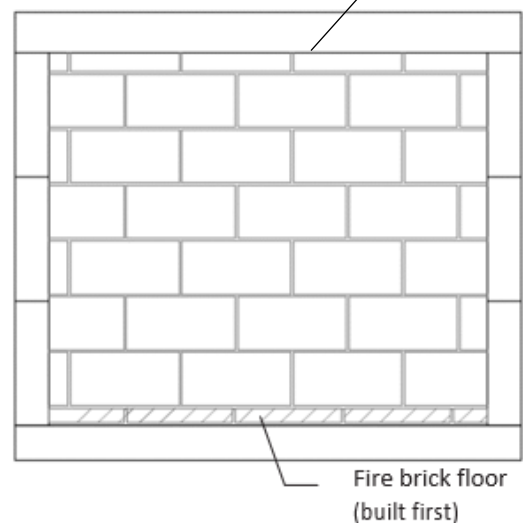
All required through-wall accesses (gas and air intake supply access holes) should be drilled before the required firebrick lining is installed. Do not cover these areas with firebrick

**Earthcore makes no claims as to the performance of firebrick or firebrick mortar. It is typical for heat stress cracks to appear in the firebrick in fireplaces.**

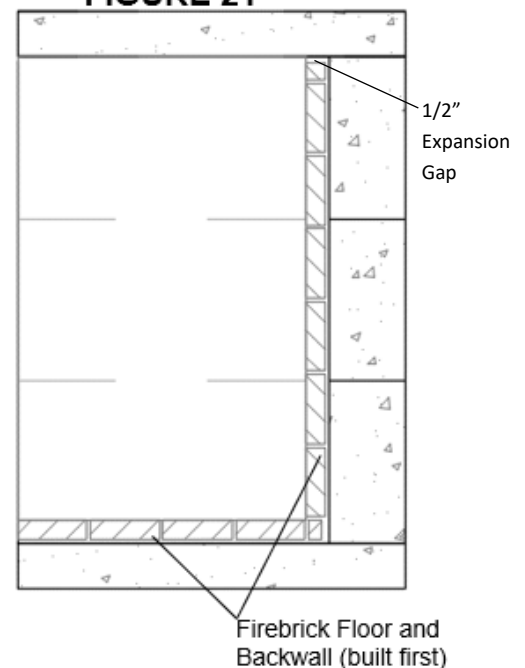
**FIGURE 19**



**FIGURE 20**



**FIGURE 21**



## Access Modification: Gas Line & Electrical Line Feed

### GAS LINE & ELECTRICAL LINE FEED

The provision for installation of a gas pipe is only for connection to a decorative gas appliance. The decorative gas appliance must comply with standard for Unvented Decorative Gas Appliances for installation in Vent-Free Fireboxes, ANSI Z21.11.2 2019. The unvented decorative gas appliance should be installed in accordance with the National Fuel Gas Code, ANSI Z223.1.

**IMPORTANT:** If a gas burning decorative appliance is installed, look for and only use an A.G.A. Certified Vent-Free Gas Log. Anytime a gas fired appliance is in use, it is recommended that a carbon monoxide detector be installed.

A gas line for gas log sets used in the Vent-Free Firebox can be routed through the side wall, back wall, or floor of the firebox by drilling an appropriately sized hole using a masonry drill bit (**Figure 22**).

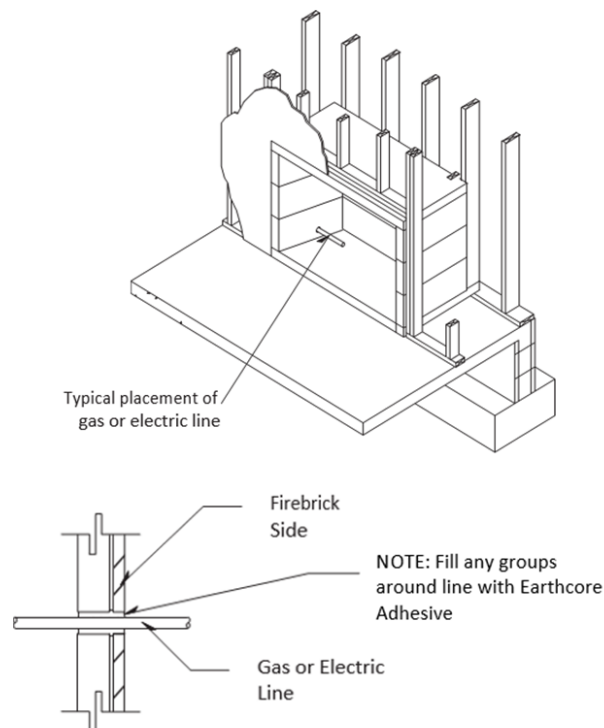
An electrical line feed can be routed through the firebox back wall, side walls, or floor by drilling an appropriately sized hole using a masonry drill bit.

