Isokern® MAGNUM® Fireplace

with Fire-Lite Application

and DM Chimney System

Installation, Operation, Maintenance and Owner's Manual

MAGNUM Models 28, 36, 42, 48, 60 & 72

A PRODUCT OF EARTHCORE INDUSTRIES, LLC.

Important: This manual contains assembly rules, installation steps, guidelines, use and maintenance instructions for the MAGNUM Series fireplace, DM 54 chimney system, and Fire-Lite Application with the FTF-13 Chimney System. 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 general contractor and the installer of this product to ensure that the instructions in this manual are followed exactly and, further that any allowed gas log appliance used in this product be installed in strict accordance with NFPA 58, NFPA 54/ANSI Z223.1 and the gas log manufacturer's explicit installation, sizing and operation instructions. It is the responsibility of the general contractor to provide adequate clearances from all firebox surfaces as specified in this manual.

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

Be Sure to Read Entire Manual Before Beginning Construction.
Contents of this manual may change without prior notification.

THIS FIREPLACE IS DESIGNED for USE with SOLID WOOD LOGS, PLUMBED PROPANE (LP) or NATURAL GAS (NG), ONLY

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

SBCCI NO. 9626
ICC Report NO. ESR-2316
IBC 2006, IRC 2006, IMC 2006

NYC-MEA 241-90-E
LA RR NO. 25483
Issued:December, 2009
Revision: 003

INTERTEK TESTING SERVICES REPORT NO. 3159656MID-008

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General Information

The MAGNUM fireplace and DM 54 chimney system is a prefabricated, refractory modular fireplace and chimney system designed for field assembly. The system consists of interlocking precast parts which are glued together with a masonry adhesive.

The parts of the MAGNUM fireplace and DM 54 chimney system are precast using a proprietary mixture of volcanic pumice aggregate and cement. It includes all the parts necessary for assembly of a complete firebox, smoke dome and chimney system.

Each MAGNUM precast fireplace component is designed for a specific part of the fireplace such that only one means for assembly is possible.

The firebox and smoke dome are designed to be fitted with a traditional cast iron, poker-style throat damper. However, chimney top dampers are an option.

The MAGNUM fireplace requires a standard refractory fire brick liner be applied to the interior of the firebox. Fire brick must be a minimum thickness of one and one-eighth inch (1-1/8”).

The MAGNUM fireplace is available in six sizes: twenty-eight inch (28”), thirty-six inch (36”), forty-two inch (42”), forty-eight inch (48”), sixty inch (60”) and seventy-two inch (72”).

All units have a thirty-eight inch (38”) rough opening height before fire brick. The only parts which differ among the available sizes are width related pieces: the base plate, firebox back wall, front and back smoke dome components, and the smoke dome top plate. All units use the same side wall pieces.

The DM 54 chimney system is a dual module refractory chimney system. The basic chimney consists of an outer casing block and an inner liner with a fourteen inch (14”) diameter flue hole. The chimney components are field assembled using Earthcore Mortar to glue the components together.

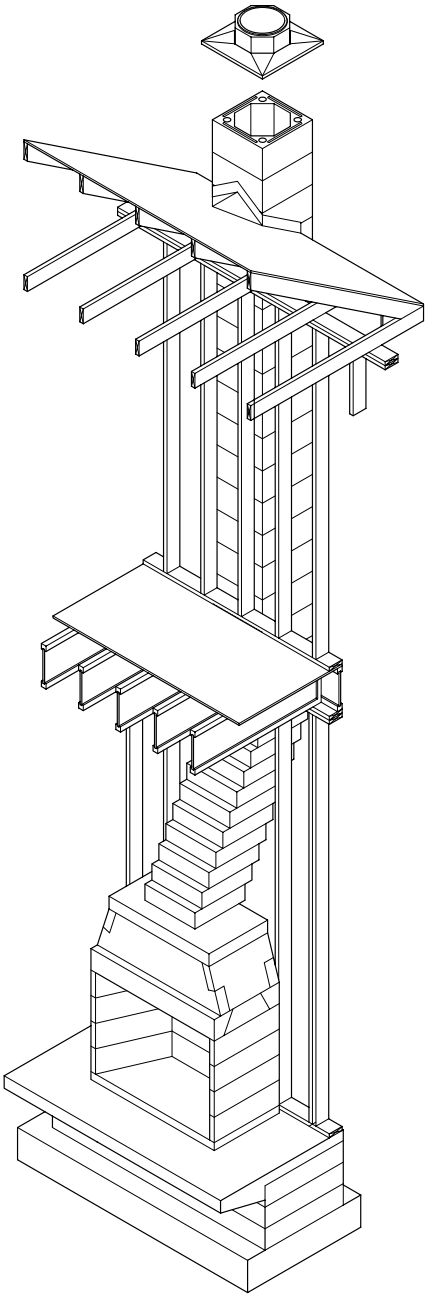
The DM 54 chimney system also includes an offset chimney block component, used to create offsets to the vertical run of the chimney. A brickledge component is available, designed to support chimney top brick veneer finishes. Prefabricated masonry chimney termination caps are also available.

The various MAGNUM fireplace and DM 54 chimney components will be described and illustrated in the following pages. Close attention should be paid to each component group’s specifications and installation requirements as described in this manual.

Important: Due to heat and weight issues, the MAGNUM Series fireplace and DM 54 chimney system installations require that the system be built upon a non-combustible concrete slab with no wood underpinnings supported to footings with concrete or steel and designed to carry the total weight of the Isokern fireplace and chimney system.

The Fire-Lite application of the MAGNUM Series fireplace is designed to be built upon a combustible floor system and will also require a design that will support the total weight of the Isokern fireplace and chimney system. The FTF-13 or equivalent chimney system only must be used with the Fire-Lite application. Please refer to pages 56-81 for installation instructions.

Recommended minimum overall height for the MAGNUM Series and **DM 54 chimney system** for an indoor application are 18’-0” when the chimney is straight and 21’-0” when a chimney is offset. Maximum overall height is 82’ - 0”, however, installations over 57’ - 0” will require additional support.



Intended Use Statement

Intended Product Use Statement:

The MAGNUM fireplace and DM 54 chimney systems are intended to burn solid wood fuel, propane or natural gas.

Note:

Installation of a gas pipe must comply with the Standard for Decorative Gas Appliances for Installation in Vented Fireplaces, ANSI Z21.60.

This fireplace is not designed to sit directly on a combustible floor system. The Fire-Lite application listed in the back section of this manual is designed to sit on a combustible floor. See pages 50-68 for specific installation requirements.

This fireplace is intended for use as a supplemental heat source only and is not intended for heavy use as a primary heating system.

Overfiring, abusive burning or mistreatment will void any claims (eg. burning construction debris or other highly flammable material; tossing, kicking or otherwise forcing logs into the firebox).

MAGNUM fireplace and DM 54 chimney systems are conventional indoor or outdoor fireplaces designed to appear like traditional masonry fireplaces. MAGNUM fireplace and DM 54 chimney system units are intended for installation in residential homes and other buildings of conventional construction.

Note: The local authority having code jurisdiction should be consulted before installation to determine the need to obtain a permit.

Important areas of concern with the installation of these fireplaces are: construction of proper load bearing foundation and concrete support slab; code required hearth extension substrates and supports; proper assembly of components; clearance to combustible materials; height of chimney; and, techniques employed in applying finishing materials to the fireplace opening and hearth extension.

Each of these important topics will be covered in detail throughout this manual. Installation personnel must give special attention to each topic as the installation progresses.

All work performed on, near and adjoining the fireplace and chimney installation must meet or exceed the specifications and requirements in this manual and the prevailing local building code.

Subsequent renovations, additions of cabinets and storage spaces in the enclosure surrounding the fireplace are also limited to the specifications in this manual and to the prevailing local building code.

Isokern is not responsible for other construction work around the fireplace unit.

WARNING:

This fireplace has not been tested for use with glass doors. To reduce the risk of fire or injury, do not install glass doors.

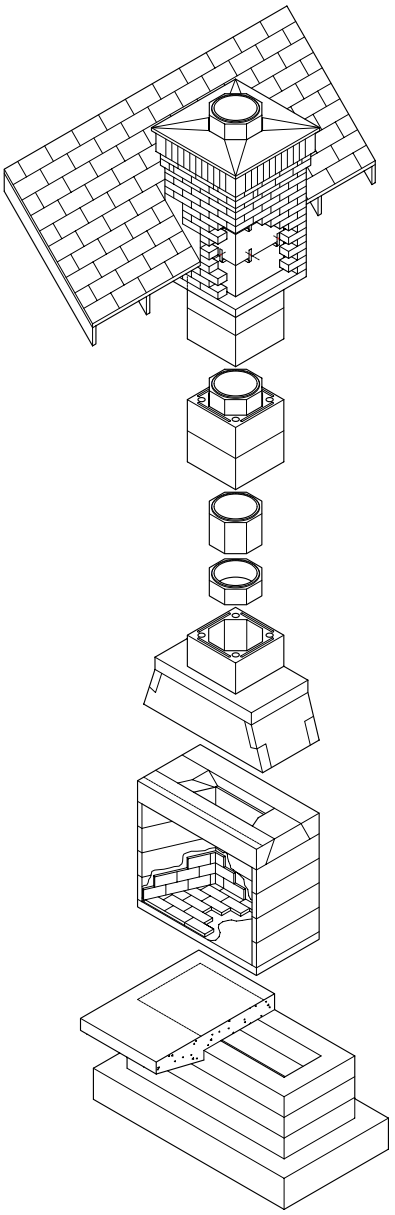
Some jurisdictions require the use of glass doors. If glass doors are used, operate fireplace with doors in the fully open position.

Note: Do not scale drawings. Illustrations in this manual are not to scale and are intended to show "typical" installations.

Nominal dimensions are given for design and framing reference only, since actual installations may vary due to job specific design preferences. Always maintain the stated minimum clearances to combustible materials. Do not violate any specific installation requirements.

The MAGNUM fireplace and DM 54 chimney system is tested and listed by Warnock Hersey (Intertek Testing Service) - Report No. 3159656MID-008 and Report No. 315653MID-006 - to UL 127, and UL 103HT - 2006.

MAGNUM fireplace systems are also designed for installation in accordance with the National Fire Protection Association Standard for chimneys, fireplaces, vents and Solid Fuel-Burning Appliances (NFPA 211). MAGNUM fireplaces are not listed for use with fireplace inserts.



Safety Instructions

1. Before starting the MAGNUM fireplace and DM 54 chimney installation, read these installation instructions carefully to be sure you understand them completely. Failure to follow them could cause fireplace malfunction resulting in serious injury or property damage.

2. Always check local building codes governing fireplaces and fireplace installations. The MAGNUM fireplace and DM chimney installation must comply with all local, regional, state and national codes and regulations.

3. MAGNUM fireplace and DM 54 chimney systems are intended for use in any application where a traditional masonry type fireplace would apply. The chimney system must always vent vertically to the outside of the building.

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

Because of creosote and soot buildup it is necessary to inspect and clean the fireplace and chimney prior to use and periodically during the heating season. Cleaning of the fireplace and the chimney system should be done annually at a minimum. In colder climates, chimney cleaning may need to be done periodically throughout the heating season.

5. Before servicing, allow the fireplace to cool. Always shut off any electricity or gas to the fireplace while working on it.

6. Use only solid fuel or natural or LP gas log sets in this unit. Do not use artificial wax based logs, chemical chimney cleaners or flame colorants in this fireplace.

7. Never use gasoline, kerosene, gasoline-type lantern fuel, charcoal lighter fluid, or similar liquids to start or “freshen up” a fire in this fireplace. Keep all flammable liquids at a safe distance from the fireplace.

8. Always keep the flue damper open when heat is present in the fireplace.

9. Do not use a fireplace insert or any other product not specified for use with the MAGNUM fireplace and DM 54 chimney systems unless written authorization is given by Isokern. Failure to heed this warning may cause a fire hazard and will void the Isokern warranty.

10. This fireplace is not intended to heat an entire home or to be used as a primary heat source. It is designed to ensure homeowner comfort by providing supplemental heat to the room.

11. Always ensure that an adequate supply of replacement combustion air from the outside of the house is accessible to the fire to support normal combustion. Fireplaces consume large volumes of air during the normal firing process.

In the event the home is tightly sealed and has modern energy efficient features, the optional combustion air supply kits may not provide all the air required to support combustion and the proper flow of combustion gases up the chimney.

The manufacturer is not responsible for any smoking or related problems that may result from the lack of adequate air supply flowing into the house. It is the responsibility of the builder/contractor to ensure that adequate air supply has been provided for the fireplace.

12. “Smoke free” operation is not warranted nor is the manufacturer responsible for inadequate system draft caused by mechanical systems, general construction conditions, inadequate chimney heights, adverse wind conditions or any unusual environmental conditions or factors beyond the manufacturer’s control.

Caution: When used with the MAGNUM fireplace system, all gas log sets must be operated with the damper clamped in the fully open position. This includes unlisted “vent free” log sets. Only listed “vent free” log sets may be operated with the damper in the closed position.

13. When in doubt about a component’s usability - has visible or suspected physical damage - consult your Isokern distributor or authorized Isokern representative for advice.

Safety Instructions - (cont.)

14. Modification to MAGNUM components not mentioned in this manual may void claims, listings and approvals and could result in an unsafe and potentially dangerous installation.

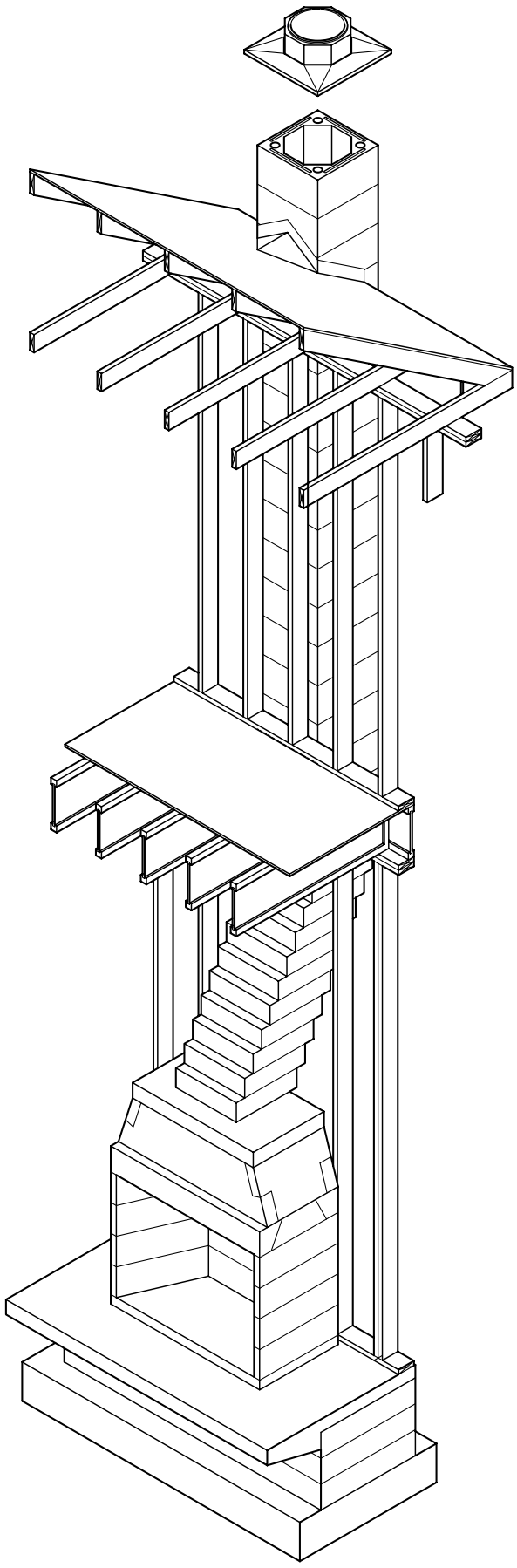
Alterations to the MAGNUM firebox are allowed with prior written approval and instructions from Earthcore Industries, LLC. The installer indemnifies the manufacturer of all claims and under no circumstances will manufacturer be liable for consequential, incidental, indirect, punitive or other damages of any kind or nature, whether foreseeable or not, based on any claim by any party as to the modifications of the Isokern fireplaces.

15. Wherever insulation is used, the MAGNUM fireplace must not be placed directly against it. Keep all insulation or vapor barriers a minimum of three inches (3") away from all fireplace and chimney components.
It is recommended that insulation and vapor barriers, if used, first be covered with gypsum board, plywood, particle board or other material to assure that insulation and vapor barriers remain in place.

WARNING Do not pack required air spaces with insulation or other materials.

16. Never leave children unattended when there is a fire burning in the fireplace.

17. Burning some fuels (such as charcoal) can be hazardous due to the possibility of producing carbon monoxide, a colorless, odorless gas. Early signs of carbon monoxide poisoning resemble flu symptoms, including headaches, dizziness or nausea. Over exposure to carbon monoxide can lead to illness and death. It is strongly recommended to install smoke and carbon monoxide alarm / detector devices wherever fireplaces are in use.



Warnock Hersey Listing Label
- Facsimile -

W/N 04897
DO NOT REMOVE OR COVER THIS LABEL

MODULAR REFRACTORY FIREPLACE

MAGNUM: ☐ 28" ☐ 36" ☐ 42" ☐ 48" ☐ 60" ☐ 72"

COMPLIES WITH APPLICABLE REQ. OF UL 127, ULC S610

WH-

ISOKERN®

☐ MADE IN USA
☐ MADE IN DENMARK

EARTHCORE INDUSTRIES, LLC.
JACKSONVILLE, FL 32256

CLEARANCE TO COMBUSTIBLES:	**28", 36", 42", 48"**	**60" & 72"**
UNIT FRONT AND ISOKERN CHIMNEY	= 0 in.	= 0 in.
UNIT SIDES AND REAR	= 1.5 in. (38mm)	= 1.5 in. (38 mm)
COMBUSTIBLE SHEATHING ABOVE OPENING TOP	= 8 in. (203mm)	= 24 in. (610 mm)
SHEATHING OR TRIM TO OPENING SIDES	= 8 in. (203mm)	= 9 in. (229 mm)
MANTLE ABOVE OPENING	= 14 in. (356mm)	= 38 in. (965 mm)
OPENING TO SIDEWALL	= 26 in. (660mm)	= 48 in. (1219 mm)
HEARTH EXTENTION BEYOND FRONT	= 20 in. (508mm)	= 33 in. (838 mm)
HEARTH EXTENTION BEYOND SIDES	= 12 in. (305mm)	= 12 in. (305 mm)
COMBUSTIBLE FLOOR	= 4 in. (102mm)	= N/A N/A
INSULATION FROM FIREBOX	= 3 in. (76mm)	= 3 in. (76 mm)

USE SOLID WOOD FUEL OR LISTED DECORATIVE GAS VENTED OR UNVENTED APPLIANCE. ALSO FOR USE WITH LISTED METAL CHIMNEY.
FIRE-LITE APPLICATION TO USE FTF13 OR EQUIVALENT CHIMNEY ONLY.

DO NOT USE A FIREPLACE INSERT OR OTHER PRODUCTS NOT SPECIFIED FOR USE WITH THIS PRODUCT. "WARNING" THIS FIREPLACE HAS NOT BEEN TESTED FOR USE WITH GLASS DOORS. TO REDUCE THE RISK OF FIRE OR INJURY, DO NOT INSTALL GLASS DOORS. IF DOORS ARE USED, OPERATE FIREPLACE WITH DOORS FULLY OPEN. WHEN BURNING A DECORATIVE GAS APPLIANCE IN THE FIREPLACE, LOCK THE DAMPER TO THE FULLY OPEN POSITION. ONLY UNVENTED GAS LOG SETS WHICH HAVE BEEN FOUND TO COMPLY WITH THE STANDARD FOR UNVENTED ROOM HEATERS, ANSI/IAS/AGA Z21.11.2, ARE TO BE INSTALLED IN THIS FIREPLACE. DO NOT OPERATE AN UNVENTED GAS LOG SET IN THIS FIREPLACE WITH THE CHIMNEY REMOVED.

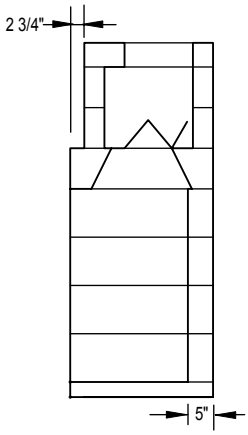
SEE INSTALLATION AND OPERATING INSTRUCTIONS FOR THIS MODEL AND ICC # ESR-2316, LA.RR # 25483, MEA #2490E.
ONLY UNVENTED GAS LOG SETS WHICH HAVE BEEN FOUND TO COMPLY WITH THE STANDARD FOR UNVENTED ROOM HEATERS, ANSI/IAS/AGA Z21.11.2, ARE TO BE INSTALLED IN THIS FIREPLACE

CONTACT BUILDING OFFICIAL PRIOR TO INSTALLATION

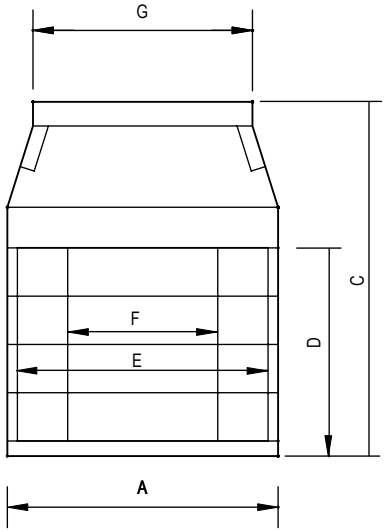
FIGURE 1

Isokern Fireplace and Chimney Systems are tested and listed to UL standards: UL 127, ULC S610, and UL 103HT.
The listing label shown in Figure 1 above outlines the listed clearances to combustibles and indicates that the units are suitable for use with solid fuel or listed gas appliances. Refer to the manufacturer's installation manual for detailed description of clearances to combustibles and all other installation information.
A metal listing label similar to that shown above is affixed to each MAGNUM Series fireplace.
Do not remove the listing label from the MAGNUM Series fireplace.
Prior to beginning installation, contact your local building official to determine the need to obtain a permit.

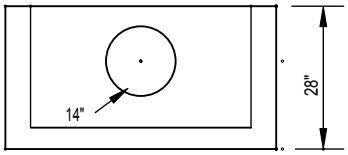
Assembled Firebox & Smoke Dome Dimensions 28, 36, 42 & 48



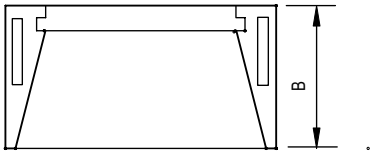
SIDE VIEW



FRONT VIEW



TOP PLAN VIEW

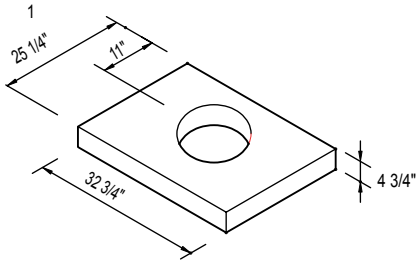


PLAN SECTION A-A

MODEL	"A"	"B"	"C"	"D"	"E"	"F"	"G"	MINIMUM FRAMING:	WEIGHT
28"	35 1/2"	28"	69 3/4"	41"	31"	19 3/4"	22 1/4"	39"W x 71"H x 31"D	1040 lbs
36"	43"	28"	69 3/4"	41"	38 3/8"	27 1/4"	33"	46"W x 71"H x 31"D	1300 lbs
42"	49"	28"	69 3/4"	41"	44 1/2"	33 1/4""	33"	52"W x 71"H x 31"D	1420 lbs
48"	53"	28"	69 3/4"	41"	48 1/2"	37 1/4"	43"	56"W x 71"H x 31"D	1600 lbs

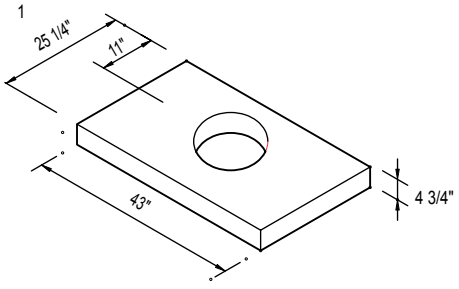
Firebox & Smoke Dome Components List

PART NO.:	FIREPLACE SIZE:	QUANTITY:
M77	36"W	1
M77	42"W	1



TOP PLATE, SMALL

PART NO.:	FIREPLACE SIZE:	QUANTITY:
M81	48"W	1

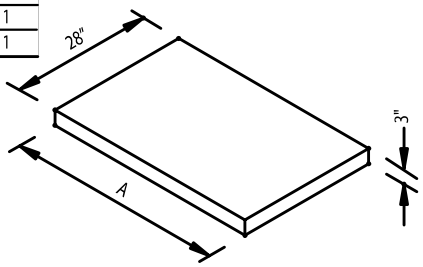


TOP PLATE, LARGE

Component List & Dimensions 28, 36, 42 & 48

BASE PLATE

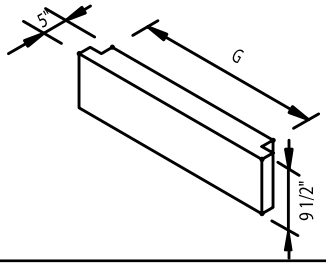
PART NO.:	MODEL	SIZE A	QTY:
M91	28	Cut to 35 1/2″	1
M91	36	43″	1
M92	42	49″	1
M93	48	53″	1

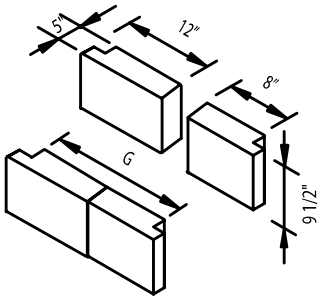


BACKWALLS

PART NO.:	MODEL	SIZE G	QTY:
M91	28	Cut to 20″ *	1
M91	36	43″	1
M92	42	49″	1
M93	48	53″	1

* Cut as shown at right, mortar pieces together and stagger joints when stacking for installation





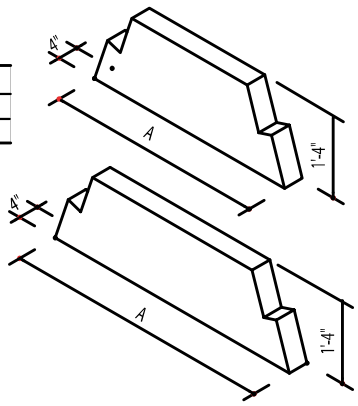
MODEL 28 ONLY

SMOKE DOME SMALL and MEDIUM

PART NO.:	MODEL	SIZE A	QTY:
12	28	32 1/2″	2
11	36	43″	2
11	42	43″	2

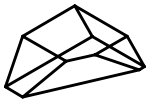
SMOKE DOME LARGE

PART NO.:	MODEL	SIZE A	QTY:
13	48	53″	2



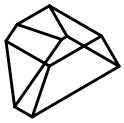
DAMPER SUPPORT-LEFT

PART NO.:	MODEL	QTY:
M64L	28	2
M64L	36	2
M64L	42	2
M64L	48	2



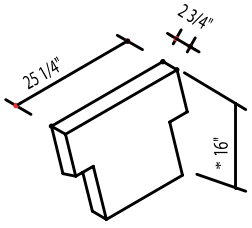
DAMPER SUPPORT-RIGHT

PART NO.:	MODEL	QTY:
M64R	28	2
M64R	36	2
M64R	42	2
M64R	48	2



TOP SLOPING

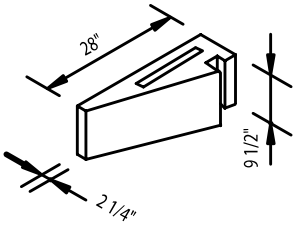
PART NO.:	MODEL	QTY:
34	28	2
34	36	2
34	42	2
34	48	2



* True height when installed

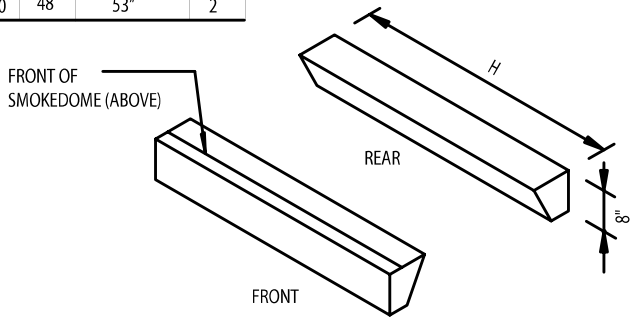
TOP SLOPING

PART NO.:	MODEL	QTY:
M60	28	8
M60	36	8
M60	42	8
M60	48	8

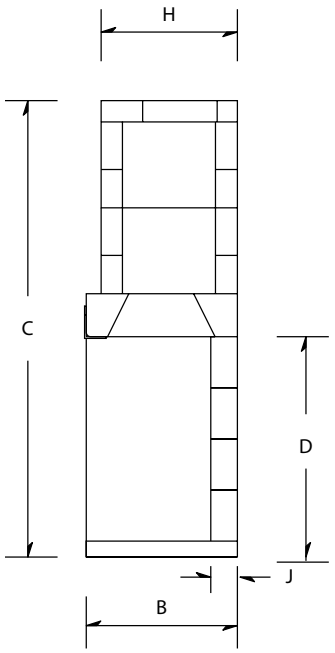


DAMPER SUPPORT BEAMS (FRONT and REAR)

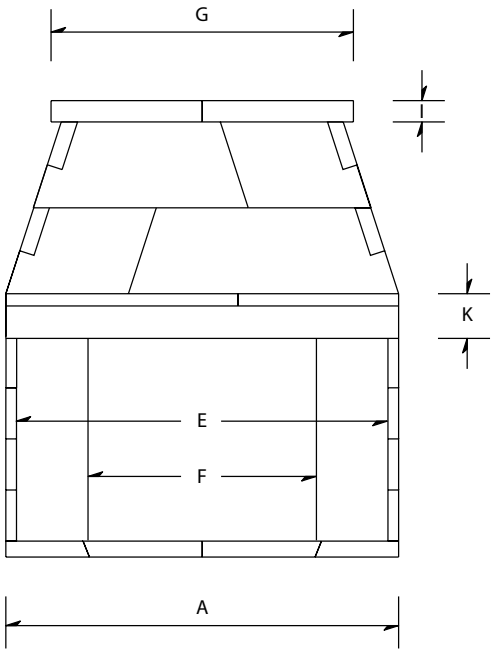
PART NO.:	MODEL	SIZE H	QTY:
M68	28	Cut to 35 1/2″	2
M68	36	43″	2
M69	42	49″	2
M70	48	53″	2



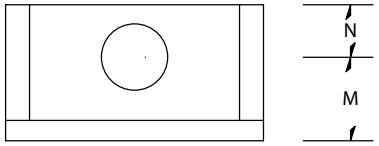
Assembled Firebox Dimensions - Models 60 & 72



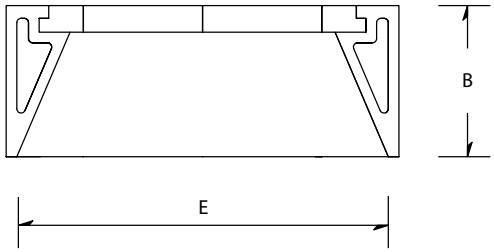
Right Section



Front Elevation



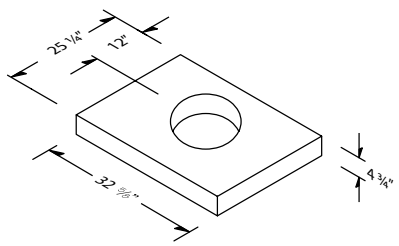
Top Plan View



Plan Section

Model	A	B	C	D	E	F	G	H	I	J	K	M	N	Minimum Framing	Weight
60″	72 5/8″	28″	85 3/4″	41″	64 3/4″	49″	55 5/8″	25 1/4″	4 3/4″	5″	8″	16″	12″	76″W x 86″H x 29½″D	2400 lbs.
72″	85 7/8″	28″	85 3/4 ″	41″	81 7/8 ″	62 1/4″	65 3/8″	25 1/4″	4 3/4″	5″	8″	16″	12″	89″W x 86″H x 29½″D	2800 lbs.

Part No.:	Fireplace Size:	Quantity:
M77	60″W	2
M77	72″W	2

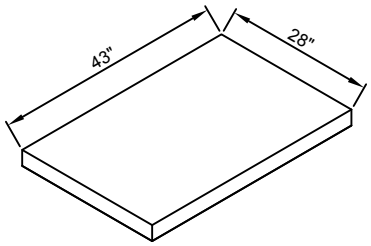


TOP PLATE 72

Component List & Dimensions 60 & 72

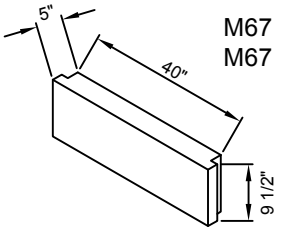
Base Plate

Part No:	Fireplace Size:	Quantity:
M91	60	2
M91	72	2



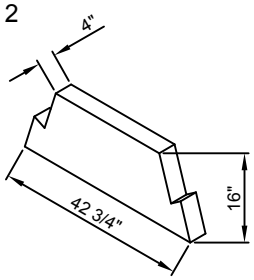
Backwall

Part No:	Fireplace Size:	Quantity:
M67	60	8
M67	72	8



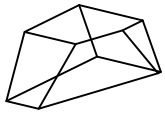
Top Medium

Part No:	Fireplace Size:	Quantity:
11	60	2
11	72	2



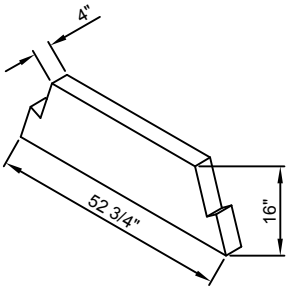
Damper Support (Left)

Part No:	Fireplace Size:	Quantity:
M64L	60	1
M64L	72	1



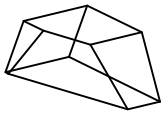
Top Large

Part No:	Fireplace Size:	Quantity:
13	60	6
13	72	6



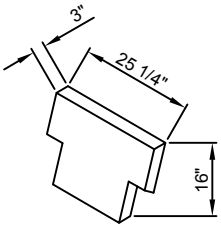
Damper Support (Right)

Part No:	Fireplace Size:	Quantity:
M64R	60	1
M64R	72	1



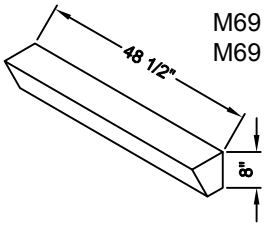
Top Sloping

Part No:	Fireplace Size:	Quantity:
34	60	4
34	72	4



Damper Front & Back

Part No:	Fireplace Size:	Quantity:
M69	60	4
M69	72	4



Isokern reserves the right to make changes at any time, without notice in design, materials, specifications and also to discontinue styles and products. Please call 1-800-642-2920 for an Isokern dealer near you.

Required Clearance to Combustibles

The MAGNUM Series fireplace and DM 54 chimney system is tested and listed for installation with "clearance to combustibles" as follows:

The MAGNUM Series firebox side walls and back wall require 1-1/2" clearance. (Figure 3)

The smoke dome front wall requires 0" clearance.

All DM 44 and 54 chimney components require 0" clearance. (Figure 2).

Note: "Combustibles" are defined as "normal construction materials" and are considered to be: wood framing materials, particle board, mill board, plywood sub-flooring, plywood paneling and wood flooring.

Sheathing materials, such as plywood, particle board and drywall may cover the smoke dome front at 0" clearance.
All combustible sheathing materials that protrude beyond front of firebox must be held 8" away from the sides of the firebox opening and 8" above the top of the firebox opening. Drywall must be cut 2" back from the firebox opening sides and 8" above the top of the opening.

WARNING: Maintain a minimum of 3" clearance to insulation and vapor barriers. (Figure 75)

Notes:

A. The MAGNUM Series fireplace is rated for installation on a combustible floor system when using the Fire-Lite application only. See pages 60-69 for Fire-Lite installation instructions.

The Magnum Series fireplace must sit upon a concrete support slab designed to bear the total installed weight of the fireplace and DM 54 chimney system. (See Figure 2 for additional details). These support slabs can have no wood underpinnings. (Figure 3)

B. Concrete support slabs for MAGNUM Series fireplaces must provide the noncombustible hearth extension substrate needed to support the code required noncombustible hearth extension finish materials. (Figures 2 and 3)

C. All MAGNUM Series fireplaces shall have hearth extensions of approved noncombustible material such as brick, tile, or stone that is properly supported and with no combustible material against the underside thereof. Wooden forms used during the construction of hearths and hearth extensions shall be removed when the construction is complete.

D. If a raised fireplace floor and raised hearth extension are preferred, the raised underlying structure must be built of noncombustible material and must sit on noncombustible substrate.

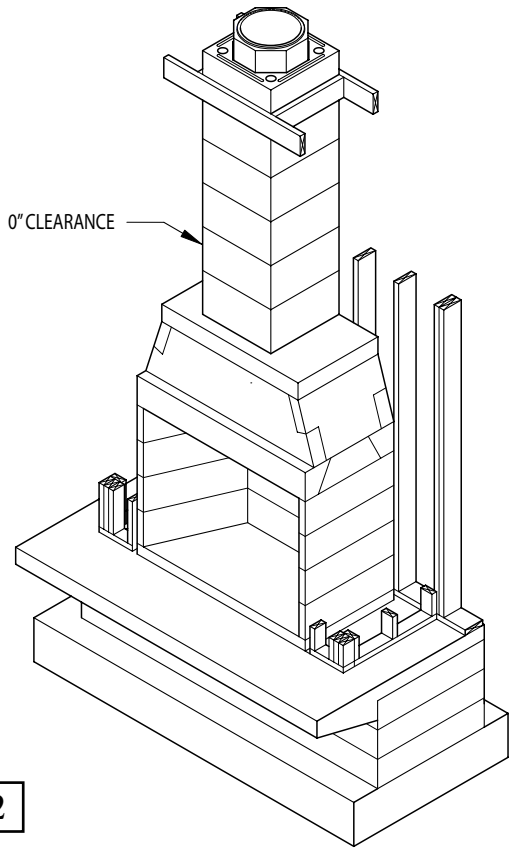


FIGURE 2

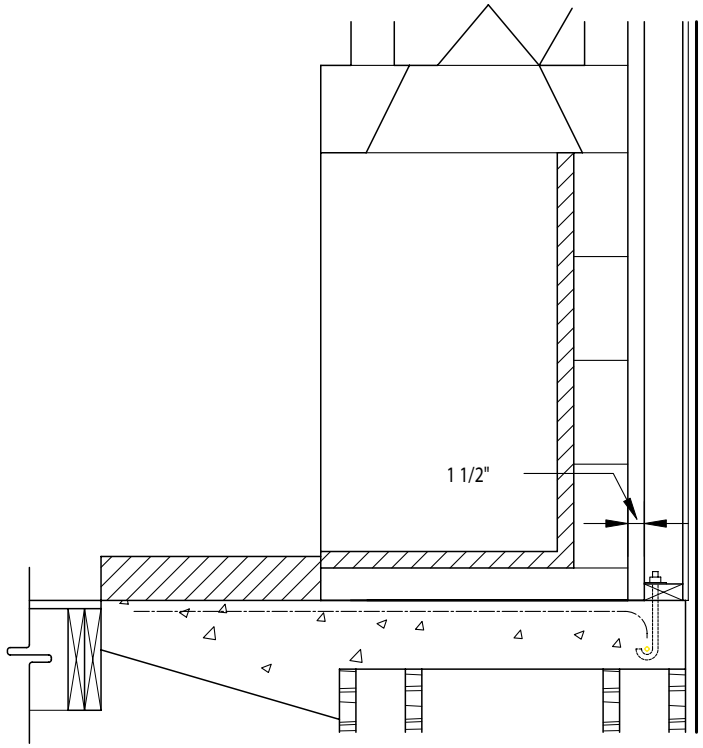


FIGURE 3

Rough Framing Dimensions

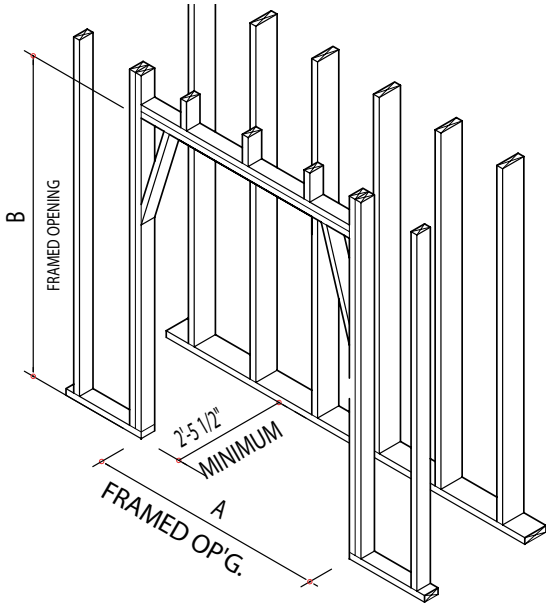


FIGURE 4

Rough Framing Dimensions

Model	Width A	Height B	Depth C
Model 28	38 1/2”	71”	29.5”
Model 36	46”	71”	29.5”
Model 42	52”	71”	29.5”
Model 48	56”	71”	29.5”
Model 60	78”	87”	29.5”
Model 72	89”	87”	29.5”

Notes:

A. “B” includes the MAGNUM 3” thick base plate. “B” is reduced by 3” if the base plate is eliminated to create a “flush hearth”.

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

C. Rough framing dimension for width “A” allows for the required 1-1/2” clearance at the sides of the MAGNUM fireplace.

D. Rough framing dimension for depth “C” allows for the required 1-1/2” clearance at the back of the MAGNUM fireplace.

Corner Location Layout

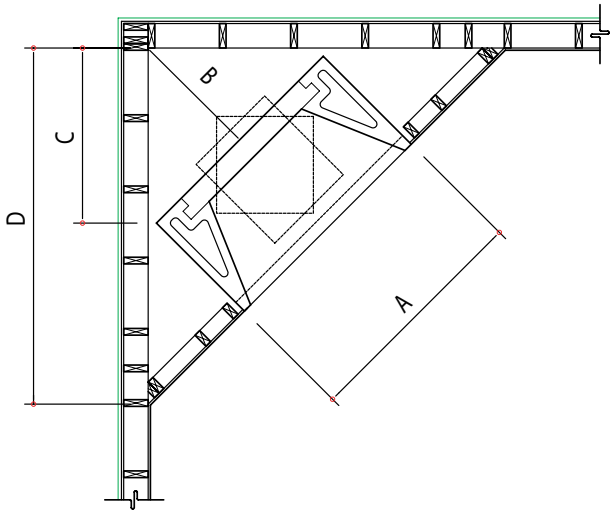


FIGURE 5

The following chart of dimensions is intended to aid in the positioning of an MAGNUM fireplace in a corner condition
where the DM 54 chimney must turn 45° degrees to align with overhead framing.

Firebox	A	B	C	D
Model 28	33 1/2”	18 1/4”	24”	65 1/2”
Model 36	43”	16 3/4”	32”	78 3/4”
Model 42	49”	26 1/2”	36”	83”
Model 48	53”	28 1/2”	39”	85 3/4”
Model 60	73 1/2”	39”	53 1/2”	102 1/2”
Model 72	85 1/2”	45”	62”	111”

To turn flue 45°, first set one offset block on the firebox so that the chimney offsets 3” toward the back of the firebox. (Figure 5)

Set a DM 54 outer casing onto this offset block so that the outer casing is at 45° to the firebox and square to the overhead framing system. Run the vertical DM 54 chimney through the overhead framing.

More offset blocks can be used - if necessary to align with overhead framing - before running the vertical DM 54 chimney outer casing and liner.

Note: Support the third offset down to footings and at each third offset block thereafter (see page 47).

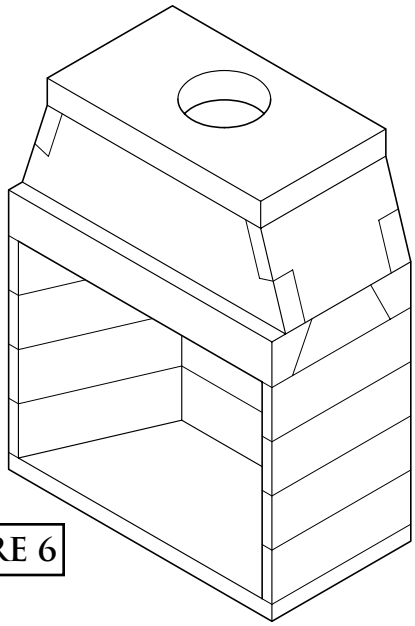


FIGURE 6

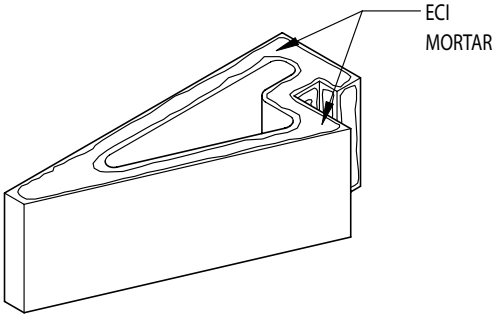


FIGURE 7

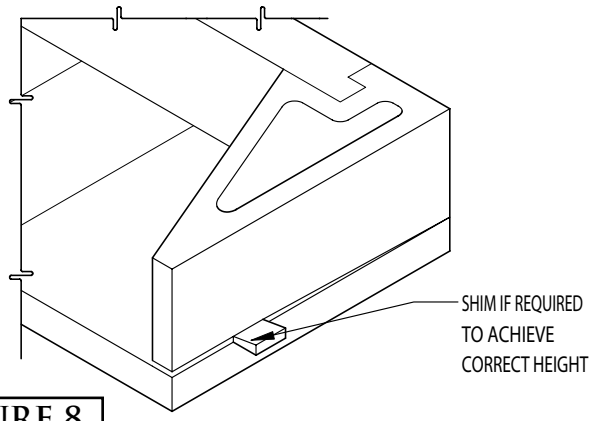


FIGURE 8

General Isokern Assembly Instructions:

Earthcore Mortar (a thin-set type masonry adhesive) is used to glue all Isokern components together during field assembly of the unit. The mortar is supplied dry, in either 15 pound or 50 pound pails.

Earthcore mortar is mixed 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 mortar mixture is not too thin or runny, as this will not allow the mortar to reach its maximum bonding strength.

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

It is important that a 1/2" bead of mortar on all the components' contact surfaces is applied at about 1/2" in from all edges of the contact surface of the component. (Figure 7)

When setting the next component onto the mortared contact surface of the first component, some mortar 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 Mortar to the area to assure proper sealing of the joint.

Properly mortared firebox and smoke dome assembly requires approximately 5 gallons (dry measure) of Earthcore mortar.

Broken Components:

Components broken into 2 or 3 pieces can be repaired by using Earthcore mortar along the break line as the component is set into place. Components broken into multiple small pieces should be discarded and replaced.

Leveling and Aligning Components:

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

Earthcore mortar is not intended to create a mortar joint of any thickness for leveling purposes. Therefore, leveling and alignment adjustments are made by the use of small plastic shims supplied with the unit. (Figure 8)

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.

Notes:

1. Do not mix Earthcore mortar with spirits or anti-freeze agents.
2. The maximum recommended mortar joint thickness at Isokern components is 1/4".

3. Earthcore mortar can be troweled over the face of a joint where it has squeezed out while setting components. It is not intended that the exposed faces of the Isokern components be completely covered with the mortar.

Installation:
Step 1: Set the MAGNUM base plate in a full bed of Earthcore Mortar flat on a proper concrete support foundation. (Figure 9). Do not set the MAGNUM base plate so that it is in span. Level the MAGNUM base plate by floating it in a bed of Earthcore Mortar to full bearing against the underlying noncombustible support surface.

Notes: If the design preference is for a "flush hearth" (fireplace floor flush with the room's floor), the base plate can be omitted from the assembly and the firebox walls built directly on the concrete support slab. The fire brick floor of the firebox is then set directly to the concrete support slab. This makes the fireplace finished fire brick floor approximately one and one-half inches (1-1/2") above the top of the concrete support slab (Figure 10).

If the design preference is for a raised hearth (floor of the fireplace elevated above the room's floor), then the MAGNUM base plate can be set on a noncombustible platform that is built up to the desired raised hearth height on the concrete support slab.

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 platform. Whether a flush hearth is preferred or a raised hearth, the combustible floor on front of the fireplace must be covered with a noncombustible hearth extension set tight against the fireplace front and extending at least 20 inches out from the finished fireplace and at least 12 inches beyond the finished sides of the fireplace opening. (Figure 11)

For all "raised hearth" construction where concrete blocks are used to create the raised platform, it is necessary to use the MAGNUM base plate. Be sure to mortar the concrete block platform together. CMU used for base plate support should be rated ASTM 90.

Step 2: Set the first course of the firebox back wall and side walls into place.

It may be convenient to dry set the first course of side wall and back wall into place on the Isokern base plate and then to trace their position on the base plate with a pencil. (Figure 12)

After outlining the dry set pieces, remove them and apply Earthcore Mortar to the areas traced on the base plate where the side walls and back wall are to sit. By doing this, the first layer of Wall components can be set directly into mortar already applied to the proper areas on the base plate. (Figure 12)

Be sure to put Earthcore Mortar on the contact surfaces of the vertical joints where the side wall and back wall components connect. (Figure 13)

Note: At all component placement, be sure to mortar all component contact surfaces with Earthcore Mortar. Check for complete sealing of each contact joint while assembly progresses.

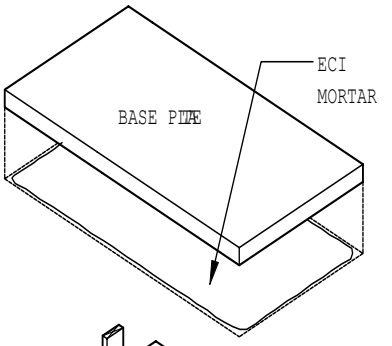


FIGURE 9

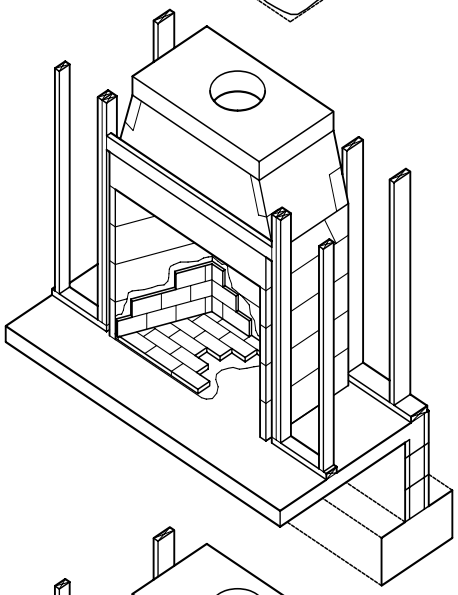


FIGURE 10

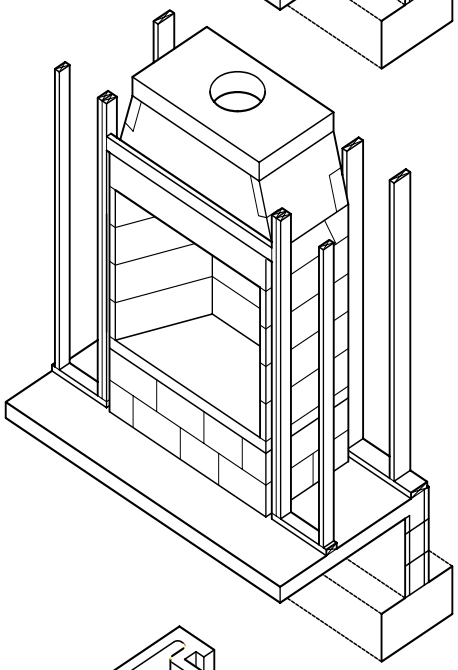


FIGURE 11

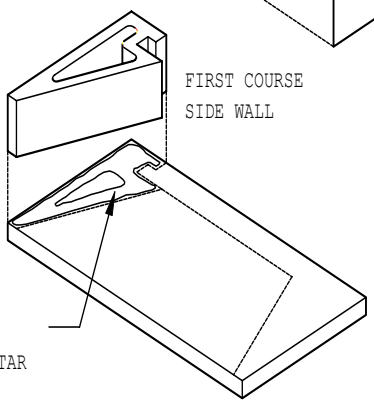


FIGURE 12

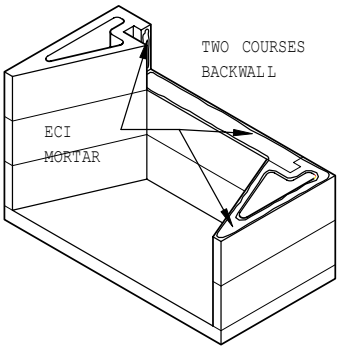


FIGURE 13

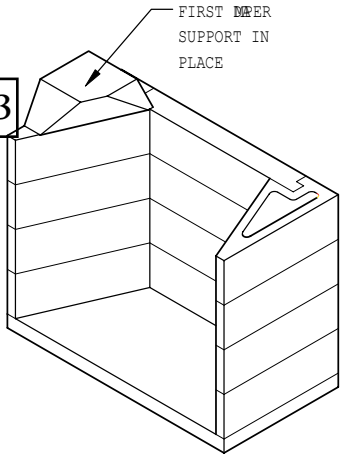


FIGURE 14

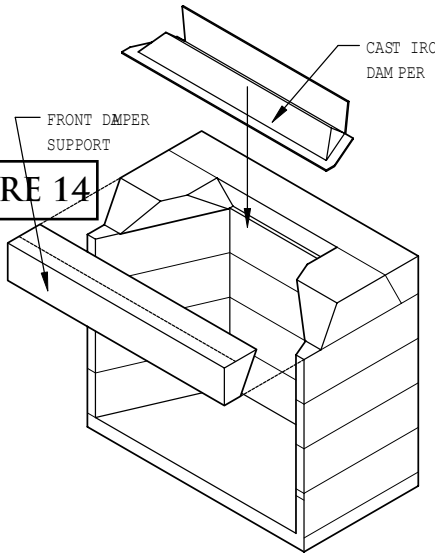


FIGURE 15

Step 3: Continue assembly of the second, third and fourth courses of the firebox side wall and back wall. Apply mortar to the top of each layer of wall components, set the next course above into place. Be sure to mortar all vertical joints of the side wall to back wall connection when setting each component to its mate. (Figure 13)

Look for some mortar to squeeze out along the joints of all contact surfaces as a sign that the joint is thoroughly sealed with the approved mortar.

Step 4: When all of the MAGNUM firebox wall components are set, check the top surface of the firebox for level.
If necessary, adjust the top surface of the box assembly for level by inserting a shim between the lowest wall component and the top surface of the MAGNUM base plate. (Figure 8)

Any gap created under the wall components during the Shim leveling process must be filled with mortar to full bearing against the base plate.

Step 5: Make sure that the firebox assembly has been set level and square. Adjust as required while the mortar is still wet.

Make a final inspection of all contact joints in the firebox assembly to be sure they are properly sealed. Fill any and all gaps in the assembly, as necessary, with the approved mortar.

Step 6: The MAGNUM comes with an eight inch (8”) thick damper beam assembly, a four piece component group that is to be assembled on top of the firebox.

The damper beam assembly consists of two long lintel pieces and two short damper beam side pieces.

The two lintels are identical in shape, size and in length, equal to the width of the MAGNUM fireplace model that they serve.

Properly placed, one lintel is to sit on top of the firebox back wall and flush with it; the other lintel sits flush with the front of the firebox, spanning the firebox opening. These components both sit on their narrow base so that their beveled face points down and into the firebox interior. (Figure 15)

The damper side pieces are designed to sit on the firebox side wall between the front lintel and the back lintel. (Figure 14)

Each of the damper side pieces is designed specifically for its own side of the unit. When properly set, each damper side piece fits flush with the outside face of the firebox sidewall so that its interior bottom edge aligns with the interior angle of the firebox side wall that it sits on. (Figure 14)

Be sure to mortar all damper beam components to the top surfaces of the firebox.

Mortar the contact surfaces of each damper side component where it meets the front and back damper beam assembly lintel components.

Step 7: With the damper beams assembled and mortared together, set the cast iron throat damper on top of the damper plate and over the damper plate opening. The cast iron damper's operating plate should face toward the rear of the fireplace. (Figure 16)

The flange at all four sides of the cast iron damper should be supported by the damper beam's top surface.

Before adjusting the cast iron damper to its final position proceed to Step 8.

Step 8: Set the back smoke dome component across the damper beam in a bed of mortar and flush with the back face of the back damper plate lintel. (Figure 17)

Set the front smoke dome component in mortar across the damper plate and 2 -1/4 inches back from the front of the front damper plate lintel. This placement should create a space of 17 inches between the front and back smoke dome components.

Position the cast iron damper so that its front flange is approximately one inch (1") away from the inside face of the front smoke dome component. (Figure 16)

Run a thin bead of mortar around the four sides of the cast iron damper flange to avoid movement of the damper as it gets opened and closed.

Step 9: Position the smoke dome's sloping sidewalls at each end of the smoke dome components. (Figure 17)

The sloping sidewalls fit in between the front and rear smoke dome components and also fit into the haunches at the ends of the front and rear smoke dome components. Mortar all contact surfaces thoroughly.

Note: The smoke dome sloping sidewalls have a beveled bottom edge so that they will sit tight onto the flat top of the damper beam.

Step 10: Make sure that all component contact surfaces have been properly sealed with approved mortar.

Check smoke dome front and back walls to see that they are plumb, level and in alignment with mating components.

Check alignment of the smoke dome sloping sidewall components to see that they are fully seated.

Step 11: Set the smoke dome top plate into position on top of the smoke dome wall assembly. (Figure 18)

One side of the smoke dome top plate shows a thickened center. This side is the bottom face of the top plate.

The fourteen inch (14") diameter flue hole in the top plate is centered in the smoke dome from side to side but is offset from front to back.

Make sure that the top plate is set so that the flue hole is closer to the back wall of the smoke dome assembly.

Be sure to set the smoke dome top plate flush with the front, back and sides of the smoke dome assembly. All contact surfaces must be properly sealed with the approved mortar.

Note: The completed smoke dome assembly should present a stable and level surface for setting the flue components. (Figure 18)

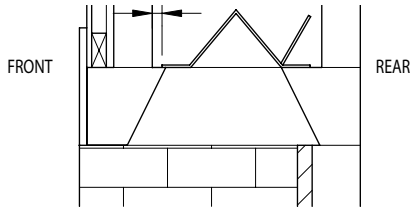


FIGURE 16

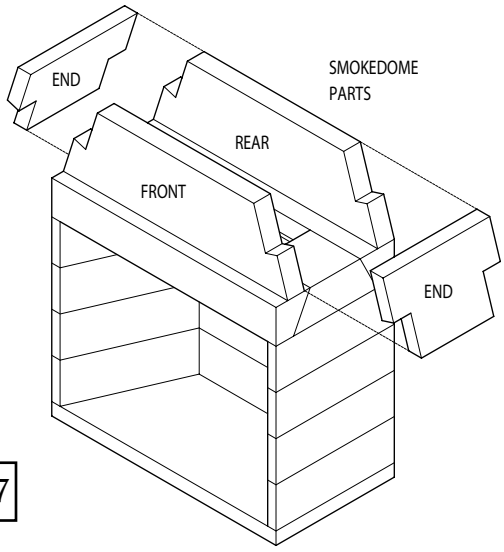


FIGURE 17

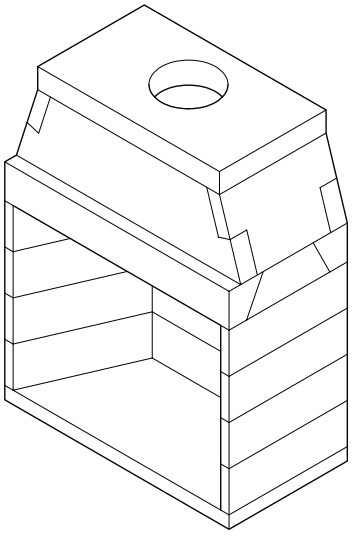


FIGURE 18

Assembly Instructions - Access Modification

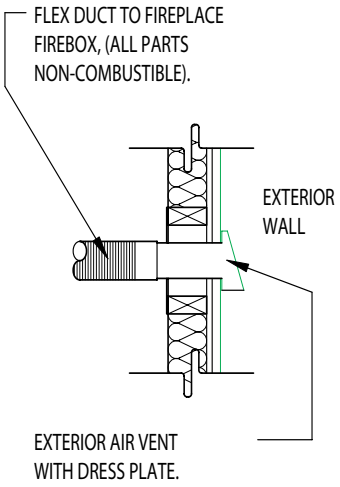


FIGURE 19

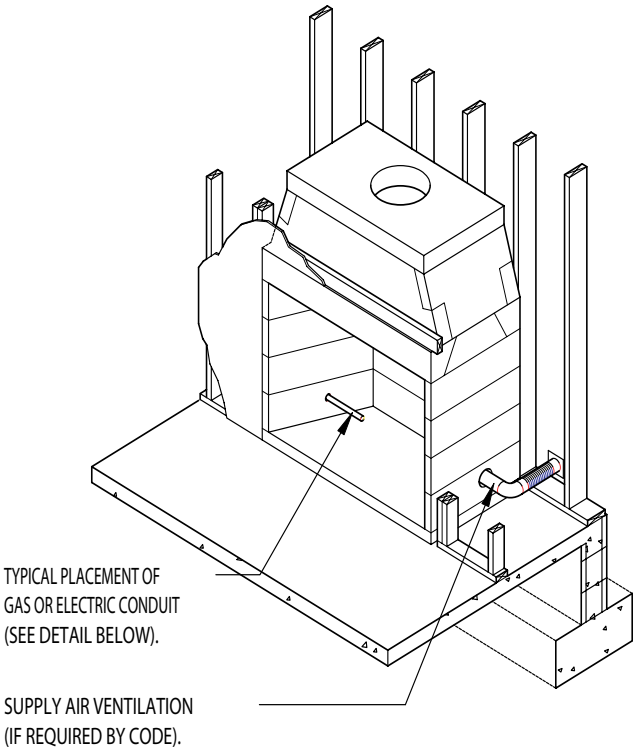
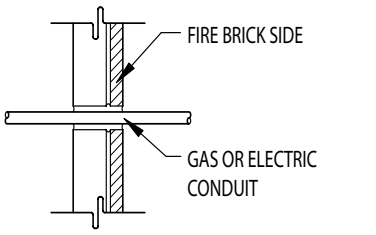


FIGURE 20



NOTE: FILL ANY GAPS AROUND CONDUIT WITH MORTAR.

FIGURE 21

Through-Wall Accesses:

1. Combustion Air Inlet: Combustion air inlet kits though not required by Isokern may help improve fireplace operation in homes tightly sealed and with other ventilating appliances installed (Figures 19 & 20). **Check local codes for combustion air inlet requirements.**

The following is a general representation of a generic combustion air kit and not a requirement of Earthcore Industries, LLC. Local building codes prevail and should be checked before installation.

Generic fireplace combustion air kits typically consist of a sliding stainless steel access door affixed to a three inch (3") or four inch (4") diameter stainless steel sleeve approximately twelve inches (12") long. An exterior vent with dress plate, weather hood and rodent prevention screen of a maximum one-quarter inch (1/4") wire mesh completes the kit. (Figure 19)

The access door is fitted into the finished fire brick lining at the interior sidewall of the MAGNUM firebox. The twelve inch (12") long sleeve can be introduced into the firebox side wall or back wall by core drilling an appropriately sized hole at the selected firebox location. Keep the top of the four inch (4") diameter access hole no more than six inches (6") above the finished firebrick floor. The hole size should allow for a one-quarter inch (1/4") mortar joint around the air access sleeve for heat expansion.

The sleeve passes through the firebox wall and must be connected to metal pipe (by other) - either flexible or rigid - that leads to the source for outside combustion air, as directly as possible from the Magnum Fireplace (Few to no bends) with a maximum length of sixty feet (60').

WARNING: Do not use combustible duct material. Avoid installing a combustion air inlet where the opening could be blocked by snow, bushes or other obstacles. Air inlet must terminate a minimum of three feet below the chimney cap level. Air inlet ducts shall not terminate in attic spaces.

2. Gas Line Feed: For a fireplace having the provision for installation of a gas pipe, the provision is intended only for connection to a decorative gas appliance.

CAUTION: When using the decorative appliance, the fireplace damper must be set in the fully open position.
Gas line for gas log sets used in the Isokern 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 20).

3. Electrical Line Feed can be routed through the MAGNUM firebox back wall, side walls or floor by drilling an appropriately sized hole using a masonry drill bit (Figure 20). Be sure to follow the gas log Appliance Manufacturer's explicit electrical line connection instructions for vented masonry fireplace installations.
Gas line and electric line must be fed through separate access holes.

CAUTION: All access holes must be grouted with mortar – after line or conduit feed - to seal any gaps or cracks around line feed conduits (Figure 21).

Assembly Instructions - Fire Brick Installation

Fire Brick Installation:

The manufacturer requires that the MAGNUM Series fireplace firebox be lined with a minimum one and one-eighth (1-1/8") thick rated fire brick. The pattern for the fire brick lining is an owner option. Standard N-Type brick mortar is a suitable fire brick mortar for the Standard fireplace and good masonry practices should be followed.

All required through-wall accesses (gas and electrical line feeds and combustion air supply access holes) should be drilled before the required fire brick lining is installed.

It takes a total of about five gallons of S-Type brick mortar mix (dry measure) to fire brick line a MAGNUM fireplace.

Face joints of one quarter inch (1/4") to three-eights inch (3/8") give a good appearance to the finished brickwork however, this is just a suggestion and other face joint dimensions are also acceptable.

Step 1. Wet mop the inside of the MAGNUM fireplace with a damp sponge to remove dust and loose particles from the interior before installing fire brick.

Step 2. Start the fire brick at the front edge of the floor of the Isokern firebox, proceeding inward toward the back.

HINT: Dip each firebrick into water before applying.

Step 3. Next, apply fire brick to the back wall of the unit starting at the bottom of the back wall and working upward to the top of the back wall.

Step 4. Finally, set the side wall fire brick by starting at the front edge of the unit's side wall and working inward toward the back wall fire brick.

Isokern makes no claims as to the performance of fire brick or fire brick mortar(s). It is typical for heat stress cracks to appear in the fire bricks in wood burning fireplaces.