Be sure to follow the Gas Log Appliance Manufacturer's explicit electrical line connection instructions for Vent-Free masonry fireplace installations.

**NOTE:** The gas line and electric line must be fed through separate access holes.

**IMPORTANT:** All access holes must be grouted with Earthcore Adhesive to seal any gaps or cracks.

**FIGURE 22**



## Clearance to Combustible Trim

The Vent-Free Firebox is designed to be custom finished with facing trim and mantel to be at owner option. However, all such trim material must meet standard fireplace code requirements: non-combustible facing material must be applied to a minimum of eight inches (8") beyond the sides of the finished opening of the Vent-Free Firebox and non-combustible facing material must cover a minimum of twelve inches (12") above the finished opening of the installed unit. (Reference IntertekTesting Services Report No. 13001A-764.)

Clearance to combustible trim are those distances required to ensure that combustible mantel and facing material will not be exposed to excessive heat while the unit is operating. These clearances should be adequate to prevent discoloration or warping of trim facings due to heat. However, circumstances unique to each installation create variables that may be beyond the scope of this manual. **Therefore, be sure to follow the gas log appliance manufacturer's explicit installation instructions regarding all minimum trim facing, mantel height, and side wall clearance requirements.**

### INTERIOR WALL MATERIALS

Wall materials, such as drywall, should be set flush with the rough front face of the Vent-Free Firebox. This will allow for placement of required noncombustible surround material in such a way that the surround material can lay flat against the finished wall surface and also align with the leading edge of the fire brick interior of the Vent-Free Firebox.

### TRIM FACINGS

Parts of the combustible mantel assembly located along the sides of the firebox opening, which project more than one and one-half inches (1-1/2") from the face of the firebox, shall be kept at least eight inches (8") from the firebox opening.

### ADJOINING ROOM WALLS

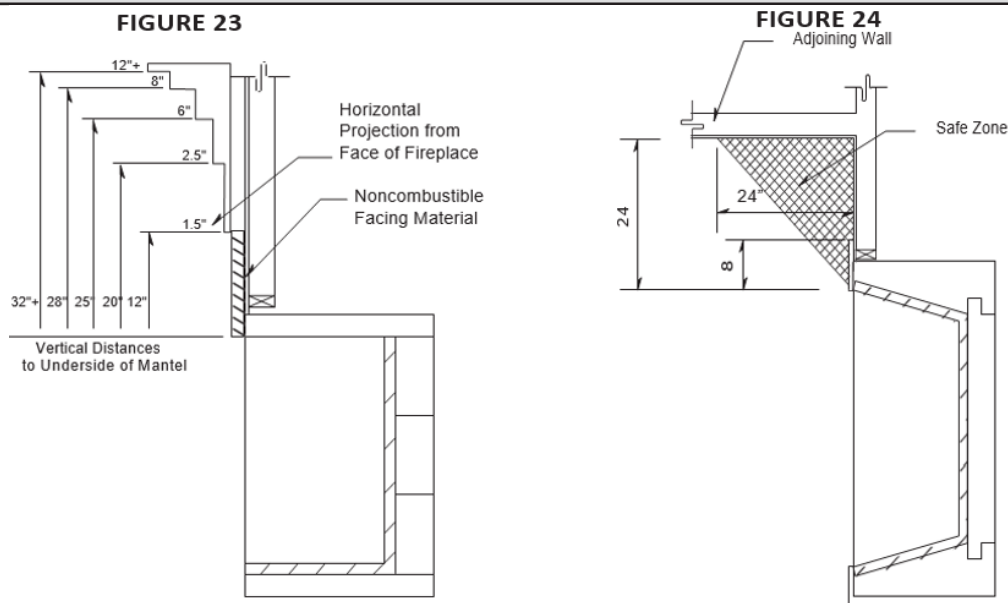
Interior wall surfaces of adjoining room walls must be at a minimum horizontal measure of twenty-four inches (24") away from the finished opening of the Vent-Free Firebox.

### MANTEL AND MANTEL SHELF CLEARANCE

Vent-Free Fireboxes are subject to the same building code safety clearances from the firebox opening as with any fireplace opening: Parts of the combustible mantel assembly located above and projecting more than one and one-half inches (1-1/2") inches from the firebox opening shall be kept at least twelve inches (12") from the top of the opening.