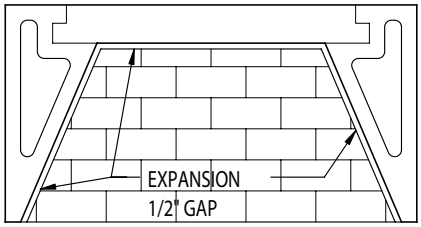


FIGURE 22

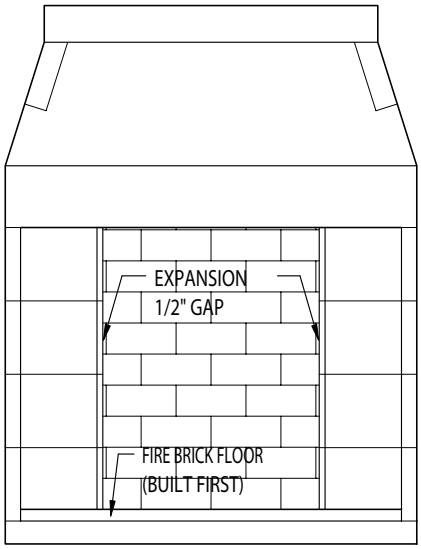


FIGURE 23

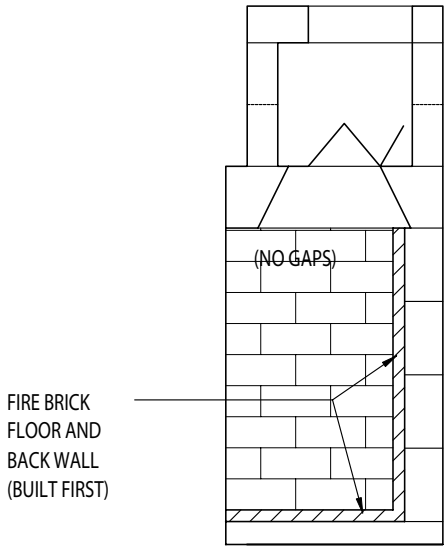


FIGURE 24

Flush Wall Finish Detail

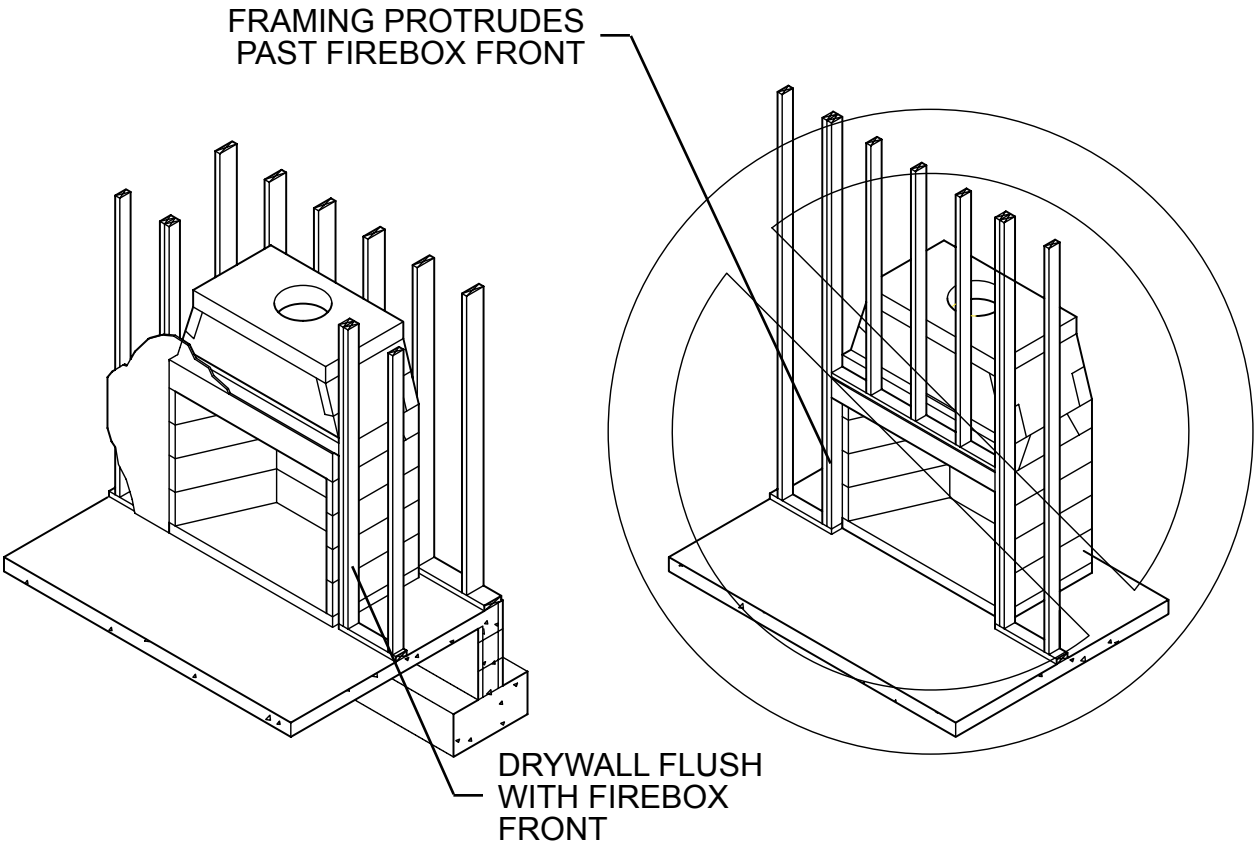


FIGURE 25

FIGURE 26

MAGNUM fireplaces are designed to be installed so that the rough front face of the firebox and damper beam project into the room approximately one-half inch (1/2") beyond the face of the rough framing members that create the room's wall surface.
The MAGNUM smoke dome front sits two and three-fourths inches (2-3/4") back from the rough face of the firebox and damper beam. This set back dimension allows for one and one-half inch (1-1/2") framing plus one-half inch (1/2") thick wall board to pass in front of the smoke dome and at the same time align flush with the room face of the MAGNUM damper beam. Set in this position, framing and wall board are kept to the required eight inches (8") above the firebox opening top (Figure 25).

Important: Do not build a frame wall in front of the MAGNUM firebox and damper beam. (Figure 26)

Assembly Instructions - 60”

The MAGNUM Model 60 is a custom unit made of standard parts that are cut and fitted together in the field. The following cut and assembly instructions identify the parts by name and by part number, the quantity required, the field cut dimensions for each modified component and the placement of each part in the assembly.

Note: At all component placement, be sure to mortar all contact surfaces with Earthcore Mortar. Check for complete sealing of each contact joint while assembly progresses (see “General Isokern Assembly Instructions” on page 14 of this manual for mortar information and instructions).

Step 1: Base plate, part M91, two required; All require field cutting.

Set the un-cut M91 base plate components on an appropriate masonry foundation. Cut one base plate to 30 1/2”. (Figure 22) Set the two pieces so that the line of the grouping is a butt joint. (Figure 23). Set the cut M91 pieces into place. This makes for square ends. The overall length of the base plate assembly should measure 73-1/2” and 28" deep.

Step 2: Side wall, part M60, eight pieces required, used “as is”. The fire box side wall components are used without modification. The side wall pieces stack four high on both the left and right hand ends of the base plate arrangement (Figure 24)

The stack of four fire box side wall components will be assembled in conjunction with the firebox back wall components described in the following steps.

Step 3: Back wall, part M67, eight pieces required, to be “field modified”. Cut the tongue off one end of each of the four M67 back wall components as shown.

After cutting, four of these cut pieces should measure 38 1/2” from the cut end to the shoulder of the un-altered end (Figure 25).

The other four cut pieces should measure 22 1/4” from the cut end to the shoulder of the unaltered end. (Figure 26)

Step 4: Build the MAGNUM Model 60 firebox by setting a 38 1/2” M67 back wall (from step 3) on the base plate with it’s tongue end interlocked into the firebox side wall at the end of the baseplate.

The square cut end of this a 38-1/2” M67 back wall component sits flush with the back of the base plate with its cut end past the centerline in the base plate arrangement (Figure 27).

Next set the 22-1/4” cut M67 piece so that its tongue end interlocks with the side wall component at the opposite end of the base plate. The square cut end of the 22-1/4” M67 should make a snug butt joint with the square cut end of the 38-1/2” M67 component (Figure 28).

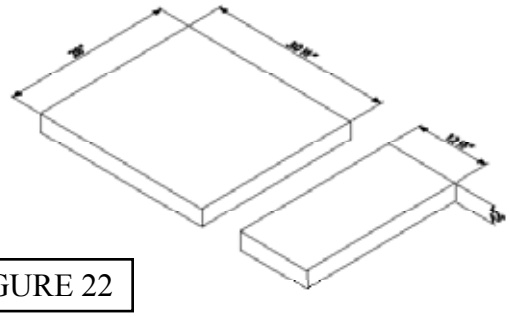


FIGURE 22

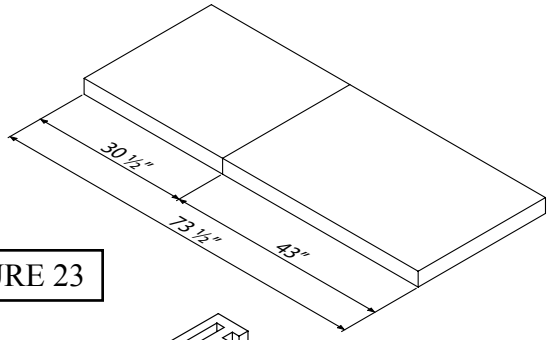


FIGURE 23

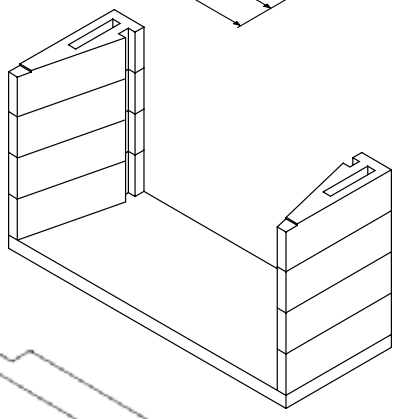


FIGURE 24

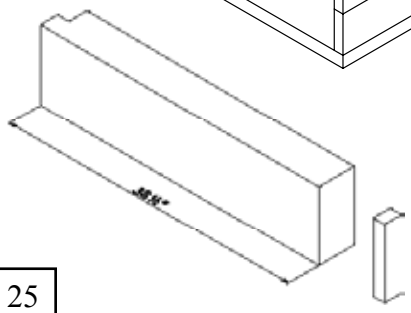


FIGURE 25

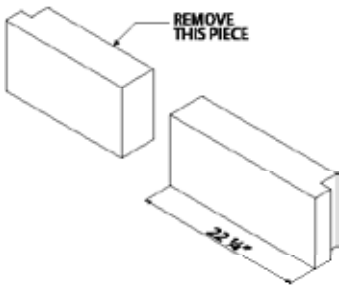


FIGURE 26

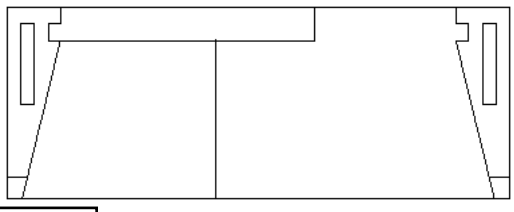


FIGURE 27

FIGURE 28

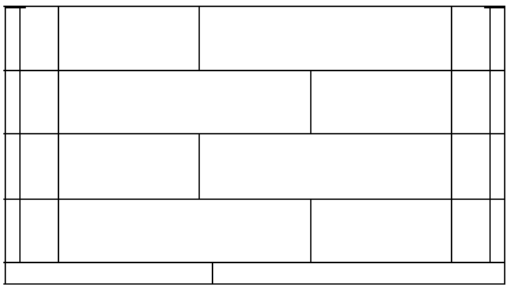


FIGURE 29

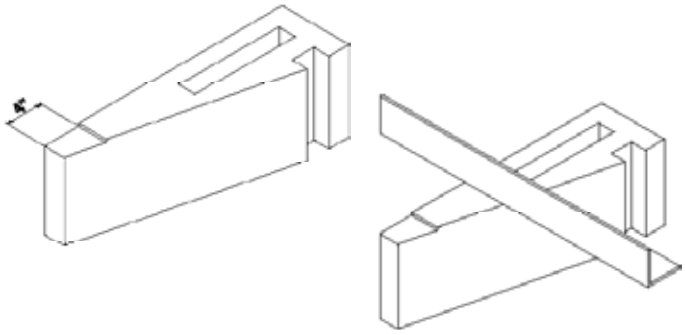


FIGURE 30

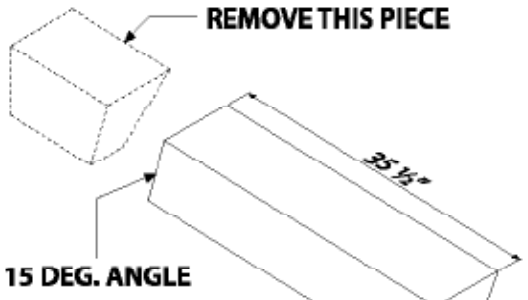


FIGURE 31

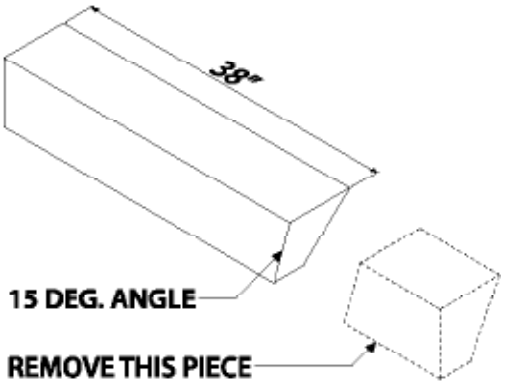


FIGURE 32

Step 5: Continue stacking the remaining three courses of back wall. Be sure to reverse the positions of the 38-1/2” M67 and the 22-1/4” M67 in each successive course.In this way, the butt joint where the two M67 components meet are staggered from course to course.

The overall width dimension at the back of the firebox should be 73-1/2” including the sidewalls. (Figure 29).

Step 6: Steel angle 4” x 6” x 5/16”, one required, 73-1/2” long which must span the top of the MAGNUM Model 60 firebox opening.

This steel angle sits on top of the uppermost side wall component with the four inch leg in the horizontal position. To avoid a thickness problem with the placement of the steel angle it is necessary to cut a notch in the top Side wall component where the angle is to sit. This notch should be cut approximately 5/16” deep. The notch should start at the front face of the side wall component (at both the left and right hand walls) and run to a point 4” back toward the firebox (Figure 30).

The steel angle sits in this notch. The six inch leg of the steel angle is in the vertical position and is to be located in alignment with the front of the firebox. The ends of the steel angle should not protrude beyond the outer firebox side walls (Figure 30).
Mortar between the steel and the notch in the top of the side wall is not needed.

Step 7: Damper support (front & rear), Part M69, four required, to be field cut to fit.

Bevel cut one end of each of two M69 damper supports to 35-1/2” in length from the long point of the bevel cut to the un-cut square end. (Figure 31). The long point of the bevel cut is to be at the top of the damper Support

For best results a 15˚ bevel angle is suggested.

Step 8: Bevel cut one end each of two M69 damper supports to 38” with the long point of the bevel at the bottom of the damper support. The bevel angle must be at the same angle – in this case, 15 degrees - to match with the bevel angle of the other damper supports already cut in Step 7 (Figure 32).

Step 9: Set the cut damper supports along the front and along the rear of the firebox using one of each of the cut pieces (one with the long point at the top of the piece and one with the long point at the bottom of the piece) together as pairs.

The damper support pair at the front of the firebox opening will be mortared together and set into the steel angle from Step 6 (Figure 33).

Since the inside corner of the steel angle is rounded, it is a good idea to round the bottom front corner of the damper support to match the steel.

With the bevel cut ends of the damper support pairs meeting at the middle of the firebox, the bevel joint should be an even and good fit. The damper supports overall installed length should be 73-1/2”. (Figure 33)

Note: Do not join the damper supports with a butt joint. The bevel joint discussed above is the **REQUIRED** type of joint for the damper support.

The bevel angle of 15˚ degrees is a convenient angle and is given as a suggested angle. The angle of the bevel cut could be greater, just so the bevel cut in each damper support joining pair is the same angle in order to have a good fit at the joint.

Please consult your local sales representative for the appropriate damper systems for models 60 and 72.

Step 10: Damper support (left), part M64L and damper support (right), part M64R, one each required. To be used “as is”.Set the damper support (left) and the damper support (right) into place on top of the firebox side walls in between the front and rear damper supports.

Each of the damper supports, right and left, is designed specifically for its own side of the unit. When properly set, each damper plate side piece sits flush with the outside face of the firebox side wall. The interior bottom edge of the damper support end pieces aligns with the angle of the interior of the firebox side wall (Figure 33).

For the MAGNUM Model 60 the smoke dome components stack two tiers high giving a smoke dome of approximately 32” in height.

Step 11: Smoke dome medium, part 11, two required, to be “field modified”; smoke dome large, part 13, six required, to be “field modified”; smoke dome top sloping, part 34, four required, to be used “as is”.

Begin building the MAGNUM Model 60 Fireplace smoke dome by cutting the haunch off of one end of each of the two smoke dome large components, part 13. After cutting the bottom length of the piece will be 49 3/4”". (Figure 34) When cutting the haunch off be sure to follow the angle of the sloping end in order to get the proper slope angle to the cut.

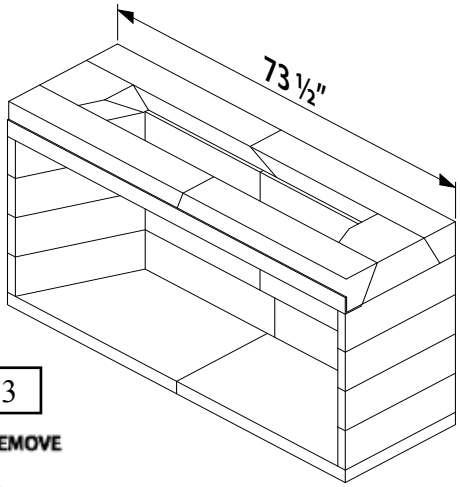
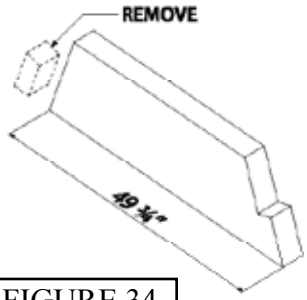


FIGURE 33



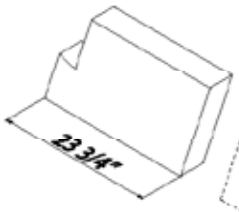


FIGURE 34

FIGURE 35

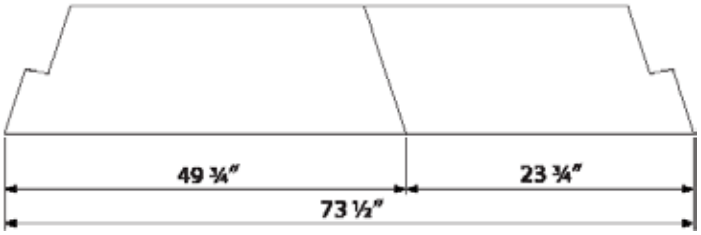


FIGURE 36

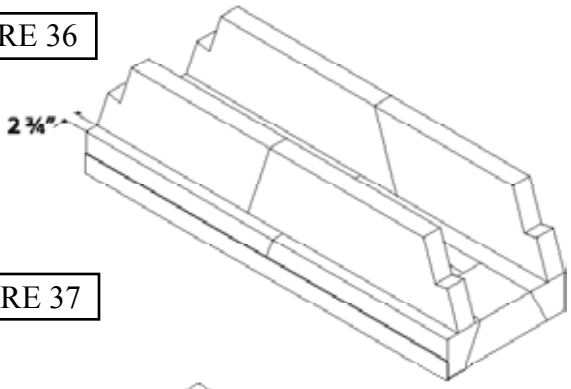


FIGURE 37

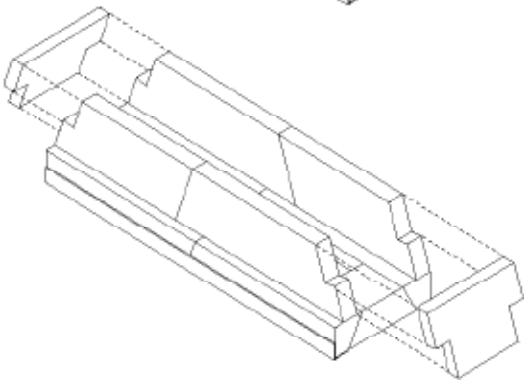


FIGURE 38

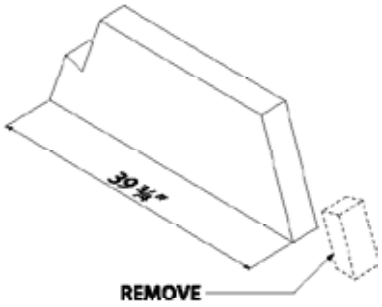


FIGURE 39

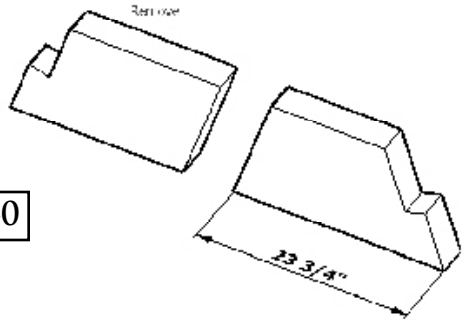


FIGURE 40

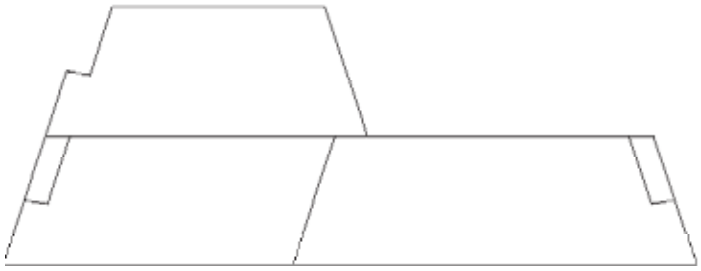


FIGURE 41

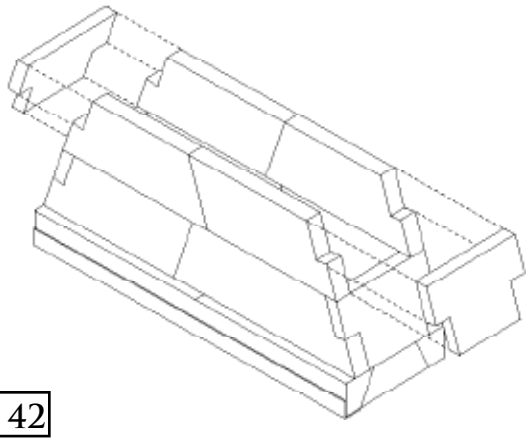


FIGURE 42

Step 12: Cut one end of two of the smoke dome top large, part 13, components at an angle parallel to the opposite end of the piece. The bottom length of the cut piece should measure 23 3/4 ” (Figure 35).

Step 13: Place one modified smoke dome large piece (haunch cut off and a bottom length of 49-3/4" together with another of the smoke dome large pieces that was angle cut to 23 3/4" bottom length and parallel angle) together on the damper support and flush with the back wall of the firebox so that the two smoke dome pieces meet along their field modified cut line.

The overall length of the two joined smoke dome pieces should be 73-1/2". (Figure 36)

Step 14: Repeat STEP 13 on the front damper support. Set the front smoke dome components 2-3/4" back from the front face of the front damper support (Figure 37).

Step 15: Fit the top sloping smoke dome side wall components, part 34, in place between the front and back smoke dome arrangements at each end of the smoke dome (Figure 38).

Step 16: Continue building the MAGNUM model 60 fireplace smoke dome by cutting two of the smoke dome large pieces, part 13, to a bottom length dimension of 39 3/4”. The slope angle of the cut should match the slope angle of the end being cut. (Figure 39)

Place one of the modified smoke dome large pieces (39 3/4” bottom length) on top of and flush with the first tier of smoke dome components at the back of the first course of smoke dome. The haunched, un-cut end of this piece should be flush with the haunch end of the first tier smoke dome below it. (Figure 41)

Step 17: Repeat this arrangement at the front of the smoke dome.

Step 18: Cut each of the remaining two smoke dome medium pieces, part 11, at an angle cut that is parallel to the un-cut end and so that its bottom length is 23 3/4” (Figure 40).

Step 19: Place one of the angle cut smoke dome top medium pieces at the front and one at the back of the first tier smoke dome so that they meet the smoke dome large (cut to 49 3/4” bottom length) already set in Step 11. (Figure 42)

Step 20: Set the smoke dome sloping side walls, part 34, in place between the front and back smoke dome arrangements at their proper locations at each end of the smoke dome. (Figure 42).

The overall width dimension at the top of the smoke dome should be approximately 53-1/2 to 54”. (Figure 43)

Note: The MAGNUM model 60 is designed to operate with two flues. The top of the smoke dome allows for the placement of two Isokern Modular Masonry DM 54 (14 inch I.D.) chimneys or two solid fuel listed metal chimneys of the appropriate size.

Step 21: Smoke dome top plate small, part M77, two required, must field cut to fit.

Each of the two smoke dome top plate small, part M77, will sit side by side on the smoke dome assembly, meeting at the centerline of the smoke dome as a butt joint. The top plate, as standard, comes with a recessed edge (or, a thickened center). The recessed edge is approximately 3/8”and is intended to be the bottom face of the top plate.

Each of the two top plate pieces must first be cut in width in order to fit the overall smoke dome. Each top plate is to have its width cut by 5”. The cut edges must then become the butt joint of the two top plates when set into place (Figure 44). Therefore, the width cuts for each top plate must be on opposite edges of each piece.

The un-altered end of each top plate sits at the end of the smoke dome assembly and rests on the smoke dome sloping side wall.

At the recessed edge on the underside of the un-altered ends of each of the two top plates, the thickened part of the top plate will need to be ground down flush with the recessed edge of the top plate so that the underside of the top plate does not ride high on the smoke dome sloping side wall.

Place the two top plate small components on top of the second tier smoke dome arrangement so that they meet at the centerline of the smoke dome.

The outlet hole sits closer to the back of the smoke dome. The smoke dome top plates should sit flush with the front and back of the smoke dome.

The top width dimension of the completed smoke dome should measure approximately 53 1/2”- 54”. Each top plate small has a width cut dimension of approximately 27”. Two of the top plates butted together should equal the smoke dome top width dimension of approximately 54”.

The top plates may have some overhang at the ends of the top plate assembly, which is acceptable. (Figure 45)

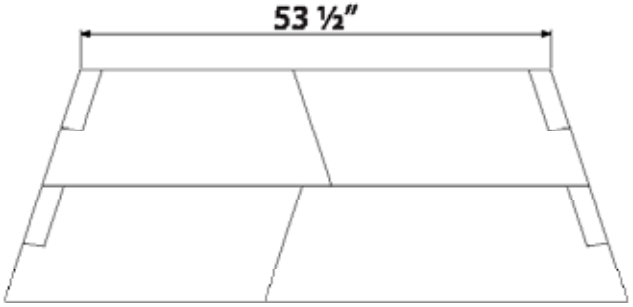


FIGURE 43

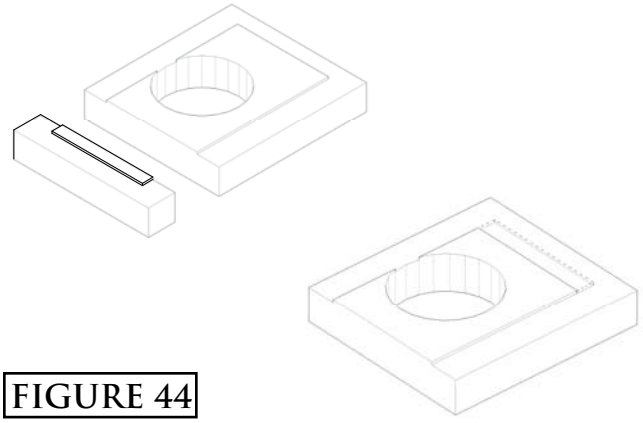


FIGURE 44

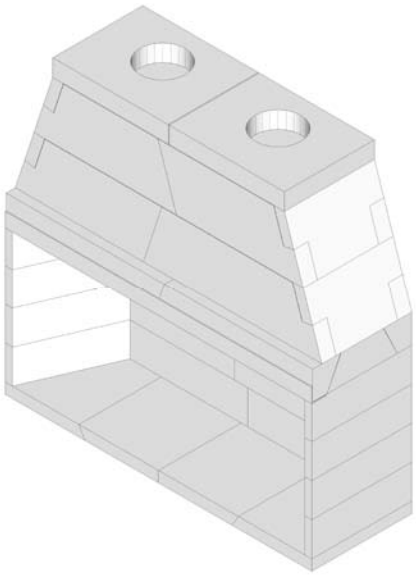


FIGURE 45

Assembly Instructions - 72”

The MAGNUM Model 72 is a custom unit made of standard parts that are cut and fitted together in the field. The following cut and assembly instructions identify the parts by name and by part number, the quantity required, the field cut dimensions for each modified component and the placement of each part in the assembly.

Note: At all component placement, be sure to mortar all contact surfaces with Earthcore Mortar. Check for complete sealing of each contact joint while assembly progresses (see “General Isokern Assembly Instructions” on page 14 of this manual for mortar information and instructions).

Step 1: Base plate, Part M91, two required . These pieces are used “as is”, without any field cutting required.

Set the four M91 base plate components on an appropriate masonry foundation and positioned exactly where the firebox is to sit. Set the two pieces so that the centerline of the grouping is a butt joint (Figure 46). This makes for square ends at both the left and right ends of the grouping.

The overall length of the base plate assembly should measure 85 1/2” and 28” inches deep.

Step 2: Side wall, part M60, eight pieces required, used “as is”.

The firebox side wall components are used without modification. The side wall pieces stack four high on both the left and right hand ends of the base plate arrangement (Figure 47)

The stack of four firebox side wall components will be assembled in conjunction with the firebox back wall components described in the following steps.

Step 3: Back wall, part M67, eight pieces required, four pieces to be “field modified”.

Cut the tongue off one end of each of the four M67 back wall components. After cutting, each of these four cut pieces should measure 38 1/2” from the cut end to the shoulder of the un-altered end (Figure 48).

Step 4: Back wall, part M67, four pieces required, to be “field modified”.

Cut one end of each of the four M67 back wall components. These four cut pieces should measure 34-1/2” from the cut end to the shoulder of the un-altered end (Figure 49).

Step 5: Build the MAGNUM Model 72 firebox by setting a 38 1/2” M67 Back Wall (from Step 3) on the base plate with its tongue end interlocked into the firebox side wall positioned at the end of the base plate (Figure 50).

The square cut end of this 38 1/2” M67 back wall component should sit flush with the back of the base plate with its cut end past the centerline butt joint in the base plate arrangement (Figure 50).

Next set the 34-1/2” inch cut M67 piece so that its tongue end interlocks with the side wall component at the opposite end of the base plate.

The square cut end of the 34-1/2” M67 should make a snug butt joint with the square cut end of the 38 1/2” M67 component (Figure 51).

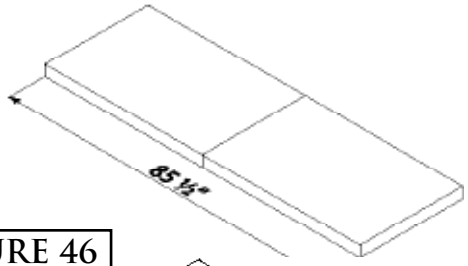


FIGURE 46

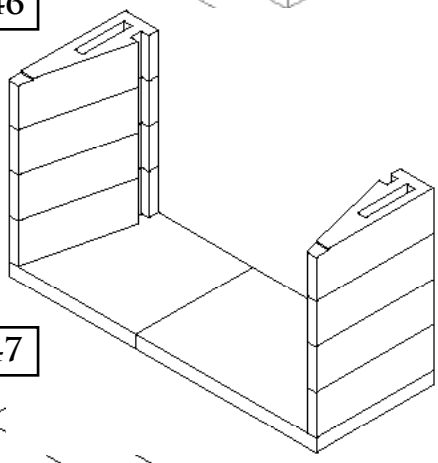


FIGURE 47

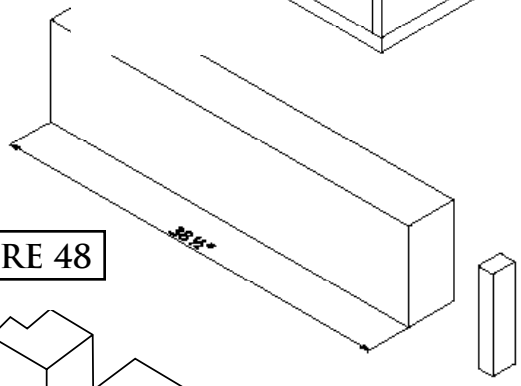


FIGURE 48

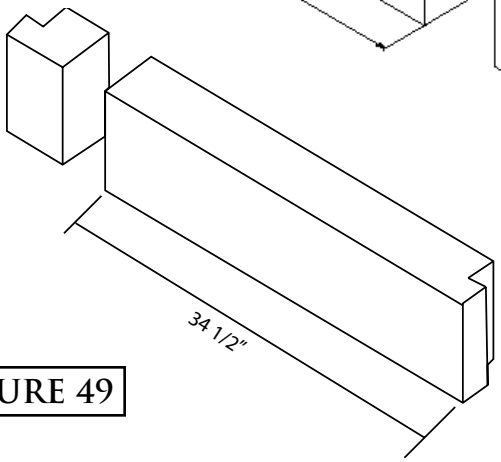


FIGURE 49

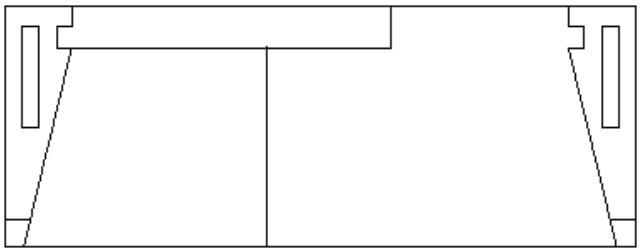


FIGURE 50

FIGURE 51

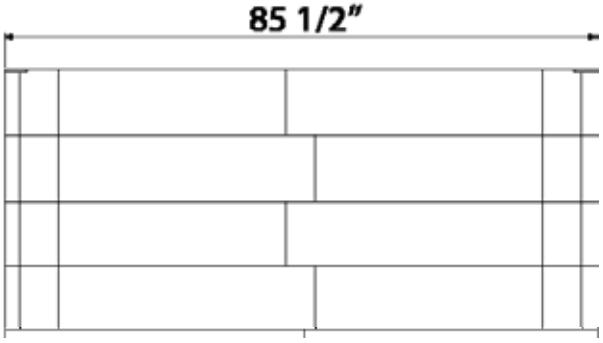


FIGURE 52

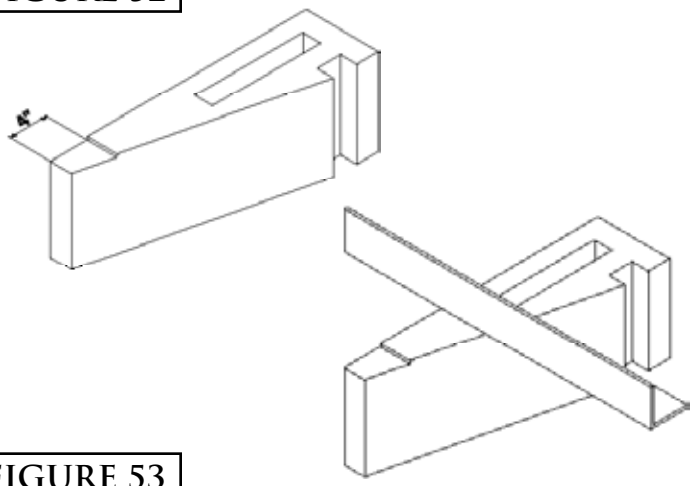


FIGURE 53

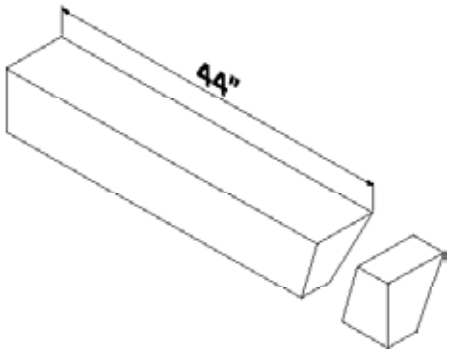


FIGURE 54

Step 6: Continue stacking the remaining three courses of back wall. Be sure to reverse the positions of the 38 1/2” M67 and the 34-1/2” M67 in each successive course. In this way, the butt joint where the two M67 components meet are staggered from course to course.

The overall width dimension at the back of the firebox should be 85 1/2” (Figure 52).

Step 7: Steel angle of 4” x 6” x 5/16”, one each required, 85 1/2” long.

A 4” x 6” x 5/16” steel angle needs to span the top of the MAGNUM Model 72 firebox opening.

This steel angle sits on top of the uppermost side wall component with the four inch leg in the horizontal position. To avoid a thickness problem with the placement of the steel angle it is necessary to cut a notch in the top side wall component where the angle is to sit.

This notch should be cut approximately 5/16” deep. The notch should start at the front face of the side wall component (at both the left and right hand walls) and run to a point four inches back toward the firebox (Figure 53).

The steel angle sits in this notch. The six inch leg of the steel angle is in the vertical position and is to be located in alignment with the front of the firebox. The ends of the steel angle should not protrude beyond the outer firebox side walls. (Figure 53)

Mortar between the steel and the notch in the top of the side wall is not needed.

Step 8: Damper support (front & rear), part M69, four required, to be field cut to fit.

Bevel cut one end of each of two M69 damper supports to 44” in length from the long point of the bevel cut to the un-cut square end. The long point of the bevel cut is to be at the top of the damper supports (Figure 54).

For best results a 15˚ bevel angle is suggested.

Step 9: Bevel cut one end each of two M69 damper supports to 41 1/2” with the long point of the bevel at the bottom of the damper support. The bevel angle must be at the same angle in this case, 15˚ - to match with the bevel angle of the other damper supports already cut in Step 8 (Figure 55).

Step 10: Set the cut damper supports along the front and along the rear of the firebox using one of each of the cut pieces (one with the long point at the top of the piece and one with the long point at the bottom of the piece) together as pairs.

The damper support pair at the front of the firebox opening will be set into the 4” x 6” steel angle from Step 7 (Figure 56).

Since the inside corner of the steel angle is rounded, it is a good idea to round the bottom front corner of the damper support to match the steel.

With the bevel cut ends of the damper support pairs meeting at the middle of the firebox, the bevel joint should be an even and good fit. The damper supports overall installed length should be 85 1/2”.

Notes:
A. Do not join the damper supports with a butt joint. The bevel joint discussed above is the REQUIRED type of joint for the damper support.
B. The bevel angle of 15˚ is a convenient angle and is given as a suggested angle. The angle of bevel could be different just so the angles cut in the adjoining damper supports join.
C. The angle of the bevel cut could be greater just so the bevel cut in each damper support joining pair is the same angle in order to have a good fit at the joint.

Step 11:

Damper support (left), part M64L and damper support (right), part M64R, one each required. To be used “as is”.

Set the damper support (left) and the damper support (right) into place on top of the firebox side walls in between the front and rear damper supports.

Each of the damper supports, right and left, is designed specifically for its own side of the unit. When properly set, each damper plate side piece sits flush with the outside face of the firebox side wall. The interior bottom edge of the damper support end pieces align with the angle of the interior of the firebox side wall (Figures 56, 57).

For the MAGNUM Model 72 the smoke dome components stack two tiers high giving a smoke dome of approximately 32 inches in height.

Step 12: Smoke dome top large, part 13, six required, to be “field modified”; smoke dome top medium, part 11, two required, to be “field modified”; smoke dome top sloping, part 34, four required, to be used “as is”.

Begin building the MAGNUM model 72 fireplace smoke dome by cutting the haunch off of one end of each of the four smoke dome top large components, part 13. After cutting the bottom length of the piece will be 49 3/4”.

When cutting the haunch off be sure to follow the angle of the sloping end in order to get the proper slope angle to the cut (Figure 58).

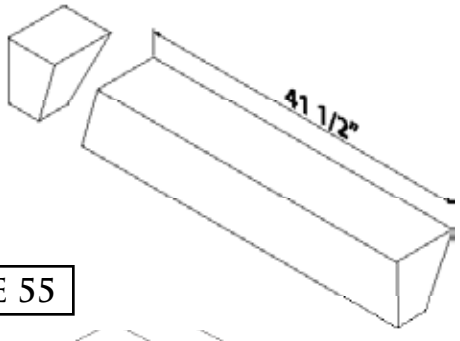


FIGURE 55

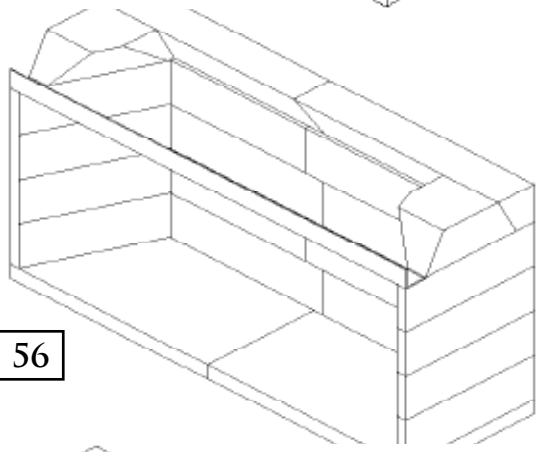


FIGURE 56

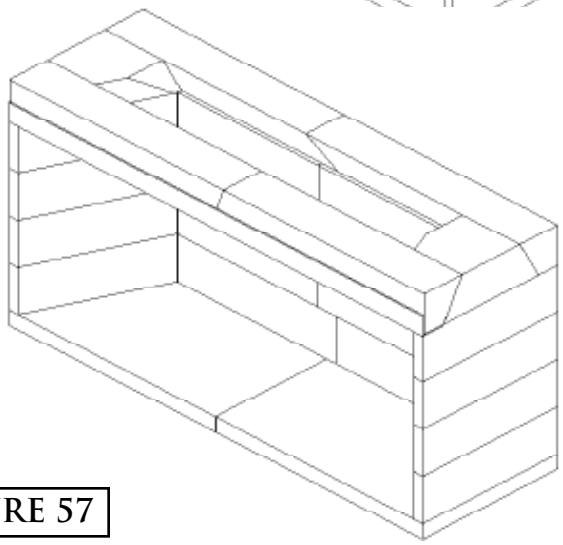


FIGURE 57

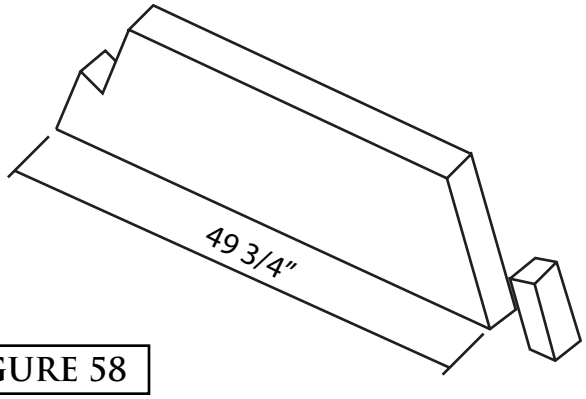


FIGURE 58

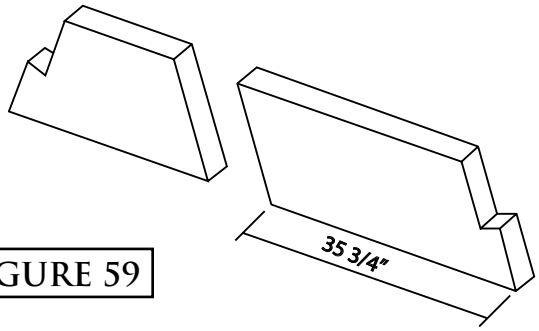


FIGURE 59

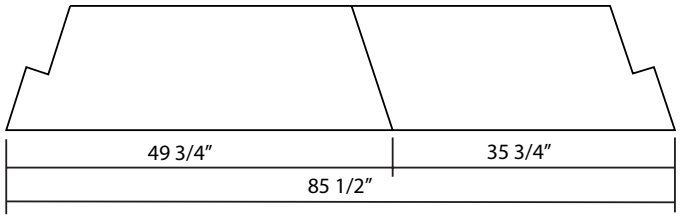


FIGURE 60

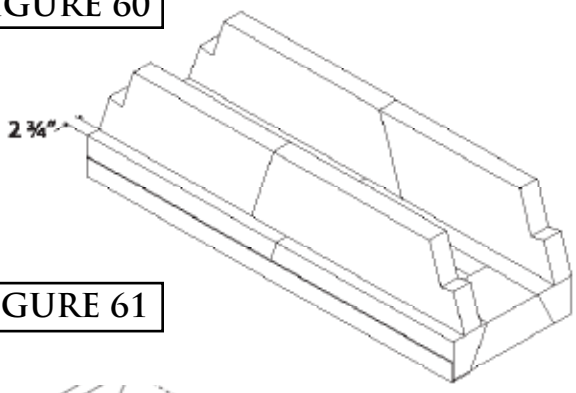


FIGURE 61

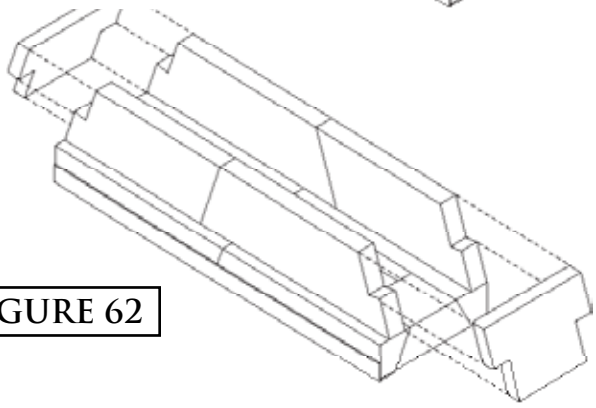


FIGURE 62

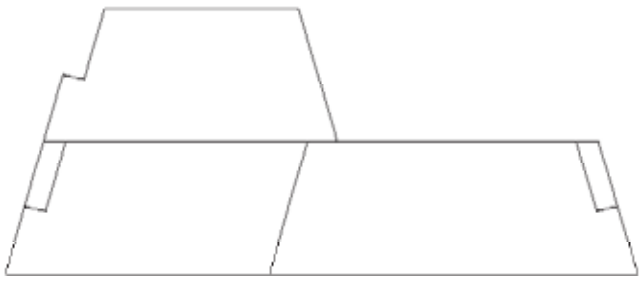


FIGURE 63

Step 13: Cut one end of the other two smoke dome top big, part 13, components at an angle parallel to the opposite end of the piece. The bottom length of the cut piece should measure 35 3/4” (Figure 59).

Step 14: Place one modified smoke dome top big pieces (haunch cut off and a bottom length of 49 3/4” together with one of the smoke dome top big pieces that was angle cut to 35 3/4” bottom length and parallel angle) together on the damper support and flush with the back wall of the firebox so that the two smoke dome pieces meet along their field modified cut line (Figure 60).

The overall length of the two joined smoke dome pieces should be 85 1/2”.

Step 15: Repeat Step 14 on the front damper support. Set the front smoke dome components 2-3/4” back from the front face of the front damper support (Figure 61).

Step 16: Fit the top sloping smoke dome side wall components, part 34, in place between the front and back smoke dome arrangements at each end of the smoke dome (Figure 62).

Step 17: Place one of the four modified smoke dome top big pieces (haunch cut off and 49 3/4” bottom length) on top of and flush with the first tier of smoke dome components at the back of the first course of smoke dome.

The haunched, un-cut end of this piece should be flush with the haunch end of the first tier smoke dome below it (Figure 63).

Step 18: Repeat this arrangement at the front of the smoke dome.

Step 19: Cut each of the two smoke dome top medium pieces, part 11 at an angle cut that is parallel to the un-cut end and so that its bottom length is 25 1/2” (Figure 65).

Step 20: Place one of the angle cut smoke dome top medium pieces at the front and one at the back of the first tier smoke dome so that they meet the smoke dome top big (haunch cut off and 50” bottom length) already set in Steps 14 and 15. The overall width dimension at the top of the smoke dome should be 65-1/2” (Figure 66).

Step 21: Fit the top sloping smoke dome side wall components, part 34, in place between the front and back smoke dome arrangements at each end of the smoke dome (Figure 67).

Assembly Instructions - 72” (cont.)

Note: The MAGNUM model 72 is designed to operate with two flues. The top of the smoke dome allows for the placement of two Isokern DM 54 (14 inch I.D.) chimneys or two solid fuel listed metal chimneys of the appropriate size.

Step 22: Top plate small, part M77, two required, to be used “as is”. (Figure 66)

Place the two top plate small components on top of the second tier smoke dome arrangement so that they meet at the centerline of the smoke dome. Typically, the outlet hole sits closer to the back of the smoke dome. The top plates should sit flush with the front and back of the smoke dome. (Figure 69).

The top width dimension of the completed smoke dome should measure 65-1/2”.(Figure 66) Each top plate small has a width dimension of 32-3/4 inches. Two of the top plates butted together should equal the smoke dome top width dimension of 65-/12”. (Figure 69)

The top plates should be flush with the top sides of the smoke dome assembly. Minor overhang (fractions of an inch) of the top plate assembly is acceptable.

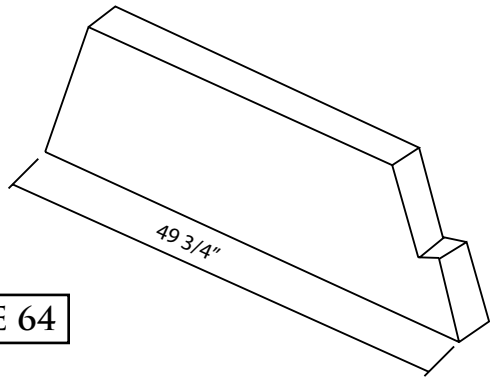


FIGURE 64

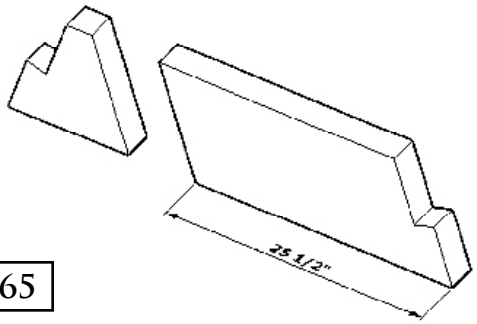


FIGURE 65

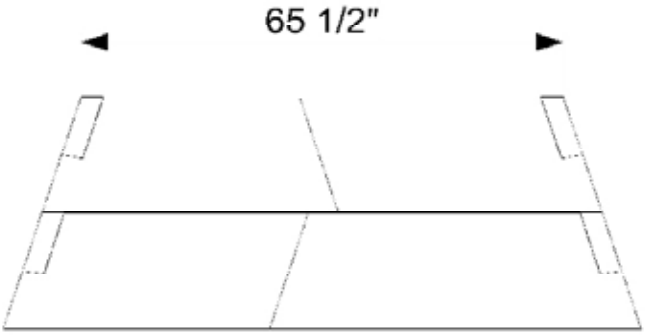


FIGURE 66

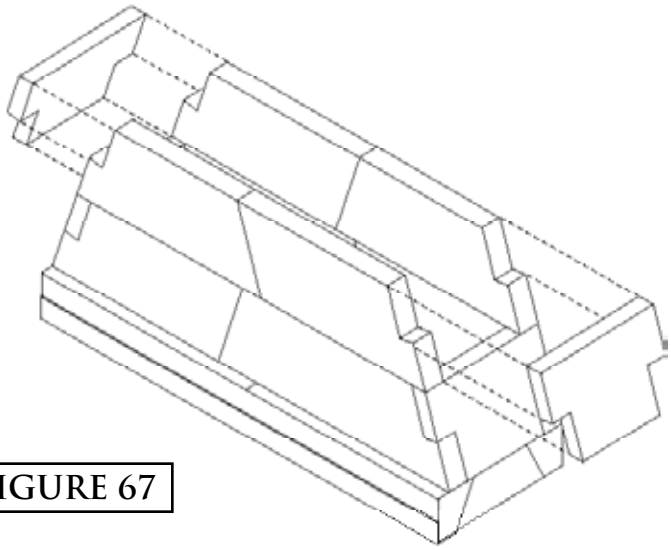


FIGURE 67

FIGURE 68

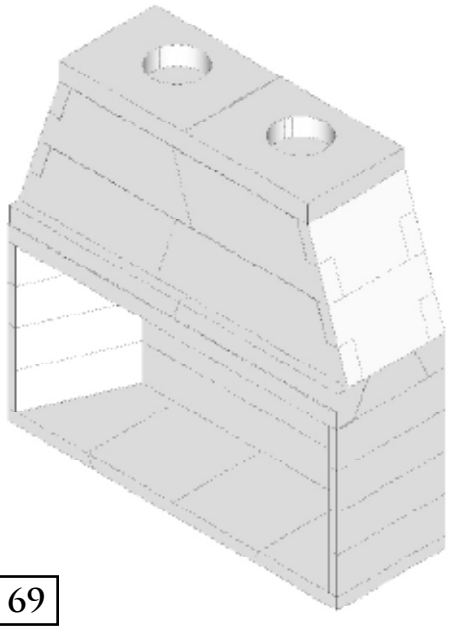
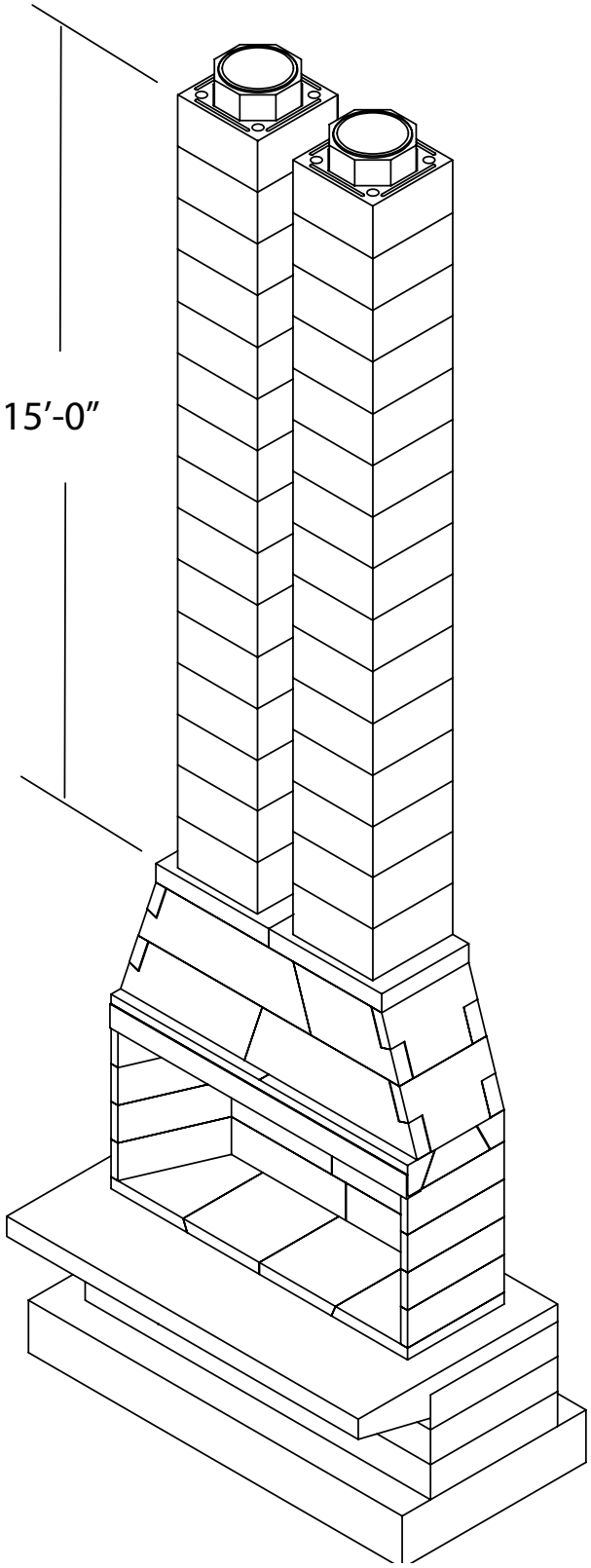


FIGURE 69

DM 54 Chimney System - 60 & 72”



NOTE: The maximum installed height of the Isokern DM 54 system on the models 60 & 72 dual chimney system is 15’ without additional structural support.

Required Clearances (when sheathing protrudes beyond front of firebox)

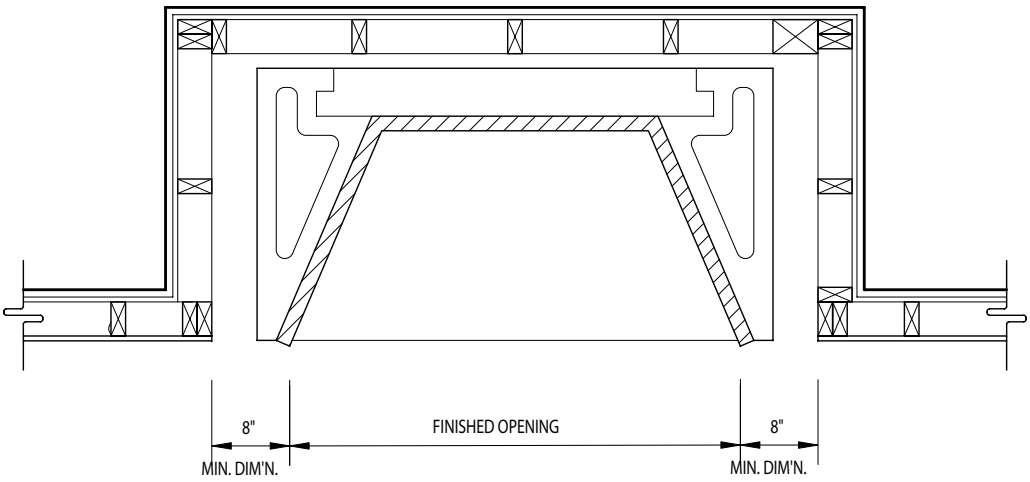


FIGURE 70

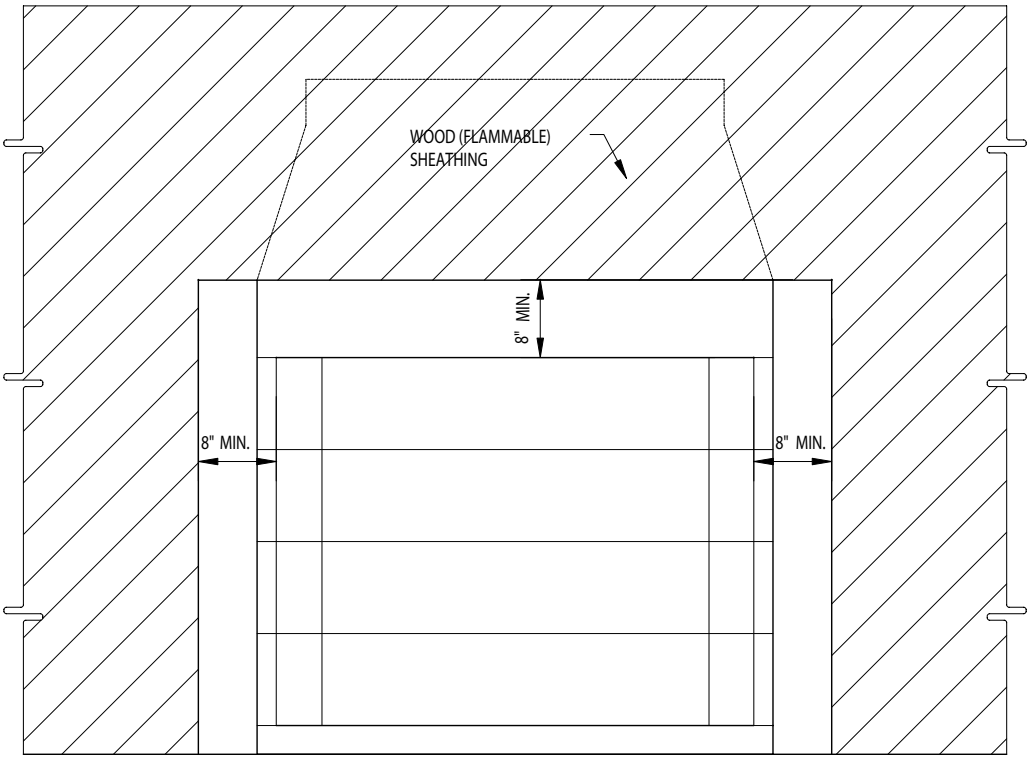


FIGURE 71

Combustible sheathing such as plywood and particle board may be used to cover the front face of the MAGNUM smoke dome and be in direct contact with it. If sheathing protrudes in front of the firebox, application of such combustible sheathing must assure that the sheathing is held a minimum of eight inches (8") away from each side of the MAGNUM opening and a minimum of eight inches (8") above the top of the MAGNUM opening. (Figure 70 & 71) (9" for models 60 & 72)

Do not build a combustible framed wall out in front of the MAGNUM firebox.

If sheathing and framing are to be installed across the front face of the MAGNUM smoke dome, then the framing and sheathing must be held a minimum of eight inches (8") above the top of the MAGNUM firebox opening. This means that framing and sheathing across the smoke dome front must be kept at or above the MAGNUM damper beam.

Required Clearance to Combustible Framing

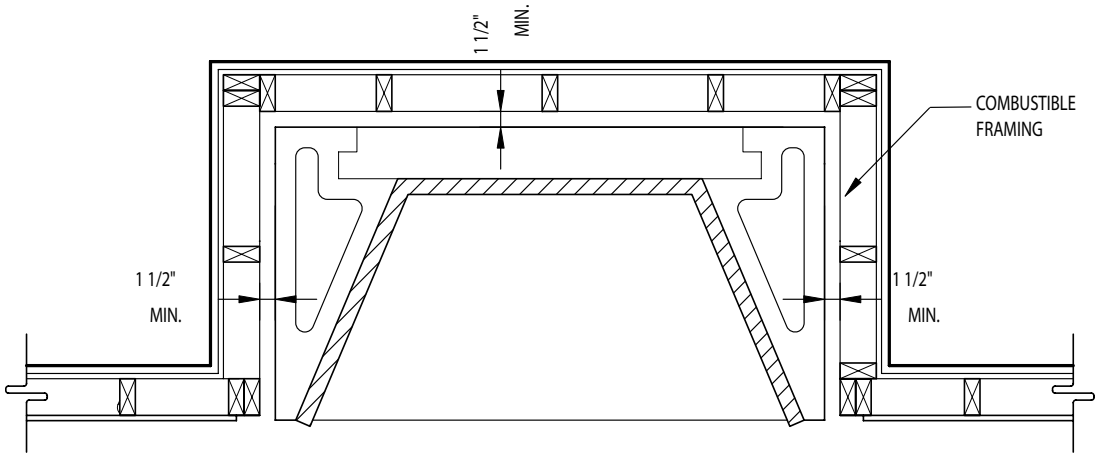


FIGURE 72

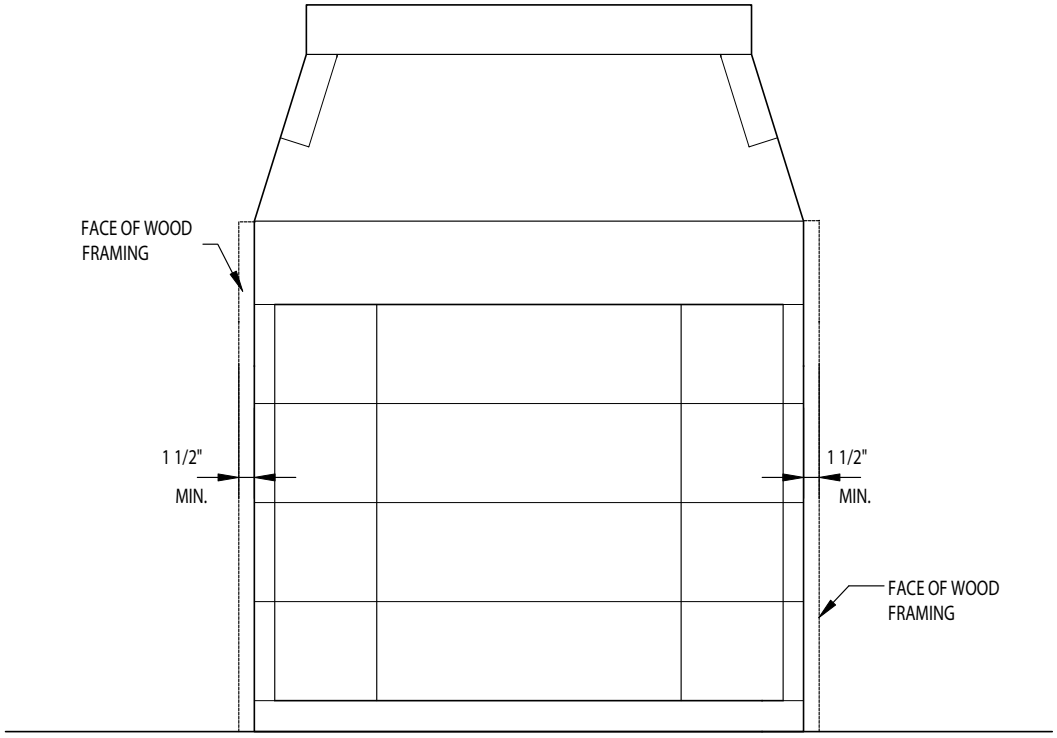


FIGURE 73

MAGNUM fireplaces are tested and listed for one and one-half inch (1-1/2") clearance to uninsulated combustible framing material at the firebox sides and back.

Installation and use practices that are beyond the control of the manufacturer* can result in situations where clearance requirements (as determined through testing and as stated by the manufacturer) are not maintained due to construction subsequent to the installation of the Isokern unit. It is the general contractor's responsibility to assure that listed clearances to combustible framing and to insulation are maintained throughout the construction of the project subsequent to the installation of the Isokern unit. To avoid causing a fire resulting in damage to property, personal injury or loss of life, do not pack or fill the required air spaces with insulation or other material. No material is allowed in these areas. (Figures 72 & 73)

*The manufacturer is not responsible for installation and use practices that are beyond the scope of the product as defined in the product listing and in the installation manual.