Mantel shelves with horizontal projection of twelve inches (12") from the face of the fireplace must be held to a minimum vertical distance of thirty inches (30") from the top of the finished fireplace opening.

**IMPORTANT: Mantel height clearances may vary among gas log appliance manufacturers. Be sure to follow the gas log appliance manufacturer's explicit installation instructions for mantel height clearance requirements.**



## Summary

### **1. Maintenance:**

The Vent-Free Firebox does not require any routine maintenance procedure. However, the owner must follow the gas log manufacturer's explicit instructions regarding burner limitations, burner adjustment, maintenance, and cleaning. All questions and concerns regarding the performance of gas log sets must be directed to the gas log appliance manufacturer or the appliance manufacturer's agent or supplier.

### **2. Dual Listed Appliance**

The Vent-Free Firebox is certified with the use of dual-listed unvented gas log heaters with a maximum output of 40,000 BTUs. Do not burn any other type of vented gas log, firewood, paper or refuse in the Vent-Free Firebox.

### **3. Fuel**

Do not introduce any type of fuel into the Vent-Free Firebox other than the LP or Natural Gas listed for use in the Vent-Free gas log appliance manufacturer's explicit installation instructions.

### **4. Electronic Equipment**

Do not place electronic equipment, such as television sets, DVD players, audio equipment, or computer equipment directly above the Vent-Free Firebox.

### **5. Structural Loads**

Do not bear structural members nor set structural loads on top of the Vent-Free Firebox, as it is designed to carry none other than its own dead weight.

**CAUTION:** Do not touch hot surfaces surrounding this unit while it is in operation. Keep infants, toddlers and children away from the Vent-Free Firebox while it is in operation. Do not leave children unattended while it is in use.

## Registration Card

Please tear out along line and send to:

Earthcore Industries  
Attn: Technical Department  
6899 Phillips Industrial Blvd  
Jacksonville, FL 32256

Dealer \_\_\_\_\_

Date of Purchase: \_\_\_\_\_ Date Of Installation: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Fireplace Model (Circle One):      81036              81042              81046              81060              81072  
   81036ST              81042ST              81046ST              81060ST              81072ST

Fuel Type (Circle One):      Natural Gas              Propane

Firebox Serial Number: \_\_\_\_\_  
(Located on Rating Plate Inside Firebox)

Buyer: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Installed By: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone No.: \_\_\_\_\_





## Warranty & Disclaimer

### **Isokern Vent-Free Gas Firebox**

Earthcore offers a lifetime warranty for all Isokern fireboxes, to be free from defects in materials that negatively affect system performance from the date of purchase, subject to the terms and conditions of this limited warranty.

This warranty covers only the above stated components, and NO WARRANTY, EXPRESS OR IMPLIED, EXTENDS TO ANY OF THE HARDWARE, FOOTING, FIRE BRICK OR ACCESSORIES.

Factors beyond the manufacturer's control affect fireplace smoking, and puffing, and Earthcore cannot guarantee these aspects of performance.

If a component is found to be defective under the terms of this warranty the party to whom this warranty is extended shall, notify Earthcore, 6899 Phillips Industrial Blvd, Jacksonville, Florida 32256, in writing, by registered mail, within thirty (30) days following the discovery of the defect within the lifetime warranty period. The notice shall contain (1) the date of purchase; (2) place of purchase; (3) address of installation; (4) name, address and phone number of the owner; and (5) a brief description of the defect.

Earthcore, or any division thereof, is not responsible for any labor costs or indirect costs incurred for the replacement of defective components.

Earthcore is not responsible for misuse or mishandling of components. Nothing in this warranty makes Earthcore, or any division thereof, liable in any respect for any injury or damage to the building or structure in which the fireplace has been installed or to persons or property therein arising out of the use, misuse, or installation of properly manufactured ISOKERN product.

EARTHCORE, OR ANY DIVISION THEREOF, SHALL NOT BE HELD LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR EXPENSES ARISING OUT OF THE USE OF THE FIREPLACES. ALL SUCH DAMAGES AND EXPENSES ARE HEREBY EXCLUDED.

This warranty is null and void when the fireplace is not installed pursuant to the installation instructions provided by Earthcore or local building codes have not been followed completely.

This warranty applies only to those fireplaces installed in the continental United States, Alaska, and Canada. If any part of this warranty is found to be unenforceable, the remaining parts shall remain in force and effect.

EARTHCORE HEREBY DISCLAIMS ALL GUARANTEES AND WARRANTIES, EXPRESS OR IMPLIED, BEYOND THE WARRANTIES SET FORTH HEREIN.

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