Clearance to Insulation & Vapor Barriers

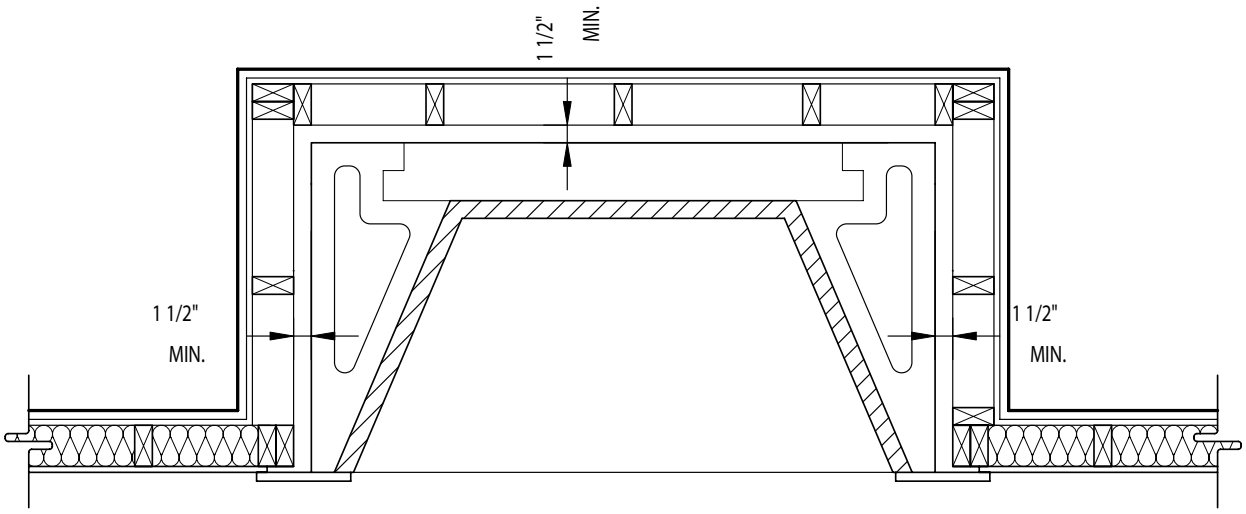


FIGURE 74

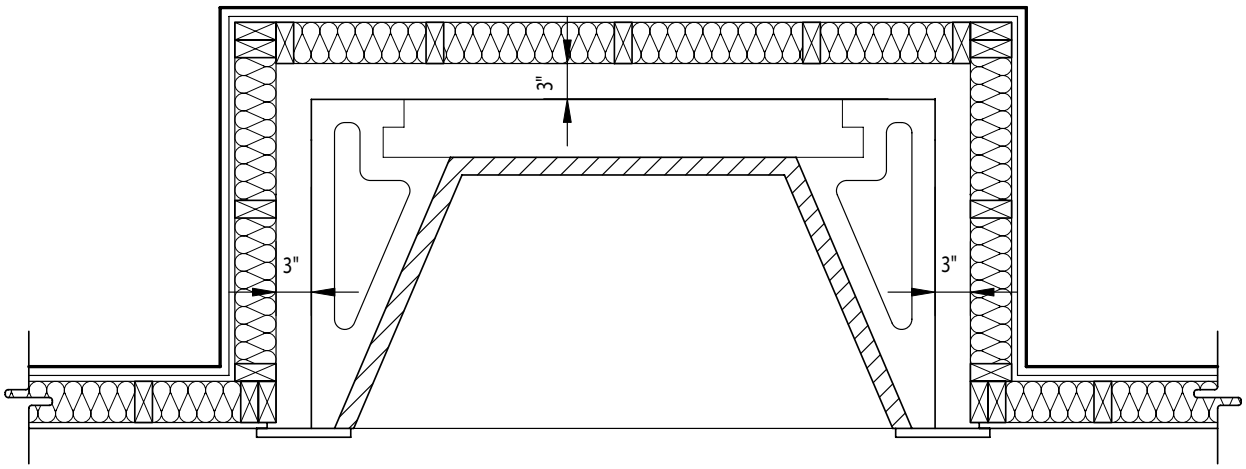


FIGURE 75

The Magnum Series firebox backwall, side walls and the smoke dome back require 1 1/2" clearance. (Figure 74)
Keep all insulaion and vapor barriers a minimum 3" away from all Iskern surfaces. (Figure 75)

Keep all insulation, vapor barriers, "house wrap" paper and other insulating type membranes and products, including fiberglass, cellulose and other insulation, a minimum of three inches (3") away from all MAGNUM surfaces. (Figure 75)

When MAGNUM fireplace installations are surrounded by walls that are to be insulated, the walls must have enough clearance to the Isokern unit in order to maintain the three inch (3") minimum clearance to insulation. (Figure 75) Never spray the MAGNUM fireplace with any type of sealer, insulation or other material.

If insulation or vapor barriers are used in walls surrounding the MAGNUM fireplace, it is strongly recommended that the walls be sheathed with gypsum board, plywood, particle board or other material on the side facing the Isokern to assure the insulation and vapor barriers remain in place and a minimum of 3" away from the unit.

Flush Wall Fire Brick Finish Detail

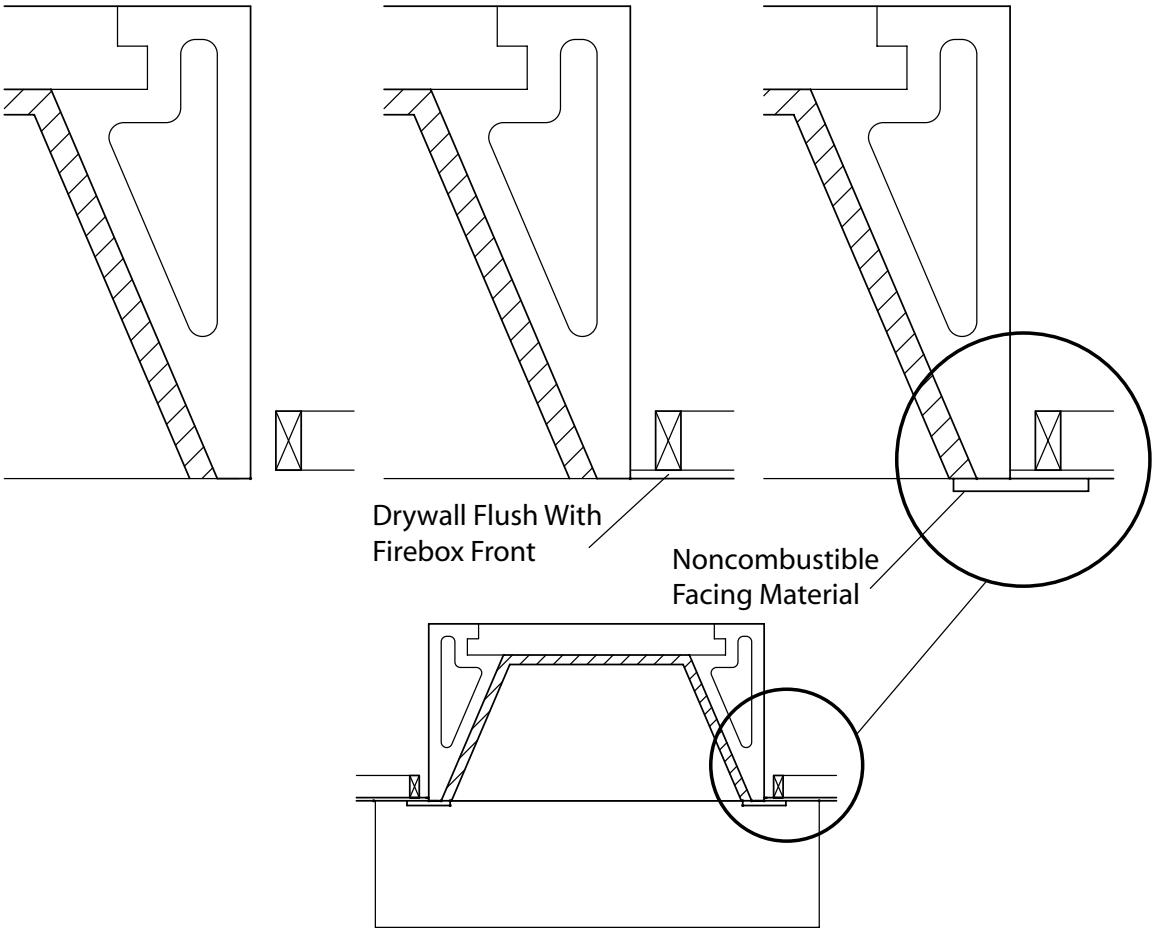


FIGURE 76

Recommended Fire Brick Detail: When drywall is the wall finish at the MAGNUM face and flush with the rough face of the MAGNUM firebox and damper beam, it is recommended when installing the required fire brick lining to the interior of the firebox, that the leading edge of the fire brick - at the floor and at the side walls of the firebox - be set flush with the MAGNUM's rough firebox front. This will aid in the overall fit and finish of the MAGNUM fireplace front when the code required noncombustible finished facings are applied.

This alignment of fire brick application, as shown above (Figure 76), allows the fire brick lining to be in the same plane with the room's wall finish surface. With the fire brick set in this fashion the noncombustible finish facing material can be set tight against the leading edge (or, "room edge") of the fire brick at the sides of the fireplace opening. At the same time the finished facing material can lay flat against the room's finished wall surface.

Flush Wall Brick Finish Detail

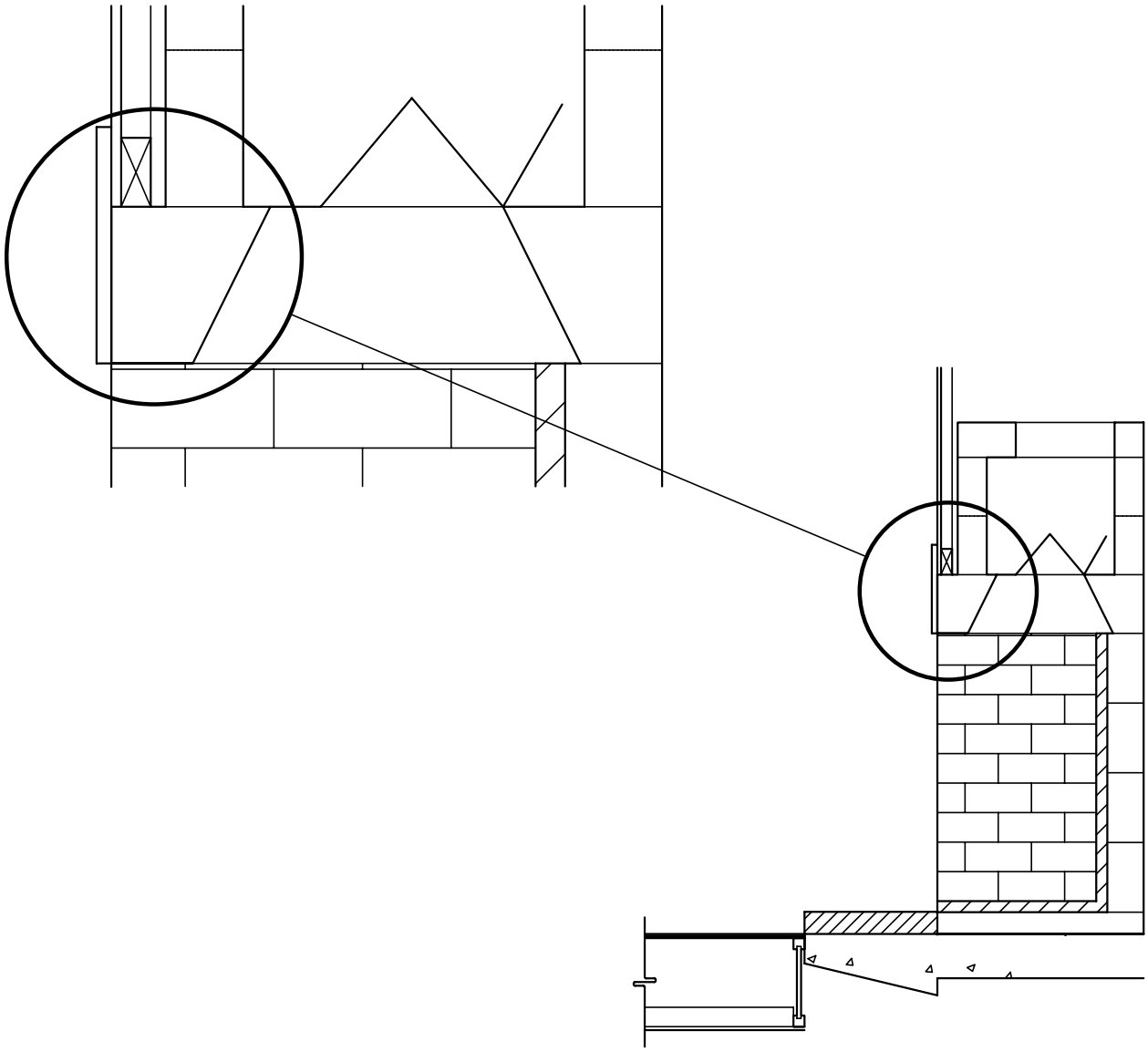


FIGURE 77

Important: Since there is no fire brick set along the top of the MAGNUM's firebox opening, when setting the noncombustible finished facing material (code required and supplied by others) across the top of the firebox opening there may be a gap between the back of the noncombustible finish material and the rough front face of the MAGNUM damper plate.
Be sure to check for and fill any such gap with noncombustible Earthcore Mortar in conjunction with placement of the code required noncombustible finish facing material set across the top of the firebox opening. (Figure 77)

WARNING: Avoid false chimneys.

Important: Failure to seal any gaps between the front face of the MAGNUM damper plate and the back of the noncombustible finished facing material will create what is known as a "false chimney". A "false chimney", in this case, is the narrow gap (mentioned above) between the back of the noncombustible facing material at the top of the firebox opening and the rough front of the MAGNUM damper plate. If left unfilled this gap creates a "false chimney" which can draw smoke, heat and fire out of the fire-box into the space behind the noncombustible finish facing and on up into overhead framed spaces causing a fire hazard.

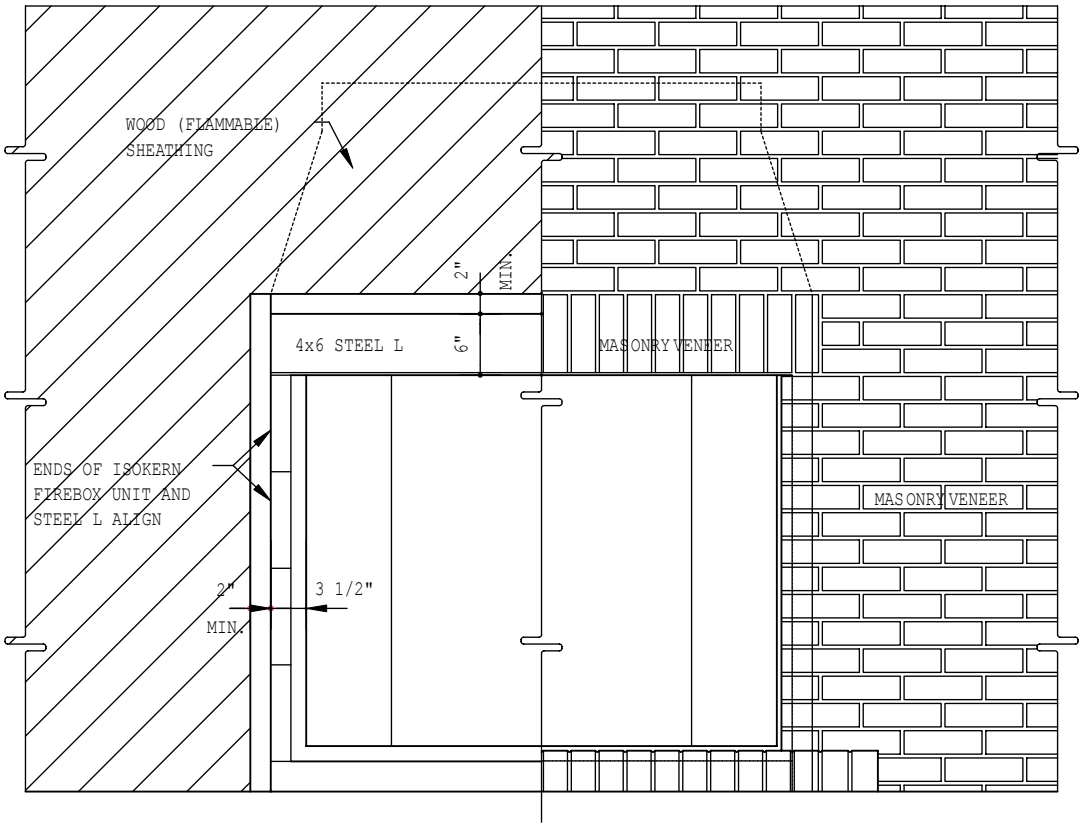


FIGURE 78

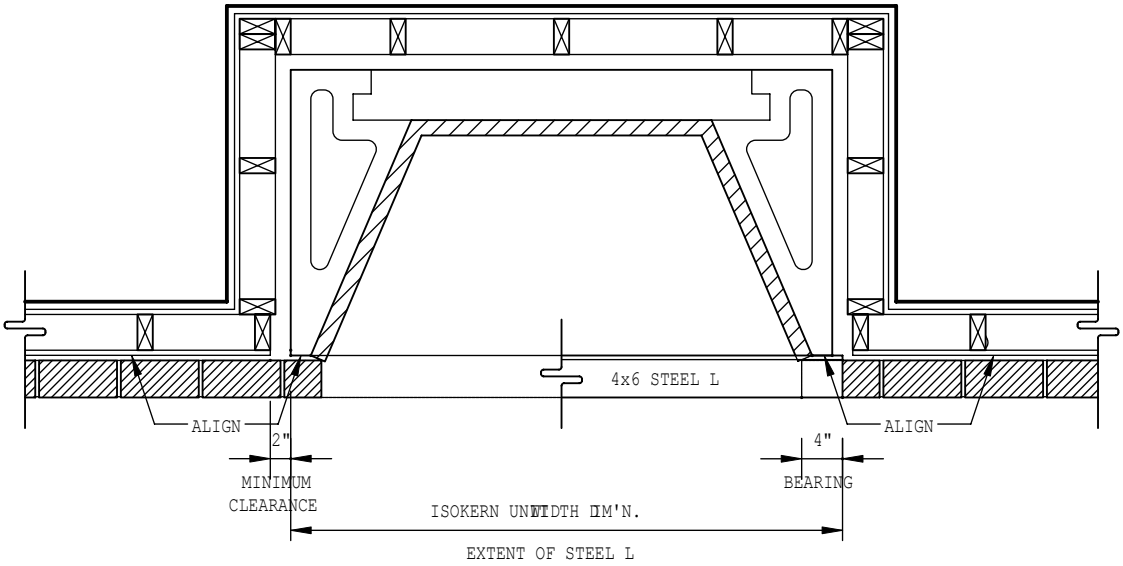


FIGURE 79

Masonry Veneer Construction Details

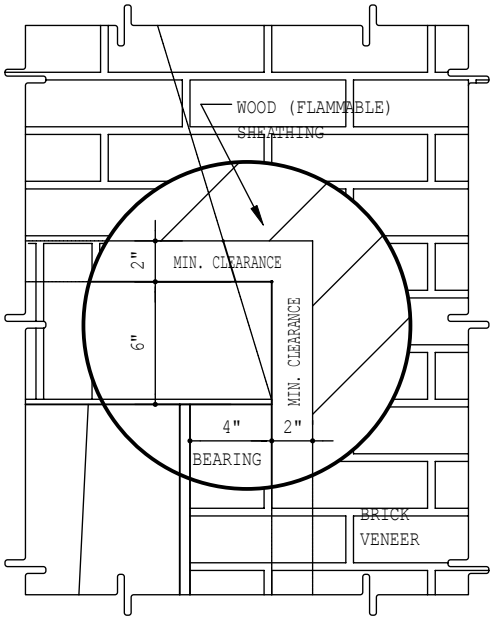


FIGURE 80

Brick, stone or other masonry veneer finished fronts to MAGNUM fireplaces are possible. Special attention is required with regards to:
(1) the placement of the proposed masonry veneer facing and its interface with the MAGNUM fire brick lining, and
(2) the masonry veneer and clearance to combustible framing and sheathing from any steel "L" support used in the masonry veneer around the front of the MAGNUM unit behind the veneer facing.

Any proposed brick, stone or other masonry veneer facing must have sufficient foundation to support the full weight of the veneer work. This may require review by a local structural engineer prior to construction.

The veneer facing, when installed, must present a tight seal with the leading edge - the room edge - of the MAGNUM fire brick lining at the sides of the MAGNUM firebox opening. (Figure 83)

A steel "L" will need to span the top of the finished fireplace opening to carry the masonry veneer as it spans over the MAGNUM firebox opening. (Figures 80 & 81)

By code requirement this steel "L" must have a minimum four inch (4") end bearing. This bearing surface area shall be provided in the veneer work. (Figure 80) It is important that the steel "L" is set tight against the MAGNUM's damper beam front and set in a mud joint to avoid creating a "false chimney" between the back of the steel "L" and the MAGNUM's damper beam front. (Figure 81)

Steel "L" or "angle" used to support masonry veneer as it spans the MAGNUM's firebox opening must, in all cases, have a two inch (2") minimum clearance to all combustible materials. The vertical leg of the steel "L" cannot exceed six inches (6") in height.

Note: Properly placed combustible sheathing is kept a minimum of eight inches (8") away from the MAGNUM firebox opening sides and top.

Important: Combustible framing members, normally set at one and one-half inch (1-1/2") clearance to the sides of the MAGNUM firebox must be moved to at least two inch (2") clearance to the firebox sidewalls to maintain minimum two inch (2") clearance to the steel "L" to avoid a potential fire hazard.

Moving framing members two inches (2") away from the firebox side walls will maintain the minimum required two inch (2") clearance from the steel "L" and, at the same time allow full four inch (4") end bearing required for the steel "L". (Figure 82)

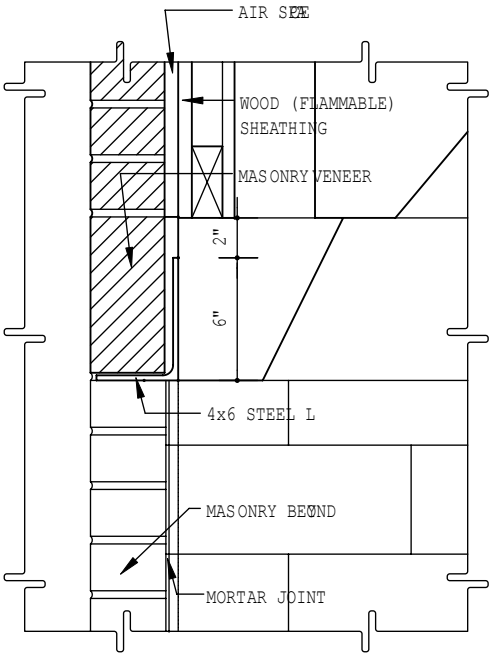


FIGURE 81

Non-combustible Finished Facing requirements & Clearance to Combustible Trim

Hearth Extensions:

All MAGNUM fireplaces shall have hearth extensions of brick, concrete, stone, tile or other code approved noncombustible material. Suitable hearth extension material for the MAGNUM fireplace shall be placed on the hearth extension's noncombustible substrate and must extend to at least twenty inches (20") in front of the fireplace's finished opening and must extend to at least twelve inches (12") beyond the sides of the finished fireplace opening. (Figure 83)

WARNING: The noncombustible hearth extension, by code, must sit on noncombustible substrate which shall have no wood underpinnings.

This means that off-grade wood floor systems shall be constructed in such a way that all wood floor joists and subflooring shall stop twenty inches (20") out from the front of the MAGNUM firebox. (Figure 82)

Mantle and Mantle Shelf Clearances: Magnum fireplaces are subject to the same building code safety clearances to combustible trim as with any radiant heat fireplace.

All combustible trim shall be kept at least eight inches (8") from the finished fireplace opening. Combustible trim located along the sides of the fireplace opening, which project more than one and one-half inches (1-1/2") from the face of the fireplace, shall have additional clearance from the eight inches (8") equal to the projection. Combustible projecting mantles - up to twelve inches (12") of projection - shall not be placed less than fouteen inches (14") from the top of the fireplace opening. Combustible mantles which project more than twelve inches (12") from the face of the fireplace, shall have additional clearance from the fourteen inches (14") equal to the projection.

Note: The local authority having jurisdiction may require greater clearances for projection combustible mantle shelves. Be sure to check local building codes regarding required clearances to projecting combustible mantles.

Adjoining Walls. Side walls and walls to rooms adjoining MAGNUM fireplace installations cannot be closer than twenty-six inches (26") to the finished fireplace opening. (Figure 83)

Note: "Clearance to Combustible Trim" are those distances required to ensure that a fireplace mantle or facing will not catch fire. In most cases the distances should also be adequate to prevent any discoloration or warping due to heat. However each installation presents a unique and completely different set of circumstances involving many variables.

These include paint or finish composition, previous exposure to heat, methods and quality of construction, air flow patterns, etc. Because of these variables, the manufacturer does not guarantee that heat warping or discoloration will never occur.

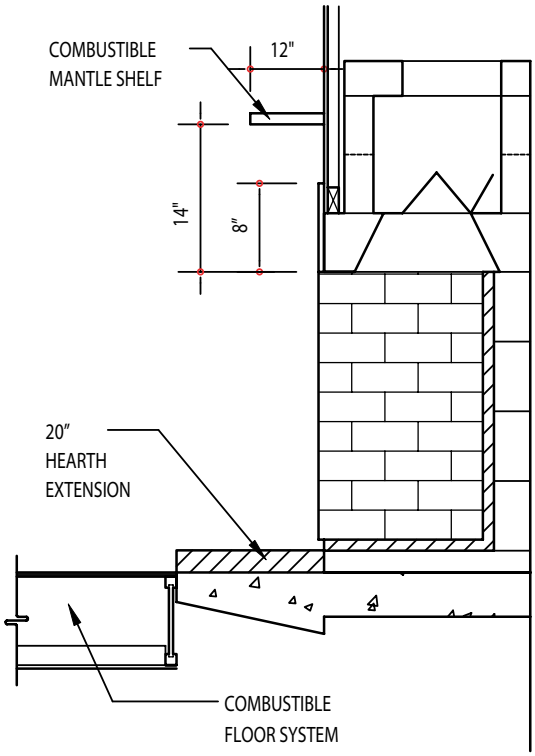


FIGURE 82

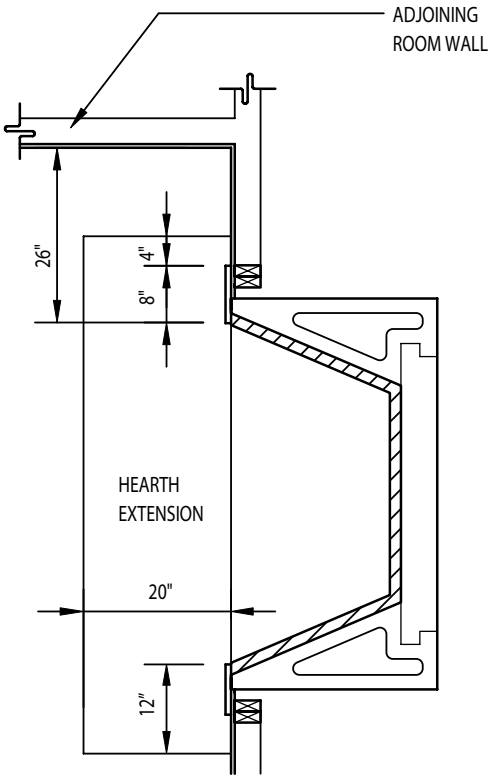


FIGURE 83

Concrete Support

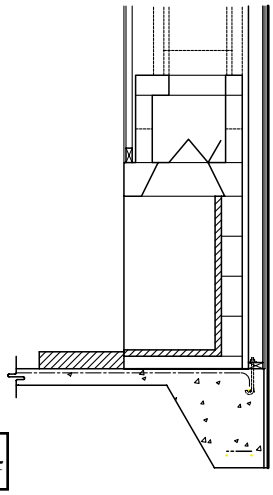


FIGURE 84

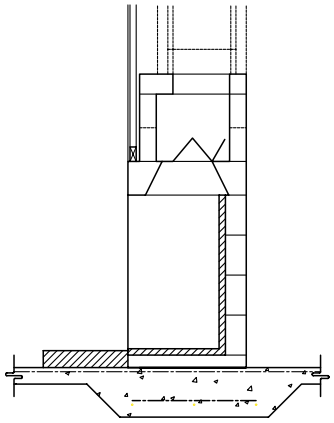


FIGURE 85

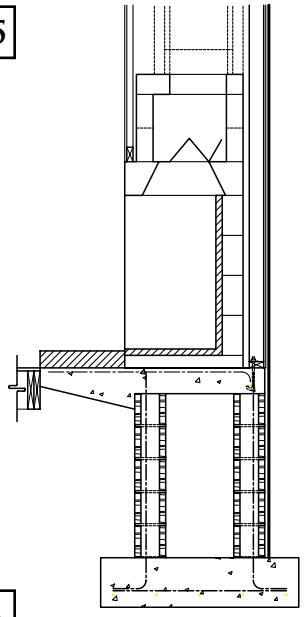


FIGURE 86

The MAGNUM fireplace is not rated for installation on a combustible floor system unless used in the Fire-Lite application (see Pages 60 - 69). MAGNUM fireplaces must be built upon a concrete support slab with no wood underpinnings. Proper reinforced concrete support slab for MAGNUM installations may include the following types:

1. Slab on grade: standard residential, minimum four inch (4") thick, 2500 psi concrete foundations on properly compacted fill. This type foundation can support Isokern installations up to thirty feet (30') overall height (brickledge installations not included). (Figure 84)

2. Slab-on-grade foundations, thickened and reinforced: for additional load carrying. (Figure 85)

3. Off-grade slab on foundation walls and footings.

Projects with off-grade floor systems as well as upper story installations require this type of support. (Figure 86)

When building off-grade support slabs the code required hearth extension substrate should be built as a continuation of the support slab for the MAGNUM unit. (Figure 86)

Supports for off grade slabs must be concrete or steel and capable of supporting the slab, Isokern unit and the chimney.

For multi-floor and back-to-back installations proper weight computation on an individual basis is required. Consult local structural engineer for load bearing requirements.

Important: Foundations and footings must meet local code and be approved by the local building authority. For any foundation design and load requirements check with local structural engineer. It is the responsibility of the General contractor to insure adequate foundations.

MAGNUM fireplace weights and "foot print" areas:
The total fireplace weight for each MAGNUM model listed below includes: MAGNUM unit pumice parts only:

A. Model MAGNUM 28: 1040 lbs.
B. Model MAGNUM 36: 1300 lbs.
C. Model MAGNUM 42: 1420 lbs.
D. Model MAGNUM 48: 1600 lbs.

Totals are exclusive of any chimney components.
See page 43 for Isokern DM chimney component weights.

The "footprint" area for each model is as follows:

A. Model MAGNUM 48 @ 35.5" x 28" = 6.90 sq. ft.
B. Model MAGNUM 36 @ 43" x 28" = 8.36 sq. ft.
C. Model MAGNUM 42 @ 49" x 28" = 9.52 sq. ft.
D. Model MAGNUM 48 @ 53" x 28" = 10.3 sq. ft.

"Footprint" areas listed above are base plate dimensions for each model and are exclusive of code required hearth extension areas.
See page 39 for hearth extension dimensions.

Note: Additional support slab area may be required at the side or back of the MAGNUM unit to provide bearing for structural supports to a DM 54 offset chimney sequence.
(See pages 47 - 50 for offset chimney support requirements.)

DM 54 Chimney System: General Information

The DM 54 chimney is a dual module, refractory masonry chimney system. It is composed of two precast, mating components, the outer casing block and an inner liner.

General Information:

This chimney system is designed for installation in accordance with the National Fire Protection Standard for Chimneys and Solid Fuel-Burning Appliances, NFPA 211 and in accordance with codes such as ICC, BOCA Basic/National Codes, the standard Mechanical Code and the Uniform Building Codes.

Note: Illustrations shown reflect "typical" installations with nominal dimensions and are for design and framing reference only. Always maintain minimum required clearances to combustible materials and do not violate any specific installation requirements.

Required DM 54 Chimney Clearance:

The DM 54 chimney system, rated UL 103HT, is listed for zero clearance to normal construction materials.

The DM 54 chimney system may be enclosed in a wood chimney chase at zero clearance to wood framing members.

Note: A firestop is required wherever a chimney passes between one zone of a building to another. Ex: When the chimney passes through the ceiling into the attic area, there must be a sealed area around the chimney so there isn't a chaseway for a fire to get to the attic.

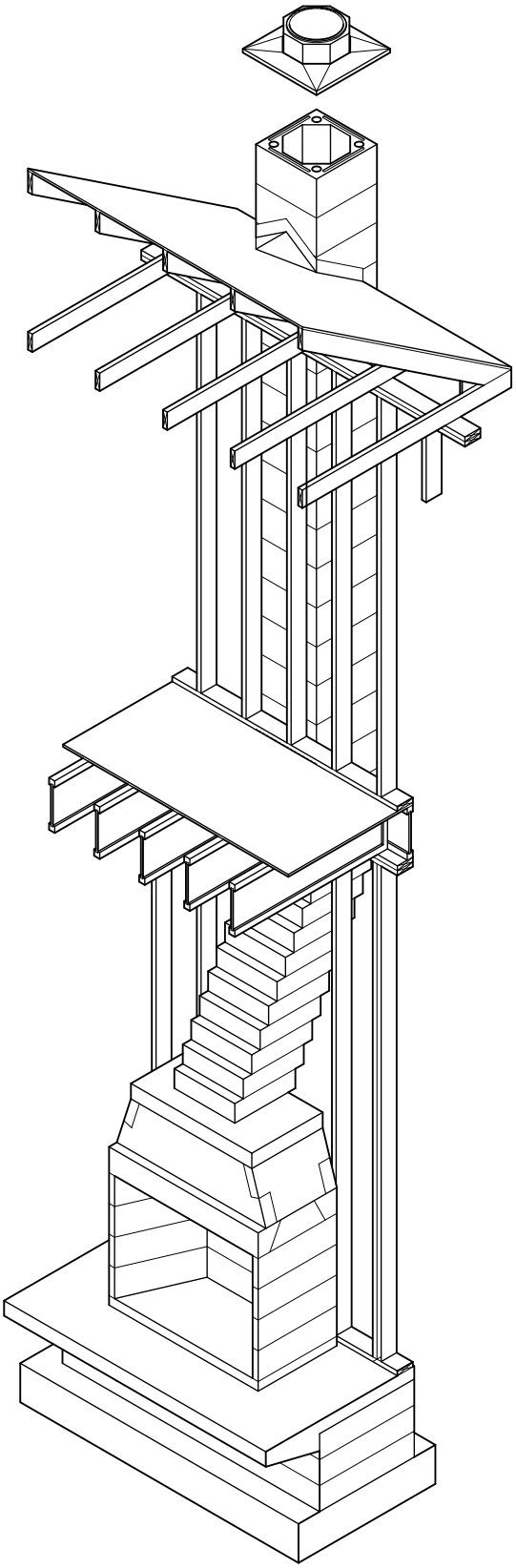
Since lateral support is required for DM 54 chimneys the framing members will be in contact with the DM 54 chimney system.

Important: "Combustibles" are defined as "normal construction materials" and are considered to be: framing materials, particle board, mill board, drywall, plywood paneling, plywood sub flooring, and wood flooring.

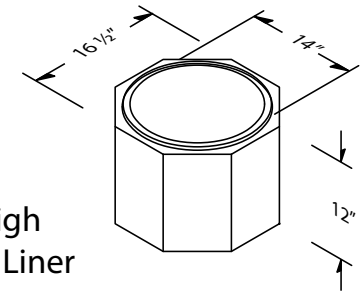
WARNING: Keep all insulation minimum of three inches (3") away from all DM 54 chimney components. Failure to use manufacture's provided parts or variations in techniques and construction materials or practices other than those described in this manual may create a fire hazard and void the limited warranty.

Mechanical Vent Systems:

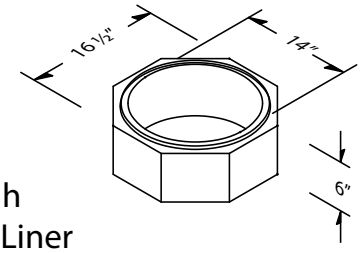
It is acceptable to use mechanical draft systems, if the venting companies do the engineering calculations and make the necessary recommendations for fan size and flue vent diameter following the guidelines of NFPA 211/2006, pg. 211-13. Installation of such systems must also follow the mechanical drafting company's explicit installation and operation instructions.



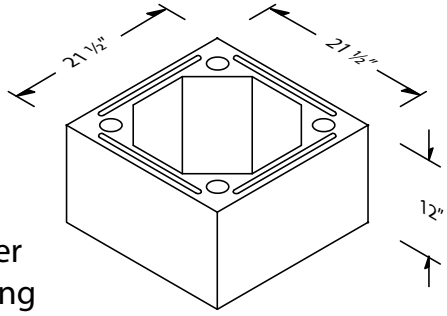
DM 54 Chimney Component List & Dimensions



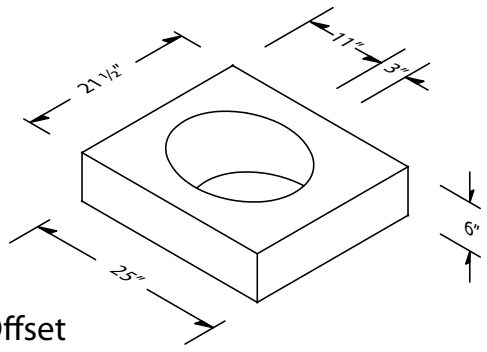
12" High
Inner Liner



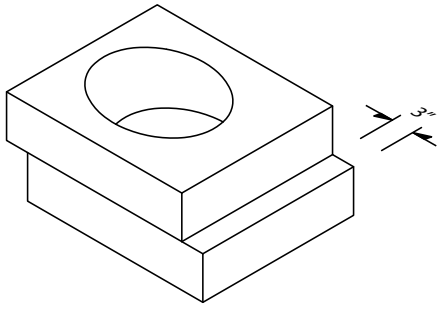
6" High
Inner Liner



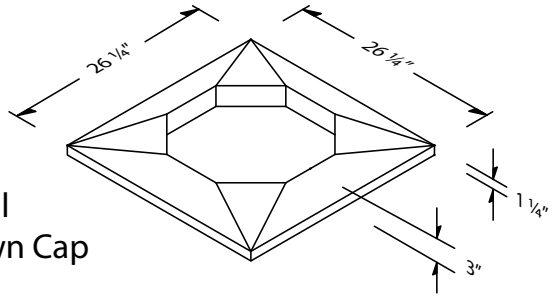
Outer
Casing



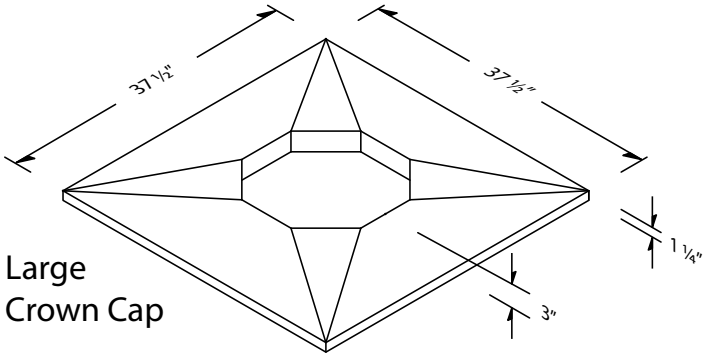
Offset
Block



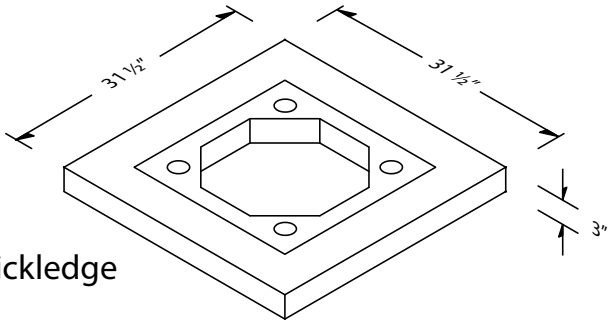
Offset
Block



Small
Crown Cap



Large
Crown Cap



Brickledge

DM 54 Chimney: Component Weights

Isokern DM Chimney Weights:

Total installed Isokern DM chimney weight will vary according to each specific installation. Total installed chimney weight will be based on the overall height and the configuration of the chimney system.

Chimneys may be straight vertical stacks of DM 54 outer casing and inner liner but may also include the use of offset chimney blocks, brickledge, chimney reinforcement, brick/stone veneers, cement crown caps and clay chimney pot termination.

The DM 54 chimney component weights are as follows:

Small crown cap: 80 lb.
Large crown cap: 100 lb.
Brickledge: 110 lb.
14” diameter inner liner: 40 lb.
Outer casing block: 90 lb.
Offset block*: 110 lb.

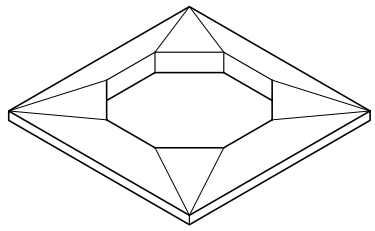
*Construction of an offset block sequence will shift a portion, if not all of the chimney load off of the firebox and smoke dome. Additional reinforced concrete footing and slab area may need to be provided adjacent to or as a continuation of the primary support slab area for bearing the steel or masonry support required for an offset sequence. (See pages 47 - 50 following.)

Notes:

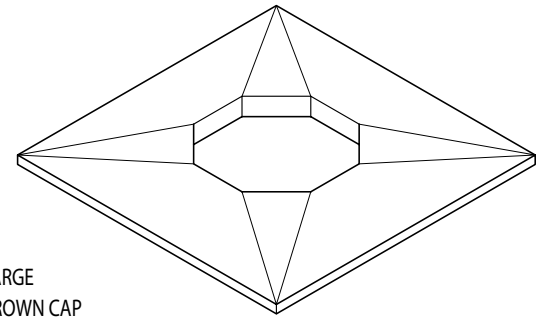
Plan chimney configuration carefully before constructing the required reinforced concrete support foundation for the MAGNUM fireplace. Be sure that enough structural masonry area is available to support any offset chimney sequence included in the proposed chimney design.

Isokern is not responsible for site specific structural support details and load specifications for MAGNUM fireplace and DM chimney system installations. Consult local structural engineer for proper job-specific support structure design, sizing and load bearing specifications.

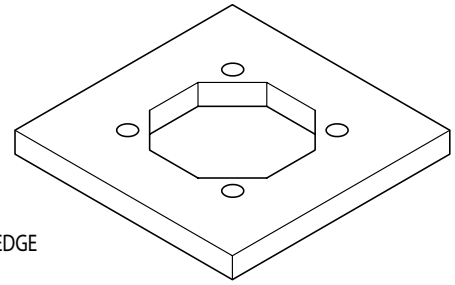
Unless otherwise noted, all floor drawings in this manual are merely illustrations to indicate the presence of an underlying noncombustible support structure to the MAGNUM installation.



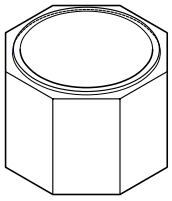
SMALL
CROWN CAP



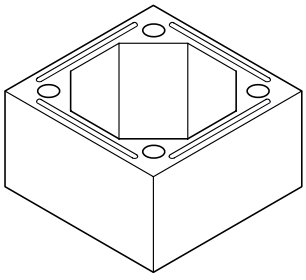
LARGE
CROWN CAP



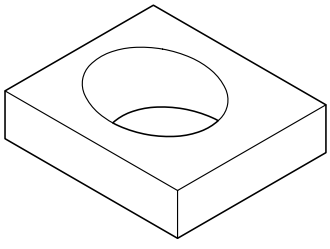
BRICKLEDGE



INNER
LINER



OUTER
CASING



OFFSET
BLOCK

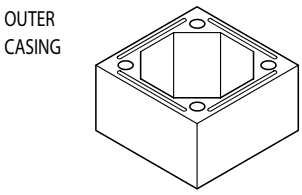


FIGURE 87

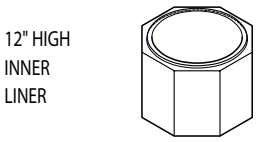


FIGURE 88

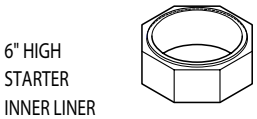


FIGURE 89

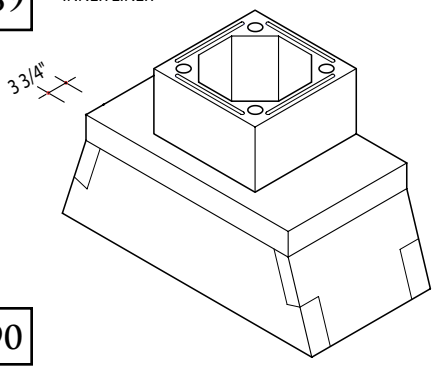


FIGURE 90

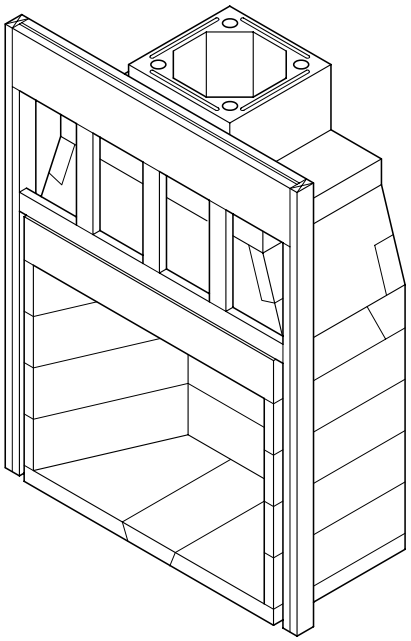


FIGURE 91

DM 54 Chimney Alignment:

Where the chimney run is to be a straight vertical run the DM 54 outer casing block sits directly onto the Isokern smoke dome lid. The DM 54 outer casing block, properly set is intended to be flush with the back face of the firebox smoke dome assembly (Figures 89 and 90).

Set in this way the DM 54 outer casing block will sit three and three fourths inches (3-3/4") back from the front face of the smoke dome. (Figure 89).

This total set-back distance makes it possible for a three and one-half inches (3-1/2") thick bearing header to pass over the MAGNUM firebox smoke dome assembly and for the DM 54 chimney to run straight up the back side of the bearing header (Figure 91).

Installation of the DM 54 chimney:

Begin straight DM 54 chimney runs by setting a DM 54 outer casing block in a bed of mortar on top of the MAGNUM smoke dome lid with the outer casing block centered on the lid from side to side and flush with the back of the smoke dome lid.

Be sure that the outer casing block aligns with the flue hole in the smoke dome lid.

Next set the DM 54 inner liner's six inch (6") tall starter piece (Figure 89) inside the first outer casing block. The "factory" version of the six inch (6") tall inner liner starter piece has a female end and a flat end. Set this inner liner starter with the flat end down.

Set the downward end into Earthcore Mortar so that it is fully sealed to the smoke dome lid.

WARNING: Do not mortar the air space between the liners and the outer casing blocks.

Starting with the six inch (6") tall inner liner starter piece creates six inch (6") staggered horizontal joints between the inner liner and the outer casing block.

Both the outer casing block and the inner liner components have tongue and groove type detailing on each end to assure alignment and interlock of the pieces as they are stacked and glued together.

Notes:

If the "factory" inner liner starter piece is broken or otherwise unavailable then a full twelve inch (12") tall inner liner piece can be cut to six inches (6") in height to make an inner liner starter piece.

DM 54 chimney inner liners can be stacked with either the male or the female end up. In either case start the inner liner stack with a six inch (6") starter piece.

DM 54 Chimney System: Lateral Support

CAUTION: Maintain three inch (3") minimum clearance to insulation from all DM 54 chimney component surfaces.

After setting the DM 54 inner liner starter piece, apply mortar to the top of the starter liner. Continue the straight chimney run by placing a full height inner liner onto the six inch (6") starter liner. The top of this full height inner liner will sit 6" above the top of the outer casing block that was previously set.

This six inch (6") offset between joints of the inner liner stack and the joints of the outer casing stack continues to the top of the chimney run.

Continue the straight vertical DM 54 chimney by setting an outer casing block onto the mortared top surface of the preceding outer casing. The grooves on the bottom end of the upper outer casing block fit onto the tongues on the top of the lower outer casing block. This assures proper alignment of the two components.

Next place a full height inner liner onto the mortared top end of the previously set inner liner. Proceed this alternate stacking of outer casing blocks and inner liners until the desired height of the flue is attained.

Mortar all outer casing blocks together and mortar all inner liners together. Do not mortar the space between the outer casing and the liner.

Lateral Support for DM 54 Chimneys:

Where the DM 54 chimney is built up along an exterior wall the vertical chimney system should be connected to the structural wall system at a minimum of four foot (4') intervals.

This connection can be made using 18 gauge strap ties (Simpson Strong Tie CS coil strap, or equal).

Starting on one side of the DM 54 chimney, at four foot (4') intervals up the structural wall adjoining the chimney, connect one 18 gauage strap tie to the structural wall with two, three inch (3") #8 (minimum) wood screws or masonry anchors, as appropriate.

Next fold the strap around the three exposed sides of the DM 54. Connect the strap to each of the three DM 54 faces with two, one and one-half inch (1-1/2") long masonry anchors, such as "Tapcon" or "Titen" screws. Fasten the strap back to the structural wall with two three inch (3") # 8 (minimum) wood screws or masonry screws, as appropriate. (Figure 92)

Where DM 54 chimneys are built up from the interior walls the DM 54 chimney outer casing block is to be laterally braced at ceiling and roof penetrations.

Pressure treated two inch (2") by four inch (4") blocks, set at each side of the flue between the trusses or rafters and fastened to the pre-engineered roof trusses or rafters with two 16d common nails at each end, provides lateral support, parallel with the framing.

Additionally, a two inch (2") by four inch (4") by six feet (6') minimum pressure treated member ("rat run") installed on each side of and butted up to the outer casing block will provide lateral support perpendicular to the direction of the truss or rafter framing system.

Fasten the perpendicular member with two 16d common nails to each intersecting truss or rafter.

The perpendicular bracing should be installed on the top side the ceiling level framing as well as on the bottom side of the rafters. (Figure 93)

Note: A firestop is required wherever a chimney passes between one zone of a building to another. Ex: When the chimneypasses through the ceiling into the attic area, there must be a sealed area around the chimney so there isn't a chaseway for a fire to get to the attic.

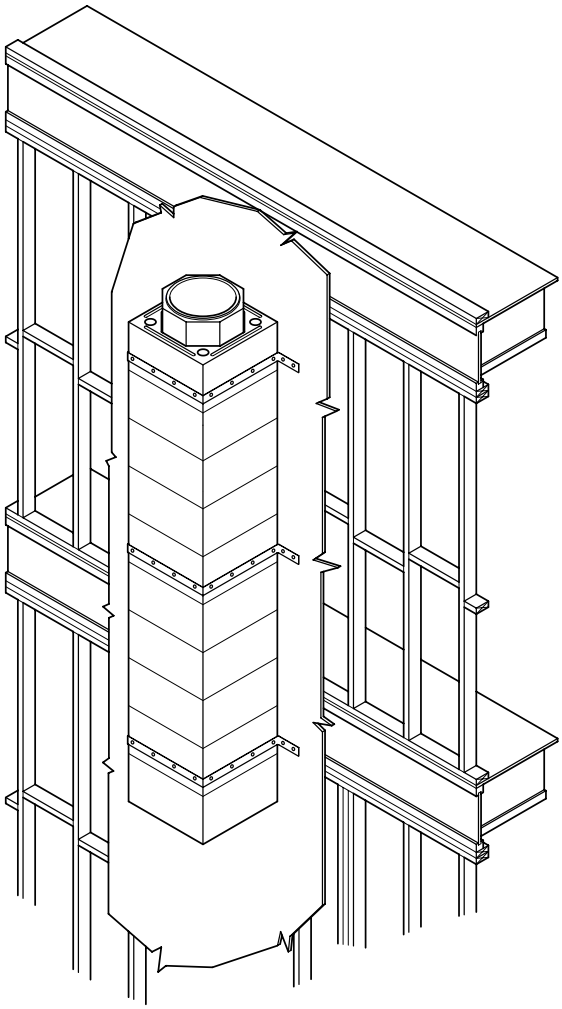


FIGURE 92

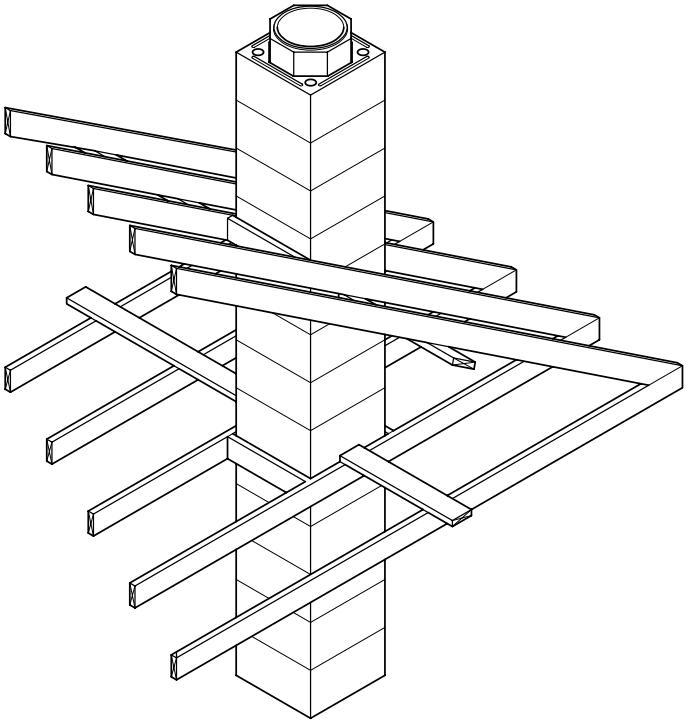


FIGURE 93

DM 54 Chimney System: Offset Block

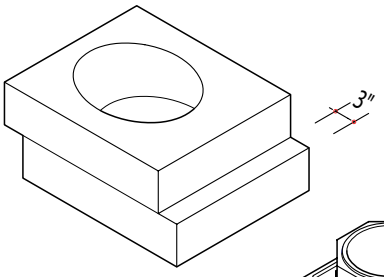


FIGURE 94

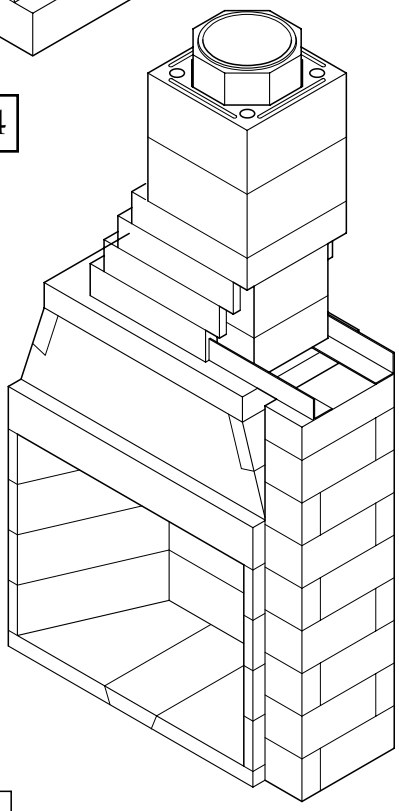


FIGURE 95

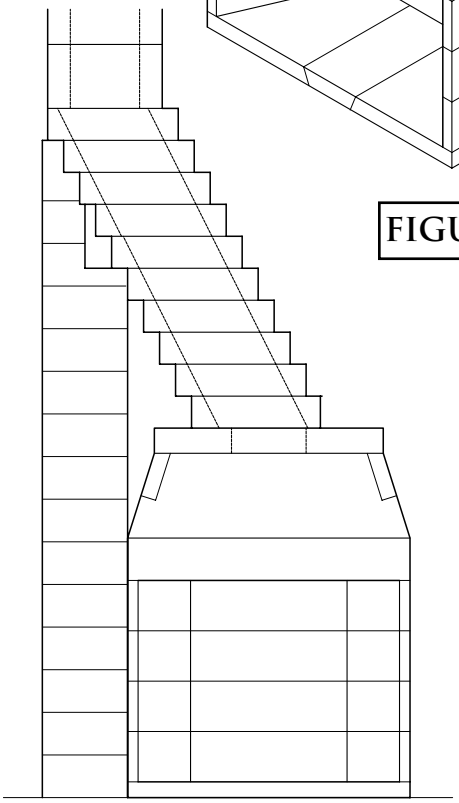


FIGURE 96

DM 54 Offset Chimney Block:

For vertical DM 54 chimney to bypass overhead obstructions, the Isokern offset chimney block is used. Offset blocks are six inch (6") thick, single module chimney components, measuring twenty-one and one-half inch (21-1/2") wide by twenty-five inches (25") long. The fourteen inch hole passes through the block at thirty (30°) degrees.
An offset chimney block can be set as the first flue component on top of the MAGNUM smoke dome.

When building offset sequences it is necessary to support the third offset block in the sequence and every third offset block thereafter. When using only one or two offset blocks no additional support is required.

Offset sequences are best when built as low as possible in the chimney run to maximize performance.
Do not make support columns of brick, stone or wood. All support columns must bear onto proper noncombustible foundations.

Isokern Offset Chimney Block Installation:

Isokern offset chimney blocks are stacked in a stair step fashion with each successive block overhanging the previous offset block by three inches (3"), allowing the flue to rise at an angle of thirty (30°) degrees off of vertical. (Figure 94)

When building offset sequences check the interior flue alignment as each offset block is set to avoid creating overhanging ledges on the inside of the flue. Such internal overhangs will inhibit flue drafting.

Each offset block is to be set fully in a bed of Earthcore Mortar, completely sealing each offset block to the underlying component.

Offset chimney block sequences can be built to shift the chimney run to the left, right or to the rear of the firebox/smoke dome assembly.

Offset blocks can be set in a spiraling rotation, thus moving the chimney to a point that is diagonally away from its starting point.

Offsets to the Left or Right:

When offsetting chimneys to the left or right of the firebox it is not possible to build a support column directly under the third offset block.

To create proper support, construct a support column against the firebox from bearing up to the level of the smoke dome. Bridge from the column over to bearing on the smoke dome with two pieces of four inch (4") by four inch (4") by five-eighths inch (5/8") steel angle. (Figure 95)

On the steel angles build a masonry or steel support column up to the underside of the third offset block in the sequence. (Figure 95)

NOTE: For offset chimney block sequences that clear the side wall of the firebox below, it is allowable to support the first offset block that clears the the firebox side wall and then to proceed with supports at each third offset block thereafter. (Figure 96)

DM 54 Chimney System: Offset Block (cont.)

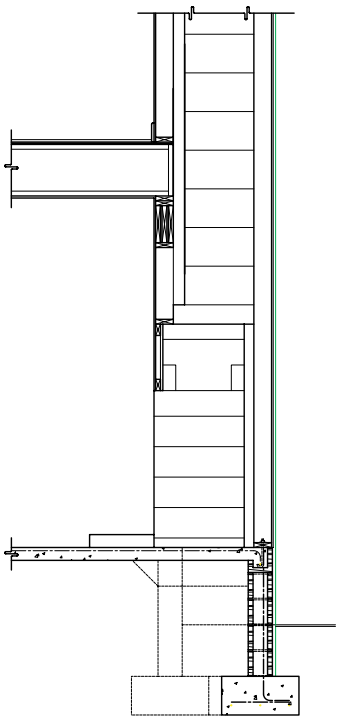


FIGURE 97

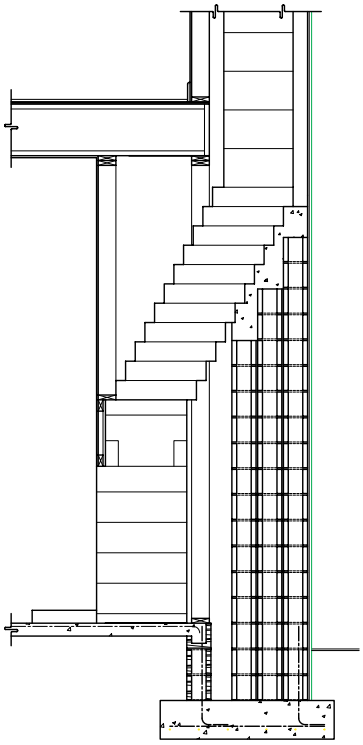


FIGURE 98

With straight chimneys the front of the DM 54 outer casing block sits approximately three and three-quarters inch (3- 3/4") back from the front of the smoke dome. This allows for a nominal 4" thick wall to be flush with the room side face of smoke dome assembly while the DM 54 chimney passes up the backside of the wall.

For a nominal 2" by 6" wall thickness the chimney can be offset 3" rearward.

Set the first DM 54 outer casing block flush to the back end of this offset block. This will leave a distance of 6-3/4" from the face of the MAGNUM firebox smoke dome assembly to the face of the DM 54 outer casing block. This allows for the smoke dome to sit flush with the inside face of the 2" by 6" wall and the straight chimney to run up the outside of the wall. (Figure 97).

For a wall thickness of 9", nominal 8" CMU plus 1-1/2" furring strip - first set two offset chimney blocks in sequence, rearward. This leaves a distance of 9-3/4" from the front face of the smoke dome to the front face of the DM 54 outer casing once the outer casing block is set in position. (Figure 99)

Greater offset distances can be accomplished by building with more offset chimney blocks. (Figure 98)

DM 54 Chimney System: Offset Block (cont.)

Offset block Support Foundations:

It is required that every third Isokern offset chimney block in the sequence be supported down to footings via concrete block or steel support columns.

Plan fireplace and DM 54 chimney systems carefully before foundations are laid to assure that proper footings are available to support Isokern offset blocks chimney run.

To calculate the distance of Isokern offset chimney travel in a straight line to the right, left or to the rear of the firebox/smoke dome assembly, proceed as follows:

Refer to Figure 90: temporarily dry set a DM 54 outer casing block in its proper location on top of the completed firebox/smoke dome assembly as though starting a straight chimney.

If the offset sequence is to move to the left then, starting from the right side of the temporary DM 54 outer casing measure left ward to the far face of the overhead obstruction that needs to be bypassed by the vertical chimney run.

For accurate measuring drop a plumb line down from the far face of overhead obstruction to the level of the top of the smoke dome assembly. Measure from the far side of the temporary DM 54 outer casing to the plumb line.

This measurement, taken in inches and divided by three (three inches of horizontal travel per offset block) gives the total number of offset blocks needed to accomplish the required travel distance.

To calculate the height that the offset block sequence will require, take the total number of offset blocks needed to accomplish the travel distance (described above) multiplied by 6". This number is the height (inches) that the offset sequence will require.

When establishing the "far face" of the overhead obstruction, be sure that the DM 54 chimney blocks can run straight to chimney termination without further overhead obstruction since a second offset sequence is not allowed. (Figure 101)

Be sure that there is sufficient space beyond the "far face" of the overhead obstruction to accept the DM 54 chimney's outer casing dimension of 21 1/2".

Support all offset sequences down to bearing as previously discussed on page 47.

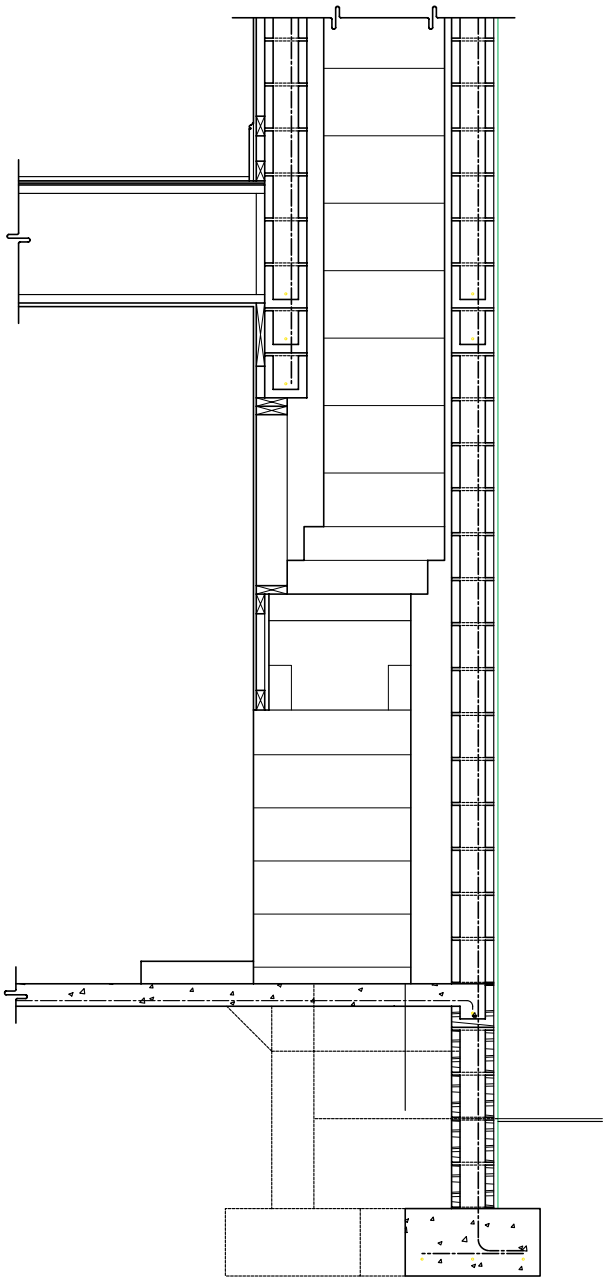


FIGURE 99

DM 54 Chimney System: Offset Block (cont.)

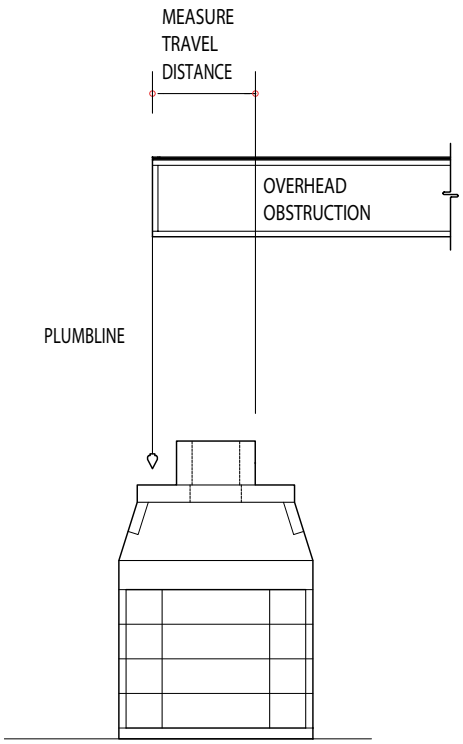


FIGURE 100

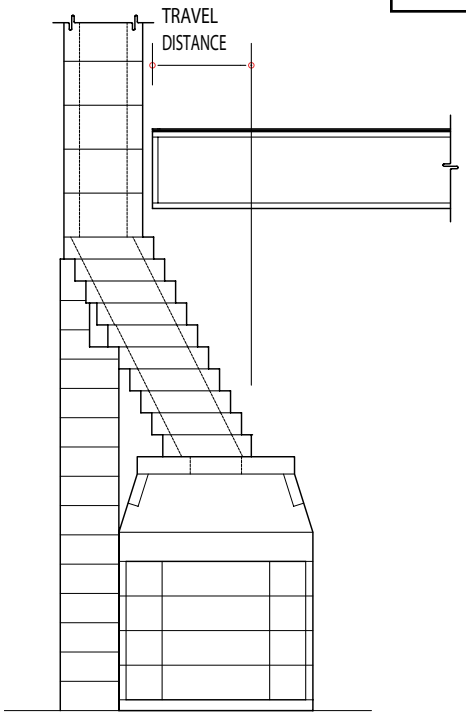


FIGURE 101

Notes:

Always support the last offset block in a sequence for full support of the DM 54 chimney where it returns to vertical.

Support columns often carry the majority of the total load of the vertical chimney that is set onto the last offset block.

The total chimney weight above the last offset block will be the total weight of the vertical chimney plus any additional allowable loads such as the Isokern brickledge, its related brick or stone veneers, and any crown caps, clay pots or other masonry chimney terminations.

Be sure the foundation under all support columns is made of concrete or steel and designed to support the loads applied to it.

Check with local codes and a structural engineer to confirm loading and foundation requirements.

Chimney runs are limited to one offset sequence per chimney system.

Maximum horizontal distance of offset is six feet (6') and represents twenty-four offset blocks in sequence.

By code the maximum angle of offset for chimney system is 30° off of vertical.

DM 54 Brick Ledge:

The DM 54 brickledge is a 3" thick, 32-1/2" square, steel reinforced, concrete and pumice slab (Figure 102). It provides a 5" ledge at all four sides of the outer casing block and is designed to support masonry veneers to DM 54 chimneys starting below the rafters and continuing to termination. (Figure 103)

The component is cast with an octagonal hole in its center so that the DM 54 octagonal inner liner can pass through it.

The brickledge has four 2-1/2" holes through it that align with the hole in each of the four corners of the DM 54 outer casing block. These four holes are provided for reinforcement of the chimney stack by the insertion of #4, minimum, steel reinforcing rods and subsequent grouting. (Figure 104)

The brickledge is intended for use in chimneys that rise through the roof only where all four sides of the chimney are bounded by the roof.

WARNING: To maintain structural performance the DM 54 brickledge must not be cut or altered in any way.

DM 54 Chimney System: Brick Ledge Installation

DM 54 Brick Ledge Installation:

Use of the brickledge will require a roof framing rough opening of at least 34" in width. The required opening dimension along the length of the rafter, where the chimney is to penetrate the roof line, will increase above 34" relative to the pitch of the roof.

As the DM 54 outer casing and inner liner assembly approaches the roof penetration set an outer casing block to a level of approximately 6" below the low side of the roof framing. (Figure 105)

The alignment tongues on the top of this outer casing block must be ground off to leave a flat contact surface for the brickledge. Temporarily leave out the inner liner that fits this outer casing block.

Set the Isokern brickledge onto the flat top surface of the outer casing in a full bed of Earthcore Mortar. Be sure to align the four 2-1/2" holes in the brickledge with the matching holes in the outer casing block below it. Return to setting the next inner liner in the sequence. This inner liner comes up from below and passes through the octagonal hole in the brickledge. The liner's top end will be approximately 3" above the top surface of the brickledge. Set the next outer casing block onto the top of the brickledge in a bed of Earthcore Mortar.

Insert one piece of #4 (minimum) steel reinforcing rod into each of the four 2-1/2" holes in the brickledge. The reinforcement rods must start from a depth of at least 18" below the bottom of the brickledge. (In some cases, a minimum reccommendation could be 5')

Consult local structural engineer for proper job-specific support structure design, sizing and load bearing specifications.

If short lengths of steel rods are used be sure to properly lap and wire tie all splices in the rebar. As the reinforcing progresses, completely fill the holes with grout. Suitable grout can be a pourable mixture of Portland cement and sand or Portland cement, sand and pea gravel. The rebar must be fully embedded in grout.

Leave enough of the #4 steel reinforcing rod exposed above the brickledge so that as the stacking of outer casing blocks continues to termination the reinforcing rods and grout can continue through the stack. Reinforcing shall continue to chimney termination.

All DM 54 chimneys that include the DM 54 brickledge must be reinforced as described above.

CAUTION: When using the Isokern brickledge it is required that the MAGNUM firebox/smoke dome assembly include the placement of a 4" by 4" by 3/8" minimum steel angle across the firebox opening. (See page 55 for "Structural Information" for details regarding specification and placement of steel angles in MAGNUM fireplaces.)

Lateral Support for Isokern Brickledge Chimneys:

Once the DM 54 chimney and brickledge are assembled and after the intended masonry veneer has been installed on the brickledge, be sure to brace the chimney following the guidelines on page 45 of this manual for Lateral Support of DM 54 chimneys.

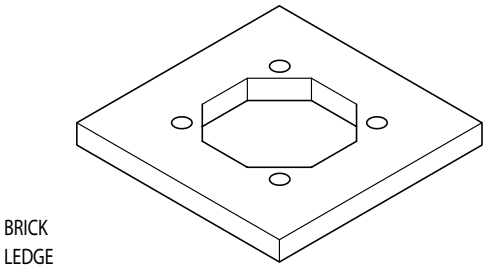


FIGURE 102

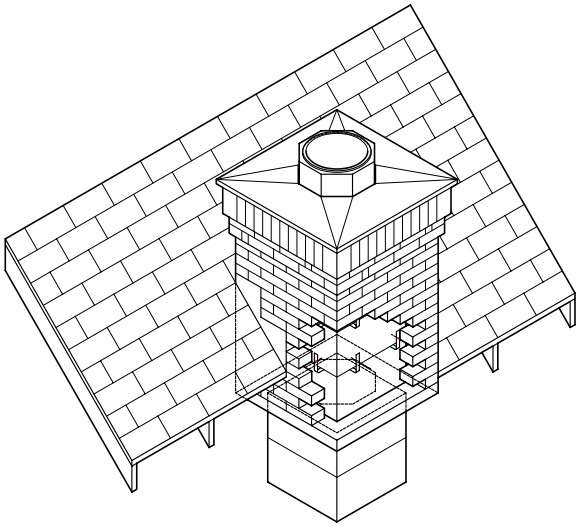


FIGURE 103

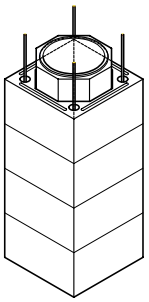
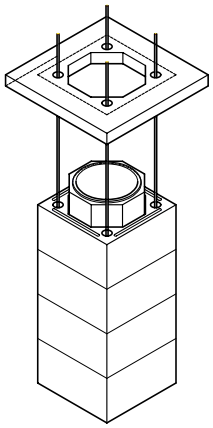


FIGURE 104



DM 54 Chimney System: Load Capacity - Brick Ledge

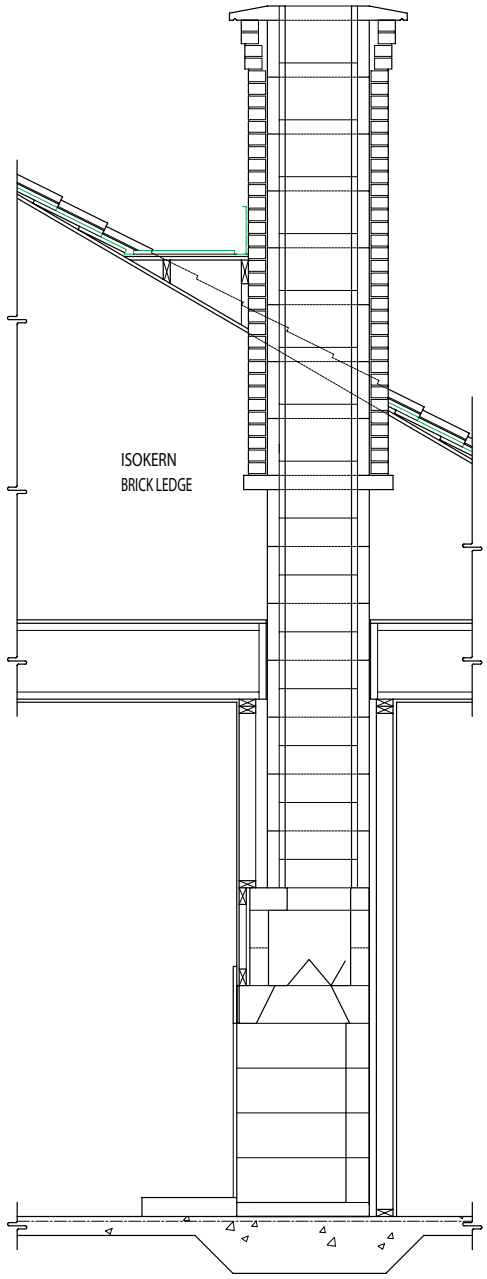


FIGURE 105

Load Capacity for DM 54 Brickledge:

The sources of load delivered into the Isokern brickledge are:
(1) the total physical load of brick, stone or other masonry veneer on the brickledge, and
(2) loading due to the force of wind delivered against the exposed height of the chimney mass.

The required height of any chimney is governed by applicable local building codes. The overall finished height of any chimney varies based upon site-specific conditions (eg. elevation of roof line, roof pitch, distance of the chimney from the ridge, etc.).

It is relatively simple to calculate the total physical load on the brickledge resulting from the physical weight of applied veneers built to code height, however, calculation values for load to the brickledge due to wind are site specific and based on local variables such as wind speed zone, exposure classification, eave height and roof pitch of the structure, as well as height of chimney mass exposed to wind.

Important: The total load delivered into the brickledge is job specific and will be the sum of:
(1) the physical load from veneers, plus
(2) the load due to wind.

The total of physical load and load due to wind must not exceed ninety four hundred (9400) pounds.

Notes:

Calculation of wind load requires the services of a local structural engineer who can evaluate wind load for the specific structure and site in question.

Do not subject the brickledge to unequal loading when applying veneers. Build veneers equally on all four sides of the brickledge.

Brickledge Veneer Finish and Flashing Details:

When applying brick, stone or other masonry veneer to the Isokern brickledge standard good building practices for masonry veneer work should govern weather-proofing details and the placement of flashings.

A typical flashing detail would be to field fabricate an aluminum or galvanized sheet metal flashing, approximately thirty-two inches (32”)square with a twenty inch (20”) square hole in it, to serve as an inner flashing.
(Figure 106)

Place the inner flashing on the first DM 54 outer casing block that fully clears the roof line. Keep the flashing to about a one-half inch (1/2”) lap onto the top of the outer casing block. The twenty inch (20”) square hole in the flashing should fit to the outside of the alignment grooves on top of the DM 54 outer casing. Continue the DM 54 chimney up to the required termination height.

Once the masonry veneer is in progress the inner flashing is set into a horizontal joint in the veneer at a level above all other roof deck flashings, chimney-to-roof flashings and counter flashings. Weep holes should open to the outer face of the veneer at vertical mortar joints located at the level of the inner flashing. (Figure 107)

Where moisture may develop between the DM 54 outer casing and the chimney veneer, inner flashings as described above will help to divert such moisture to exterior face of the veneer by way of the weep holes and thereby keep such moisture from working its way down between the veneer facing and the DM 54 outer casing and into the interior of the structure below.

DM 54 Chimney System: Crown Caps

DM 54 Small Crown Cap (Figure 108)

The DM 54 small crown cap is a prefabricated cement weather cap that measures 26- 1/2" square and 3" thick. The small crown cap is designed and installed the same as the large crown cap.

The small crown cap is intended for use where DM 54 chimneys are to receive thin veneers and cultured stone that do not require the installation of the Isokern brickledge. The small crown cap is also suitable where DM 54 chimneys are to receive a stucco finish.

Other chimney terminations are possible with DM 54 chimneys. Check local codes for use of custom chimney terminations and decorative shrouds.

DM 54 Large Crown Cap (Figure 109)

The DM 54 large crown cap is a prefabricated cement weather cap for masonry veneer chimneys. The large crown cap measures 37-1/2" square and is 3" thick at its center.

The component has an octagonal hole at its center so that the top inner liner of the DM 54 chimney stack can pass through it. The crown cap then sits on the top most DM 54 outer casing block.

To set the large crown cap the last inner liner should be at least 3" above the last outer casing block in the chimney stack.

Mortar the top of the last outer casing block. Set the large crown cap over the inner liner and onto the top of the last outer casing in the stack.

Caulk or mortar the joint between the octagonal liner and the crown cap where the liner comes through the top surface of the large crown cap.

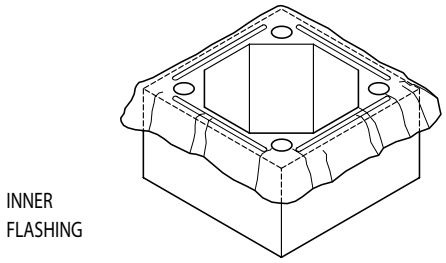


FIGURE 106

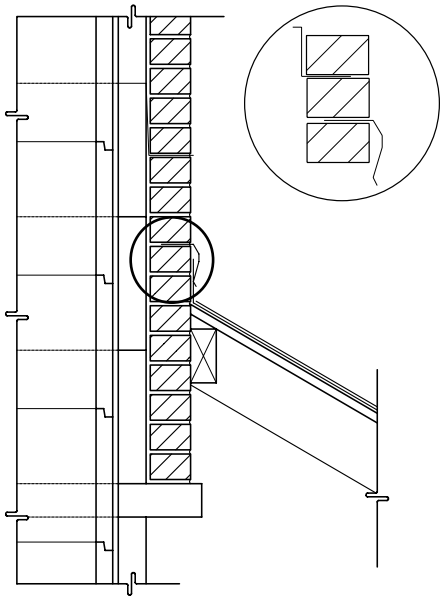


FIGURE 107

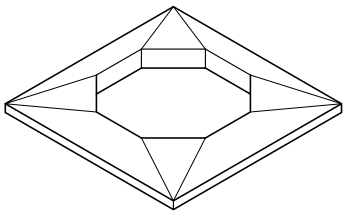


FIGURE 108

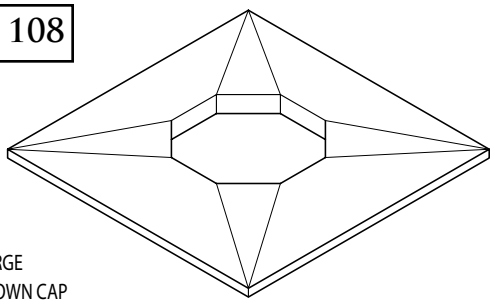


FIGURE 109

DM 54 Chimney System: Height Requirements

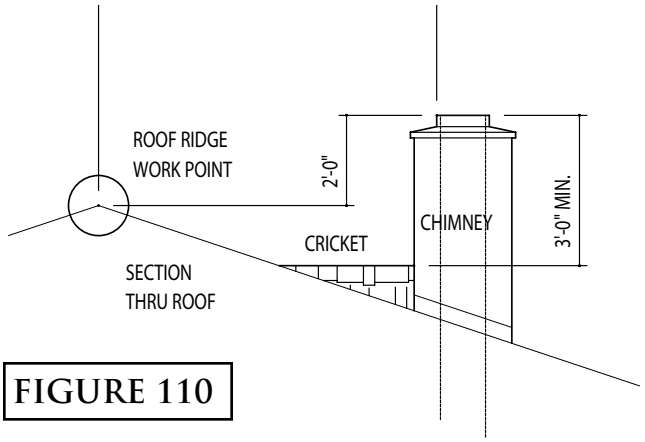


FIGURE 110

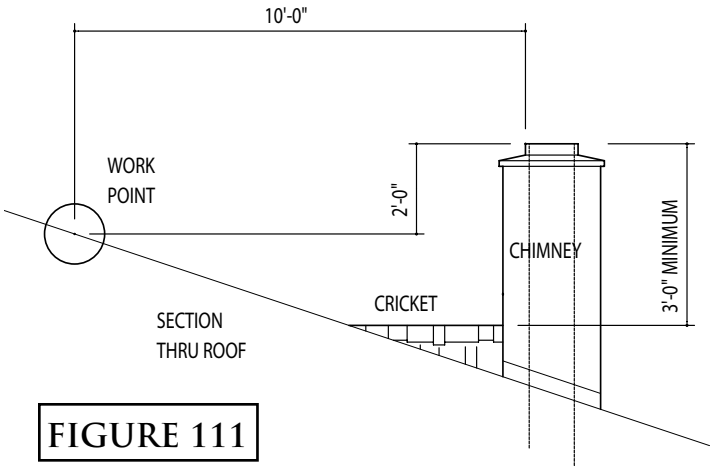


FIGURE 111

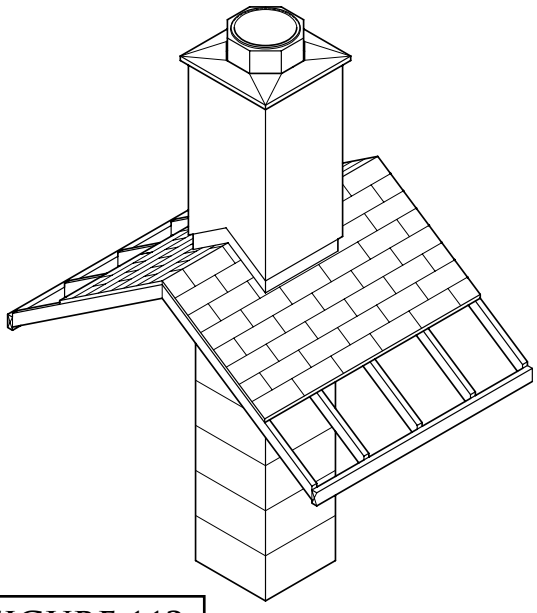


FIGURE 112

Chimney Height Requirement:

The required minimum chimney height above the roof and adjacent walls and buildings is specified by all major building codes and is summed up in what is known as "the 2 foot in 10 foot rule":

(1) If the horizontal distance from the roof ridge to the opening of the chimney is less than 10', the top of the chimney must be at least 2' above the roof ridge (Figure 110).

(2) If the horizontal distance from the opening of the chimney to the roof ridge is more than 10' then a chimney height "work point" is established on the roof surface 10' horizontally from the opening of the chimney. The top of the chimney must be at least 2' above this work point (Figure 111).

(3) In all cases, the chimney cannot be less than 3' above the roof at the edge of the chimney (Figure 112 & 113).

A simple example of this would be if the roof is flat then the chimney would need to be at least 3' above the roof surface. Or, if the chimney penetrates the roof at the ridge then the chimney must be at least 3' above the ridge. (Figure 114)

Note: The "2 foot in 10 foot rule" is necessary in the interest of fire safety but does not ensure smoke-free operation of the fireplace. Trees, buildings, adjoining roof lines, adverse wind conditions, etc. may require a taller chimney for the fireplace to draft properly.

Chase Enclosures: DM 54 chimneys can be enclosed within a wood framed chase at zero clearance to wood framing members. Chase enclosures need to be built to local wind load requirements and shall be structurally independent of the Isokern chimney. As with all chimney installations, avoid overhead obstructions such as trees, power lines, etc.

CAUTION: If insulation is used in chase walls the fireplace and chimney must not be placed directly against it and must be kept a minimum 3" from all fireplace and chimney components. It is recommended that where fireplace and chimney chases are insulated or have vapor barriers that the inside face of the chase first be covered with gypsum board, plywood, particle board or other sheathing material to assure that insulation and vapor barriers remain in place and a minimum 3" away from the unit.

WARNING: Do not pack insulation around the Standard fireplace or chimney. Do not insulate the chase cavity with blown or loose-fill type insulation materials.

Chase Top Flashings:

Non-combustible, weather tight chase flashing must be used to cover the top of the chimney chase. Be sure to seal the joint where the DM 54 liner passes through the chase top flashing for positive weather seal. Chase flashings may be supplied by others.

Structural Information

The MAGNUM firebox/smoke dome assembly has a load capacity that allows for the fireplace system to carry a limited amount of straight, vertical DM 54 chimney sections. The load capacity for each model, stated as maximum DM 54 chimney heights, are as follows:

MAGNUM Model 36: Max. 57 feet of DM 54
MAGNUM Model 42: Max. 64 feet of DM 54
MAGNUM Model 48: Max. 72 feet of DM 54

These chimney heights are for straight chimneys (no offsets) and are exclusive of brickledge.

Important: DM 54 chimneys taller than the above listed maximum heights require a steel angle (minimum of 4" x 4" x 3/8") be set across the MAGNUM firebox opening when assembling the unit as a structural lintel.

This steel lintel shall span the MAGNUM firebox opening, bearing fully on the front 4 inches of the firebox side wall components. The vertical leg of the angle steel lintel should turn up and sit in front of the MAGNUM damper plate component. (Figures 113 & 114)

Important: The application of the steel angle as described above is also required in all MAGNUM installations where the brickledge is used.

This required steel lintel placement is in addition to the reinforcing required for DM 54 chimneys with brickledge as described on page 50.

Important: For DM 54 chimneys with both offsets and a brickledge it is important to fully support the last offset block where the chimney returns to vertical. This is required in order to provide complete vertical support for the brickledge and its related loads.

Important: When placing steel angles or any other steel support members into the MAGNUM fireplace structure maintain a 2" minimum air space around steel members for clearance to combustible members and combustible surfaces.

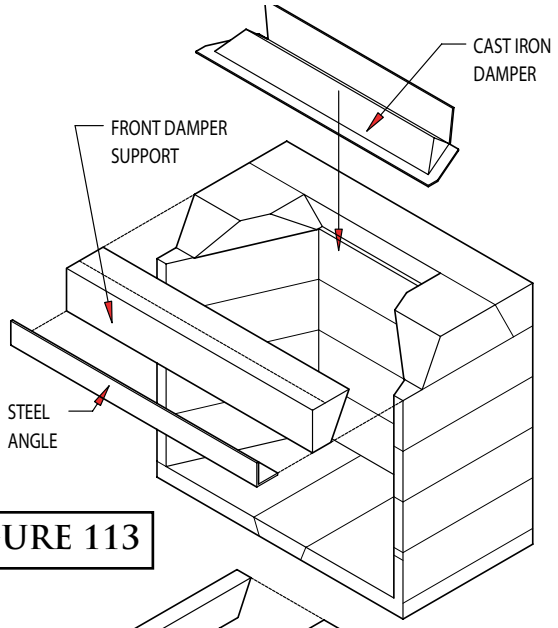


FIGURE 113

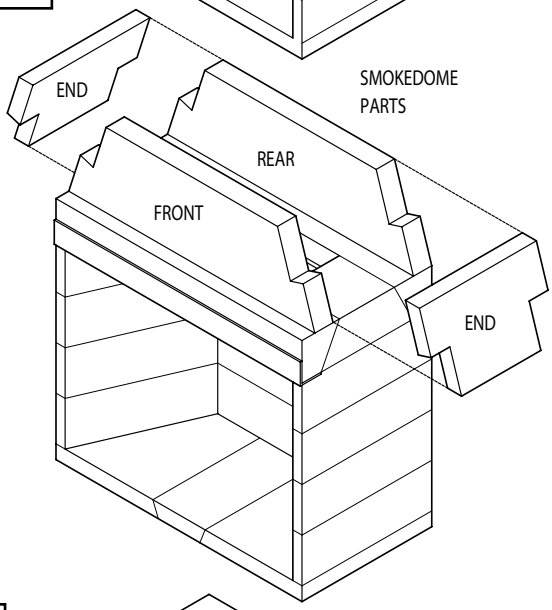


FIGURE 114

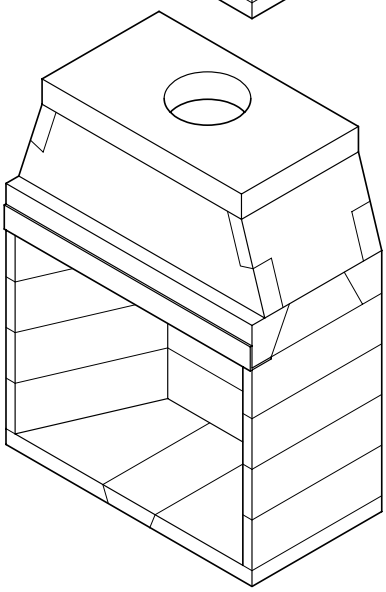


FIGURE 115

Common Chimney Terminations

Two chimney terminations are offered by Isokern, the DM 54 large crown cap and the DM 54 small crown caps. These are cement crown caps designed to provide a weather cap to the DM 54 chimney system. Their design is typical of the cement caps found on traditional masonry chimneys.

Due to owner preference and architectural design criteria other chimney terminations can be used alone or in conjunction with the crown caps. Special design caps may be designed and constructed by others and must be fashioned so as not to restrict the flow of smoke and gasses out the top of the flue opening. Figure 116 depicts common chimney terminations.

Check with local building codes to establish the need for chimney caps and spark arrestors or for any limitations to their design and use.

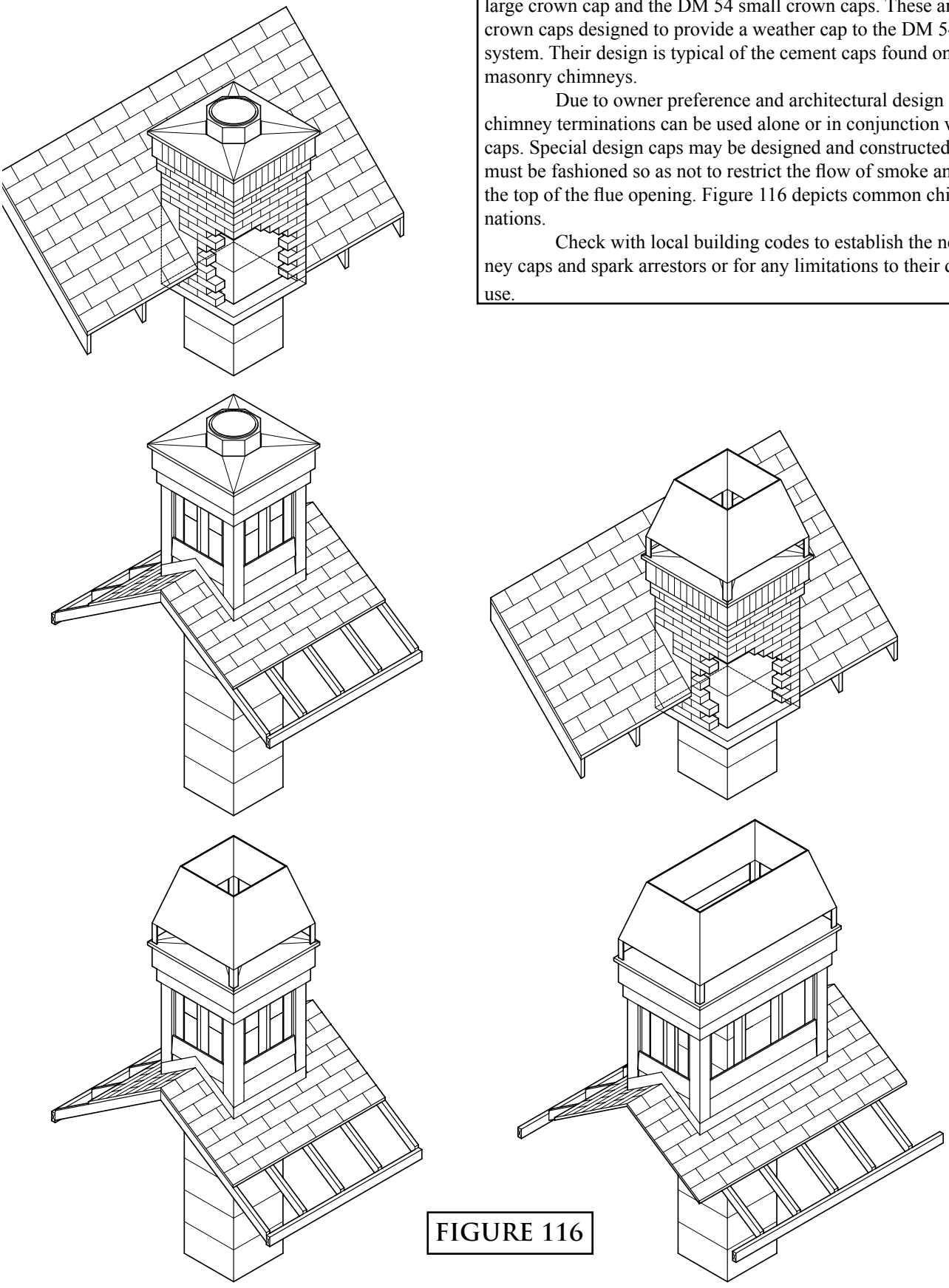


FIGURE 116

Class A Metal Flue

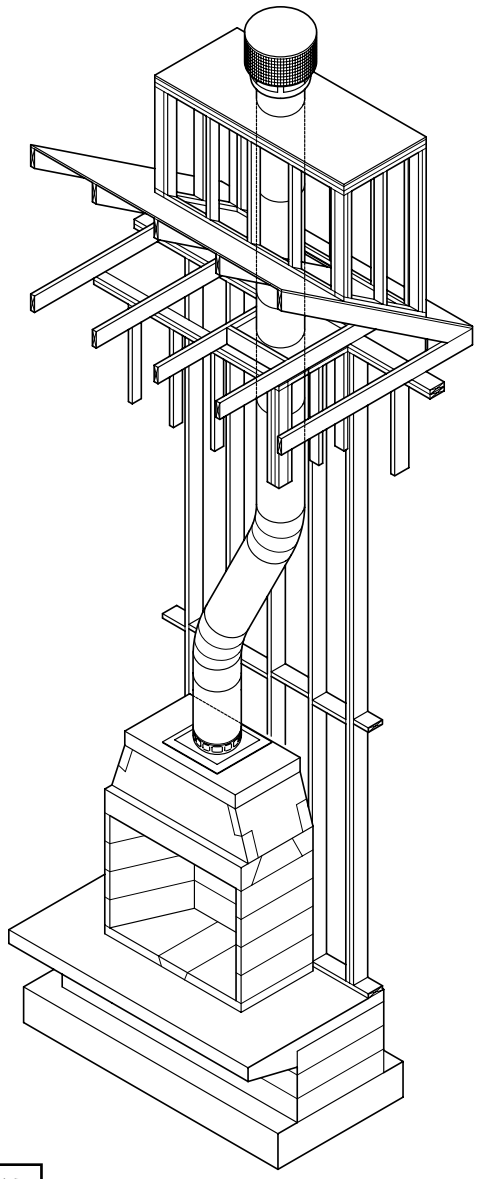
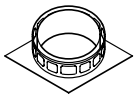
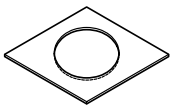


FIGURE 117



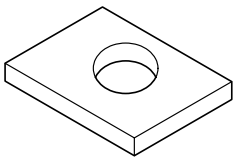
ANCHOR
PLATE

FIGURE 118



INSWOOL
BLANKET

FIGURE 119



SMOKE DOME
TOP PLATE

FIGURE 120

MAGNUM fireplaces are tested and listed for use with factory-built metal, Class "A" (solid fuel) chimneys as an option. Any Class "A" or UL 103 listed metal chimney system is accetable for use on an Isokern system. (Figure 117)

Class "A" Metal Flue Types:

The selected factory-built metal chimney for use with the fireplaces, at a minimum, must be listed by a recognized agency for solid fuel and as tested to UL 103, for continuous use of one thousand degrees (1000°) Fahrenheit and intermittent use of seventeen hundred degrees (1700°) Fahrenheit.
The factory-built metal flue design can be from the following types:

1. Non-insulated completely thermal siphoning, double-wall, air-cooled solid fuel rated chimneys listed to UL 103, ULC S629.

2. Double-wall with solid-pack insulation.

3. A combination of double-wall, solid-pack insulation and air space (triple-wall).

4. Triple-wall air space solid fuel chimney.

5. Listed chimney liners conforming with the seventeen hundred degree (1700°) Fahrenheit requirements of UL 1777 or ULCS635 or ULC640 may also be used with Isokern fireplaces.

Notes:

The selected, approved chimney manufacturer must provide the masonry anchor plate designed to fit their flue system. (Figure 118)

All chimneys and chimney liners must be installed in accordance with the manufacturer's installation instructions and under the terms of their listing for use with open faced fireplaces.

Minimum flue size for the Magnum fireplace is twelve and three-quarter inches (12-3/4") inside diameter.

Maximum height of a metal flue system is not required as all the load can be taken off the firebox.

Specialty Applications - Two Story Stacked Installations

General Information:

To install one MAGNUM fireplace and DM 54 chimney system above another, as in a two story stacked installation, both the upper and lower fireplace installations require a concrete slab that is supported down to footings via concrete or steel support structure.

Frequently in two story stacked installations the lower unit is supported by a slab-on-grade (as in a basement), whereas the upper unit is a typical off-grade support slab. The off-grade slab for the upper unit must be built with sufficient width in order to accommodate the width of the upper fireplace plus the width of the by-passing chimney system rising from the lower unit. (Figure 121)

The slab for the lower unit will need to be built with enough width to provide support for the lower fireplace unit plus the bearing surface for the support columns needed to carry the offset chimney sequence of the lower system. (Figure 121)

Floor-to-Floor Height Considerations:

In order for the lower fireplace installation to have enough overhead height clearance for its chimney to rise at a thirty degree (30°) angle of offset (maximum angle of offset as allowed by code) and bypass to one side of the firebox in the upper location there are minimum required floor-to-floor height dimensions. (See chart, page 54, Dimension "F")

The minimum floor-to-floor height required for an installation is determined by calculating the total horizontal distance the lower flue must travel to the left or right for it to bypass to one side of the upper fireplace
(see calculating offsets on page 41).

The total amount of horizontal chimney offset travel distance will be determined by two factors:
1. The width dimension of the upper unit; and
2. The horizontal distance between centerlines of the proposedupper and lower units.

Example:

If the upper fireplace and the lower fireplace sit on the same centerline then the required floor-to-floor dimension is at a maximum (See Figure 122 and chart, page 50 dimension, column "F".)

For every 3" of horizontal distance separating the centerlines of the upper and lower units the overall height of the offset sequence is reduced by one offset block or by 6".

Notes:

A raised hearth at the lower fireplace will increase the minimum floor-to-floor height requirement by the height dimension of the raised hearth.

In the interest of clarity the drawing on pages 58 & 59 (Figure 121 & 122) of the offset chimney sequence does not show the offset block support columns as required for offset sequences and as described on page 47 of this manual.

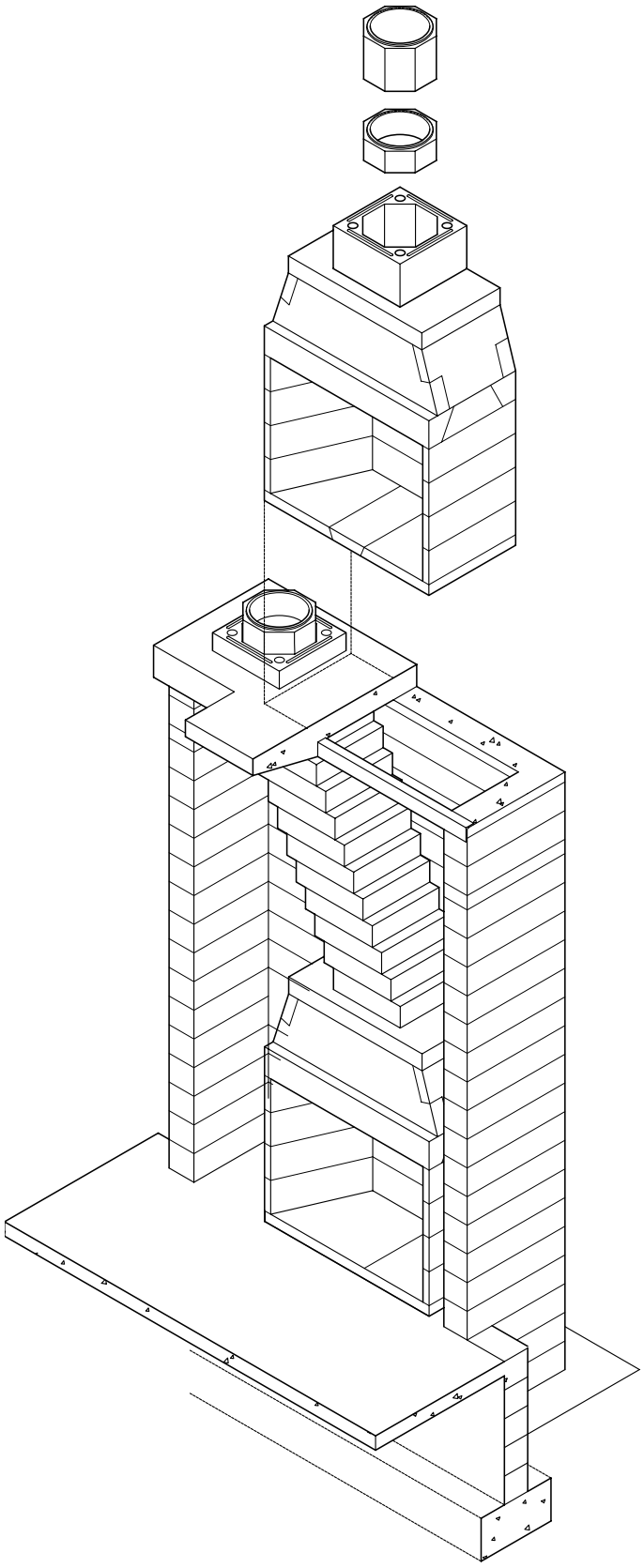


FIGURE 121

Specialty Applications - Two Story Stacked Installations (cont.)

The following chart gives important dimensions needed when laying out two story stacked MAGNUM fireplace units. Chart dimensions assume that both the upper and lower fireplace units sit on the same centerline.

Upper/Lower	A	B	C	D	E	F
36/36	43	51	30	81	70	142
36/42	43	51	33	84	70	142
36/48	43	51	35	86	70	142
42/36	49	54	33	87	70	148
42/42	49	54	33	87	70	148
42/48	49	54	35	89	70	148
48/36	53	56	35	91	70	149
48/42	53	56	35	91	70	149
48/48	53	56	35	91	70	149

Chart Dimension Description: (Figure 123)
"A" is the outside width dimension of the MAGNUM fireplace model chosen for the upper unit.
"B" dimension represents distance (taken in the direction of the chimney offset) from the centerline of the lower fireplace to the outside face of the eight inch (8") thick bearing wall underpinning the upper unit's support slab.
"C" dimension is the distance (taken away from the direction of the chimney offset) from the centerline of the lower or the upper fireplace, whichever is the larger plus eight inches (8") to the outside of the eight inch (8") thick bearing wall for the upper unit's support slab.
"D" is the outside-to-outside dimension of the two eight inch (8") thick bearing walls underpinning the upper unit's support slab. "D" is also the width of the upper unit"s support slab and includes the additional space for the width of the DM 54 chimney as it bypasses the upper unit. "D" is also the sum of "B" plus "C".
"E" is the height of the MAGNUM fireplace chosen for the lower unit and includes the Isokern three inch thick base plate. "E" is seventy inches (69 ½" actual) for all of the MAGNUM models.
"F" is the dimension from the top of the support slab of the lower unit to the top of the support slab of the upper unit. "F" dimension is equal to "E" dimension plus six inches (6") for the thickness of the upper slab, plus six inch (6") thickness of every offset block needed to make the required horizontal travel distance.

Notes:

If raised hearths are planned for the lower unit then "F" dimension will increase by the height of the raised hearth at the lower unit.

In the interest of clarity the drawings on pages 58 and 59 (Figures 121 & 122) of the offset chimney sequence do not show the offset block support columns as required for offset sequences. See page 47 for complete offset support instructions.

Consult local structural engineer for support slab load calculations.

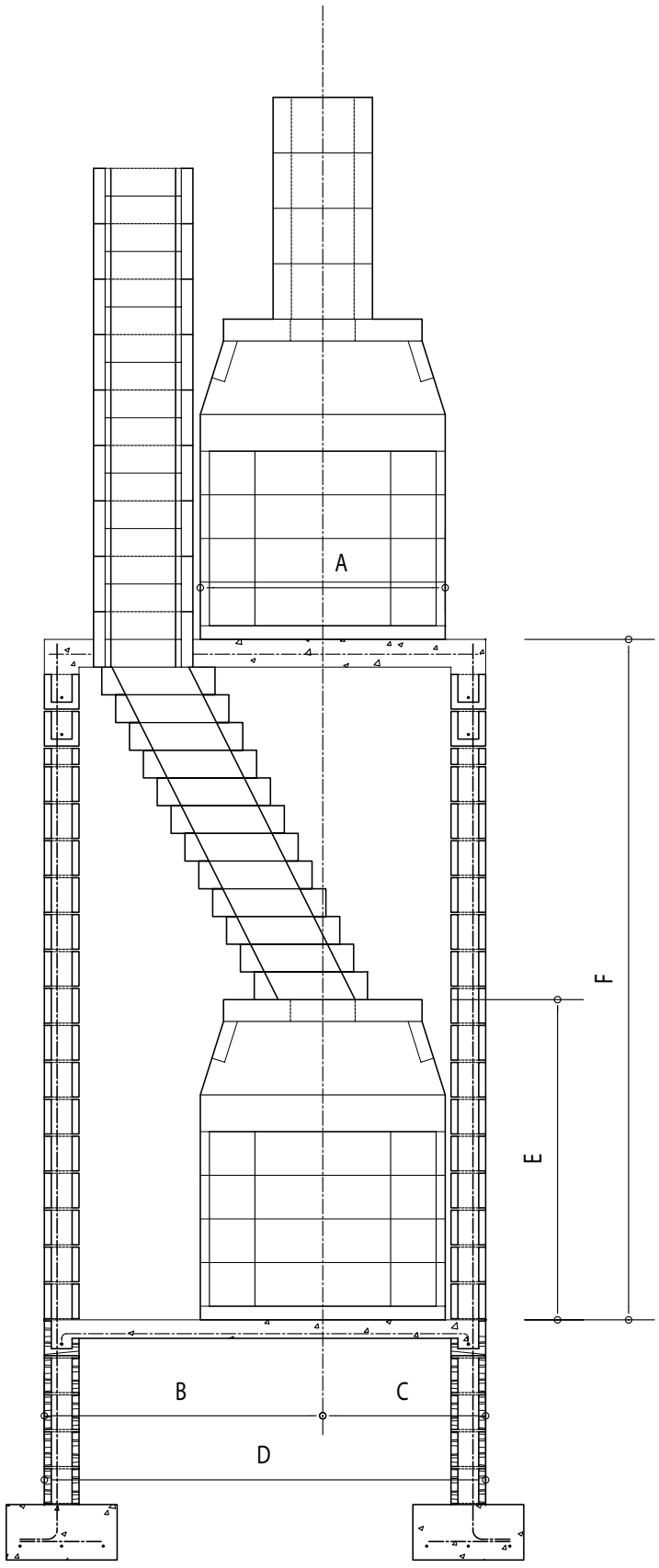


FIGURE 122

Fire-Lite Application - General Information

General Information:

The Fire-Lite is a fireplace designed, tested and listed with the ability to be installed on a combustible floor system. **The design and installation require that the system use FTF-13, Class A metal flue, or equal.**

Also the Fire-Lite assembled unit must sit on a raised, noncombustible platform.

The parts of the Fire-Lite fireplace are an application of the Magnum Series Fireplace. The requirements for the Magnum fire brick installation will apply. See page 19 of this manual for fire brick installation.

For flush hearth Fire-Lite installation , please call the technical department at: (800) 642-2920.

Intended Use Statement:

The Fire-Lite is intended to burn solid wood fuel, propane or natural gas. The fireplace is intended for use as a supplemental heat source only and is not intended for heavy use as a primary heating system.

Notes:

The local authority having code jurisdiction should be consulted before installation to determine the need to obtain a permit.Areas of concern are the same as stated on page 5 of this manual.

Do not scale drawings. Illustrations in this manual are not to scale and are intended to show “typical” installations. Nominal dimensions are given for design and framing reference only, since actual installations may vary due to job specific design preferences. Always maintain the stated minimum clearances to combustible materials. Do not violate any specific installation requirements.

The Fire-Lite has been tested and listed by Warnock Hersey (Report Nos. J20004277-231 and 632-912500) to UL 127-1999. These units are intended for installation in residential homes, and other buildings of conventional construction. Fire-Lite fireplace systems are also designed for installation in accordance with the National Fire Protection Association Standard for chimneys, fireplaces, vents and Solid Fuel-Burning Appliances (NFPA 211).

Fire-Lite fireplaces are not listed for use with fireplace inserts.

Safety Instructions:

Because the Fire-Lite is an application of the Magnum Series fireplace, the safety instructions are listed on pages 5 & 6 of this manual. Please refer to them and read them carefully before installing your Fire-Lite unit.

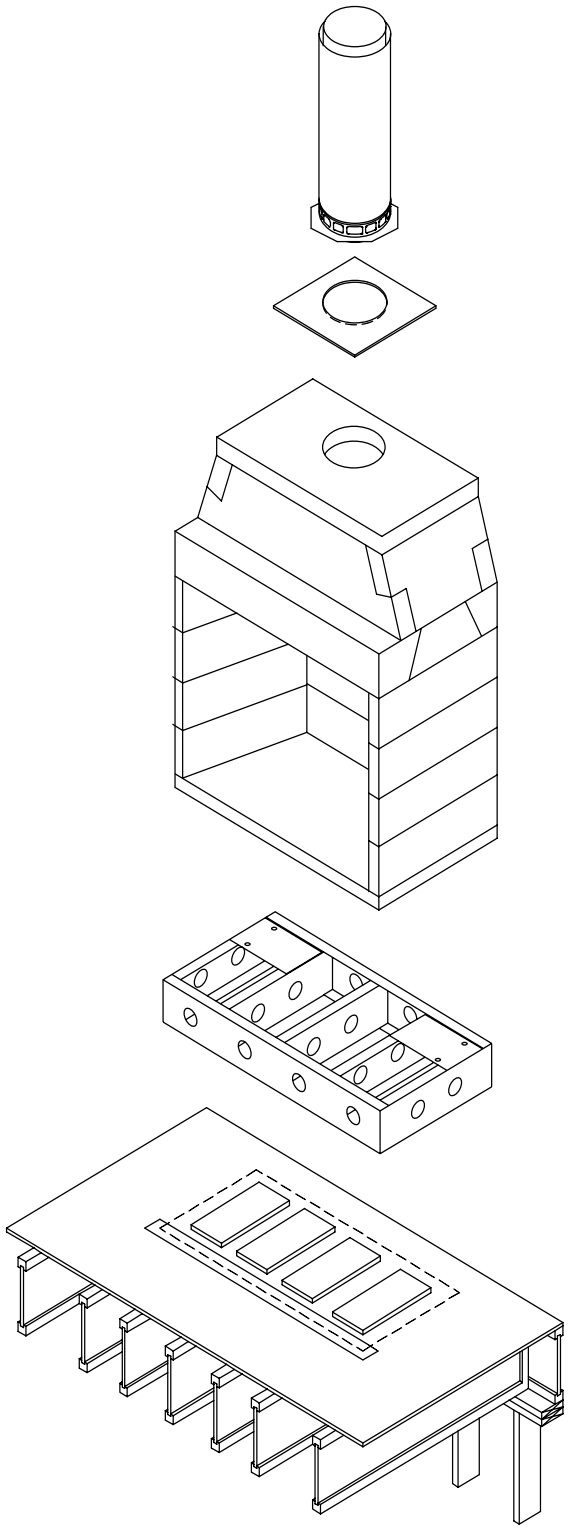


FIGURE 123

Fire-Lite Application - Required Clearance To Combustibles

The Fire-Lite is tested and listed for installation with "clearance to combustibles" as follows:

Four inches (4") clearance to the combustible floor.

Zero inch (0") clearance at the Fire-Lite smoke dome front wall (Figure 125).

One and one half inches (1-1/2") clearance at the Fire-Lite firebox back wall and side walls;

Two inches (2") minimum air space to combustibles at all FTF-13 metal chimney components' outer layer;

Three inches (3") clearance to insulation from all Fire-Lite firebox, smoke dome and chimney components.

Important: "Combustibles" are defined as "normal construction materials" and are considered to be: wood framing materials, particle board, mill board, plywood sub-flooring, plywood paneling and wood flooring. Sheathing materials, such as plywood, particle board
and drywall may cover the smoke dome front at zero inch (0") clearance. All combustible sheathing materials must be held eight inches (8") away from the sides of the firebox opening and eight inches (8") above the top of the firebox opening. Drywall must be cut two inches (2") back from the firebox opening sides and eight inches (8") above the top of the opening.

CAUTION: Maintain a minimum of three inch (3") clearance to insulation and vapor barriers. (Figure 34, page 75)

Combustible objects, such as furniture, placed in front of the fireplace must be kept a minimum of forty-eight inches (48") from the fireplace opening.

Notes:

The Fire-Lite Application is designed, tested and approved for installation at a minimum of four inches (4") above combustible floor systems per the installation specifications given in this manual.

Any portion of the combustible floor system left exposed under the base plate is to be covered with minimum 1" thick ceramic fiber insulation board rated to 2100 degrees Fahrenheit (Figure 129).

All Fire-Lite Series result in the finished fire brick floor of the firebox being at least eight inches (8 1/2") above the combustible floor system (Figure 130).

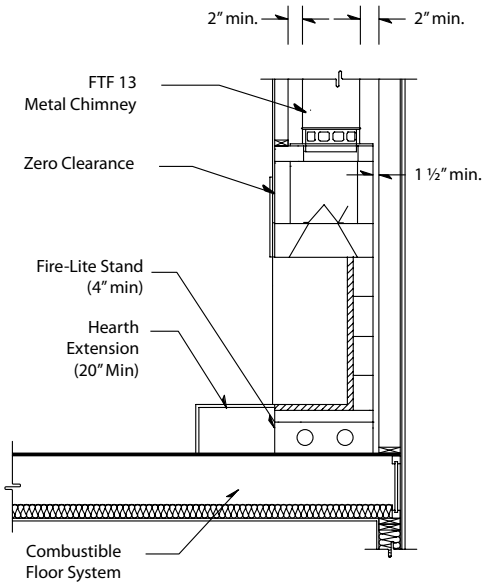


FIGURE 124

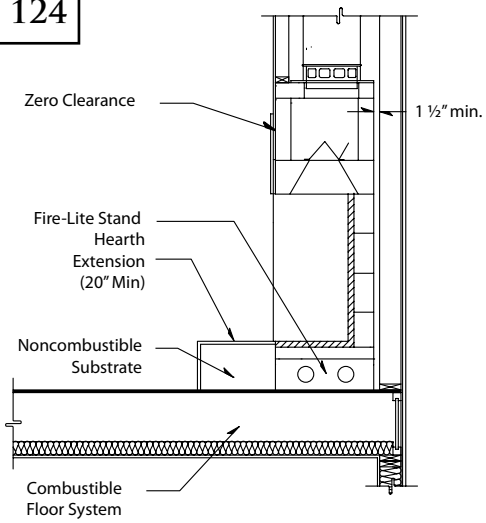


FIGURE 125

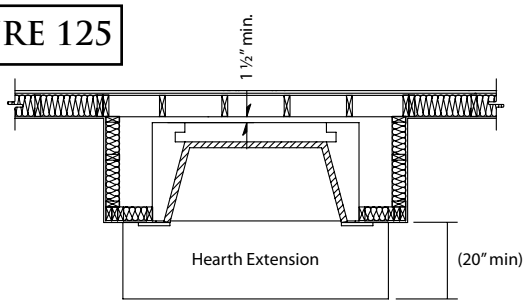


FIGURE 126

Fire-Lite Application - Combustible Floor System

Floor framing for a Fire-Lite installation will need to be designed and built to accept substantial dead loads spread over a relatively small floor area.

The following weights and sizes can be used to calculate Fire-Lite loading. Consult with local structural engineer for proper sizing of structural floor frame members for specific installations.

Load Calculations:

Total dead load amounts include (but are not necessarily limited to) the following items and their corresponding weight estimates listed below:

1. Fire-Lite unit model weights:
a. Model 36 FP: 1360 lbs.
b. Model 42 FP: 1450 lbs.
c. Model 48 FP: 1600 lbs.
2. Damper, fire brick and mortar: 450 lbs.
3. Raised platform: 40 lbs.
4. Fireplace finished facing: approx. 200 lbs.
5. Weight of metal flue: negligible

By adding the weight of the appropriate Fire-Lite Model listed in #1 above to the allowance given for each item in 2 through 5, above, the total weight of the Fire-Lite Series can be estimated.

Total approximate Fire-Lite Series weight estimates for each Model:

Model 36 FP @ 1360 lbs. + items 2 thru 5 @ 690 = 2050 lbs.
Model 42 FP @ 1450 lbs + items 2 thru 5 @ 690 = 2140 lbs.
Model 48 FP @ 1600 lbs + items 2 thru 5 @ 690 = 2290 lbs.
The floor area for each model is as follows:
Model 36 FP @ 43” x 25.25” = 7.54 sq.ft.
Model 42 FP @ 48.5” x 25.25”= 8.50 sq.ft.
Model 48 FP @ 53” x 25.25” = 9.30 sq.ft.

Notes:

These dead load totals are in addition to the live load and other dead load requirements for the specific site’s proposed floor.

The load estimates given above for items are estimates only and may not accurately define total loads related to the completed fireplace due to material choices that are at owner option.

Consult your local structural engineer for proper floor system design, sizing and specifications.

Isokern is not responsible for structural floor support details for the Fire-Lite fireplace. Unless otherwise noted all floor framing drawings in this manual are merely illustrations to indicate the presence of an underlying floor system.

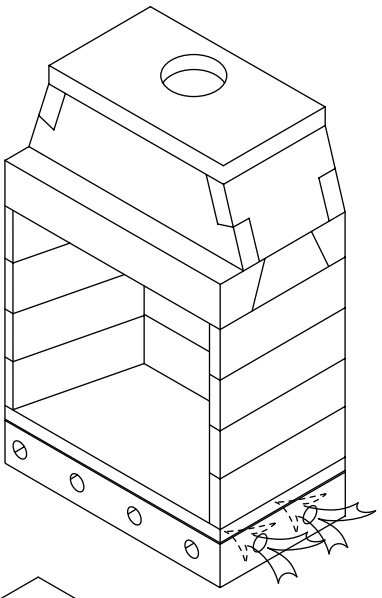


FIGURE 127

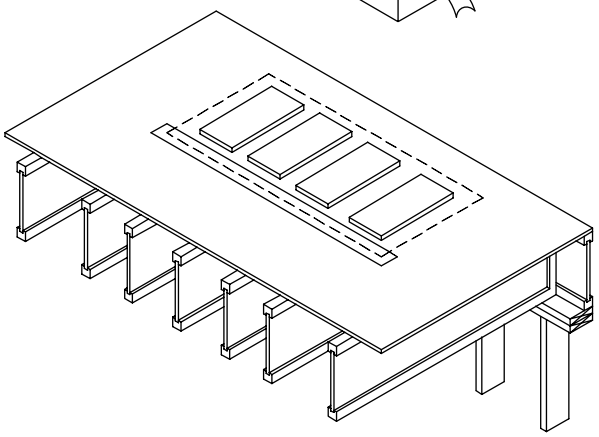


FIGURE 128

Fire-Lite Application - Raised Metal Platform

The noncombustible raised platform must be set with a minimum one and one half inch (1-1/2") clearance to the wall directly behind the Fire-Lite assembly.

Raised Platform:

Nominal four (4") metal base. (Figure 129).Set the Fire-Lite base plate in a mortar bed on to the non-combustible raised platform.

Metal safety strip - a generic 26 ga., four inch (4”) wide galvanized metal strip - must be inserted to approximately two inch (2”) beneath the platform at the front of the noncombustible raised platform. The safety strips must extend out from the front of the raised platform at least two inches (2”) and must extend to at least two inches (2”) beyond the ends of the raised platform. Any overlaps in the length of the safety strips should be a minimum of two inches (2”) for continual coverage of the combustible floor at the front of the fireplace (Figure 130).

The exposed combustible floor within the perimeter formed by the noncombustible raised platform must be completely covered with one inch thick ceramic fiber insulation board (Figure 128). The board is dry laid to the floor within the block perimeter.

The ceramic fiber board must have a thermal conductivity rating equal to or greater than 0.4 Btu-in/hrsq. ft-degree Fahrenheit. (Reference: Harbison-Walker, 600 Grant St., Pittsburgh, PA 15219, ph. 412-562-6200: “Insboard 2100” or equal.)

Fire Brick Installation: Follow instructions on page 19 of this manual.

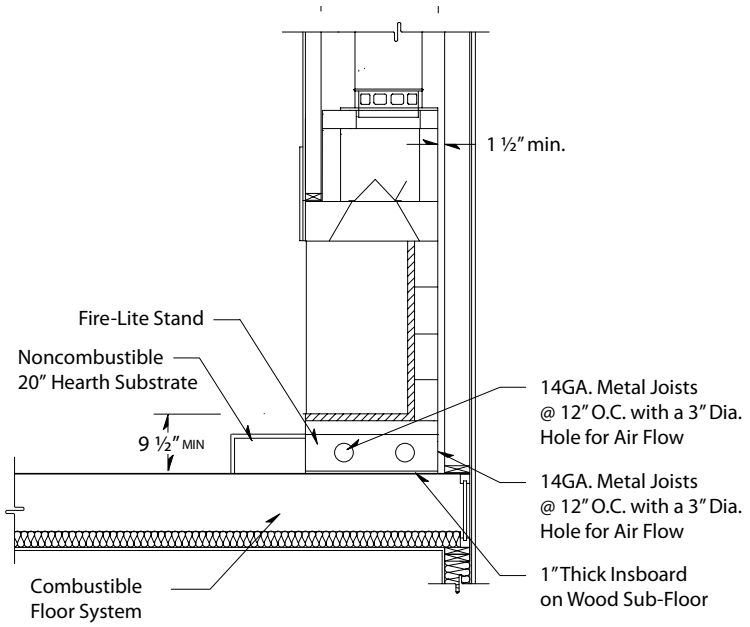


FIGURE 129

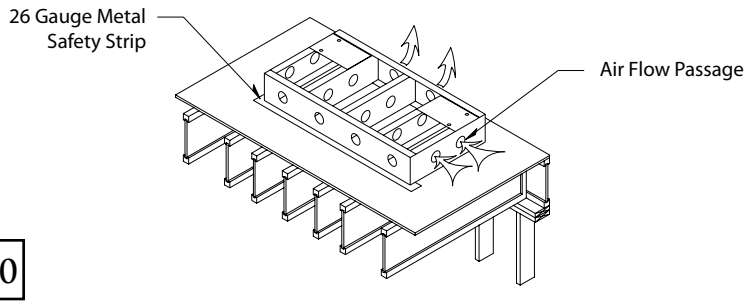


FIGURE 130

Fire-Lite Application - Raised Metal Platform (cont.)

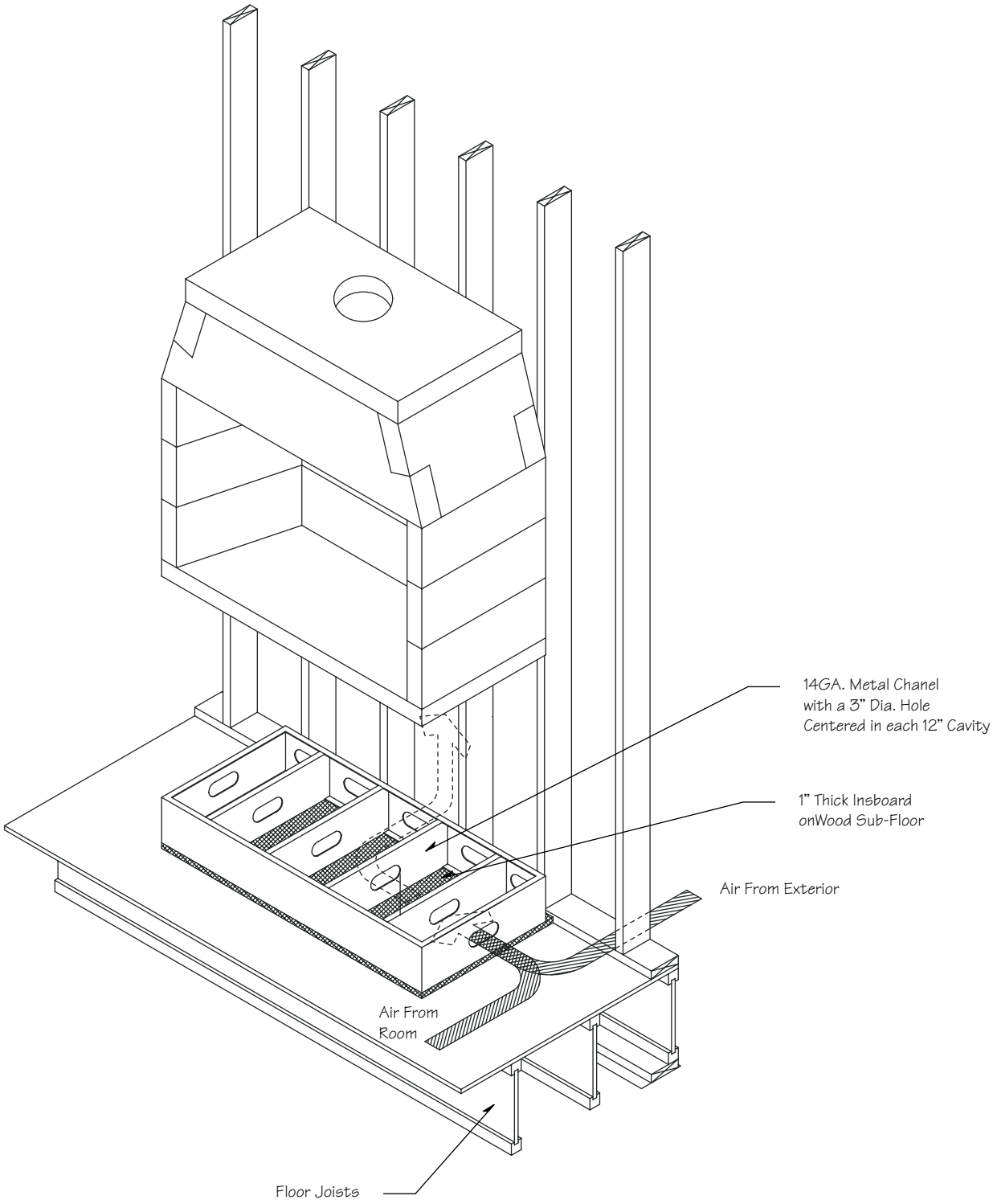


FIGURE 131

Fire-Lite Application - Flush Wall Finish Detail

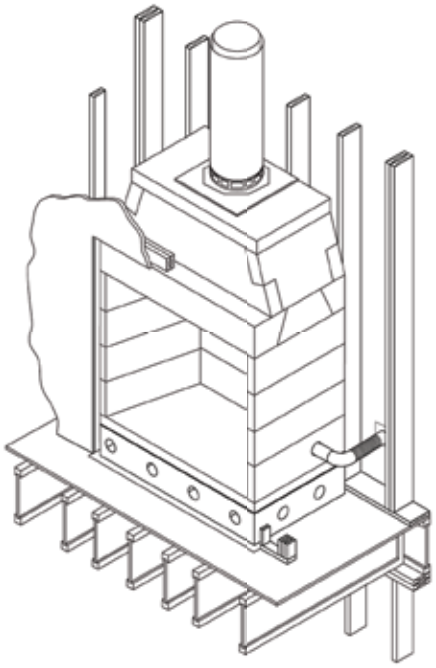


FIGURE 132

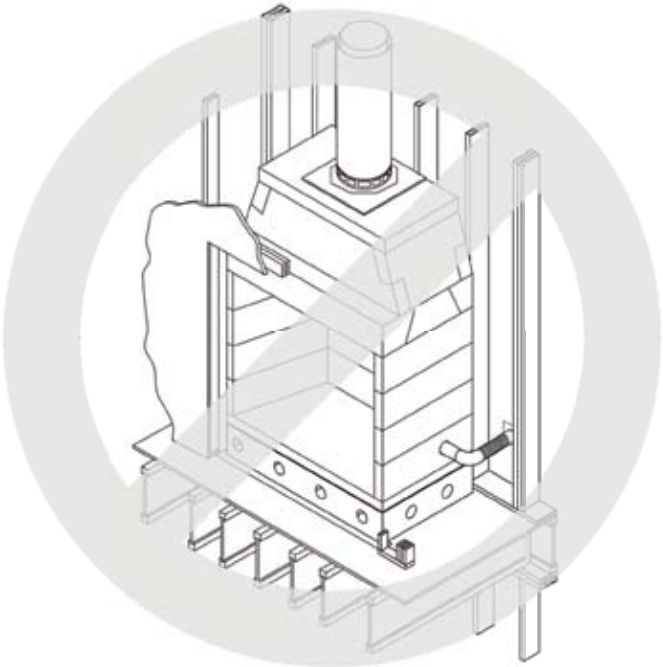


FIGURE 133

Fire-Lite fireplaces are designed to be installed so that the rough front face of the firebox and damper plate project into the room approximately one-half inch (1/2”) beyond the face of the rough framing members that create the room’s wall surface. The smoke dome unit sits two and three-fourths inches (2 3/4”) back from the rough face of the firebox and damper plate. This set back dimension allows for one and one-half inch (1 1/2”) framing plus one-half inch (1/2”) thick wall board to pass in front of the smoke dome and at the same time align flush with the room face of the Fire-Lite damper plate.

Clearance to Drywall:
Drywall can be placed directly in contact with the front of the firebox and smoke dome. Set in this position, framing and wall board are kept to the required eight inches (8”) above the firebox opening top. (Figure 132)

Important: Do not build a frame wall in front of the MAGNUM firebox and damper plate. (Figure 133)

FTF-13 or Equivalent Chimney System

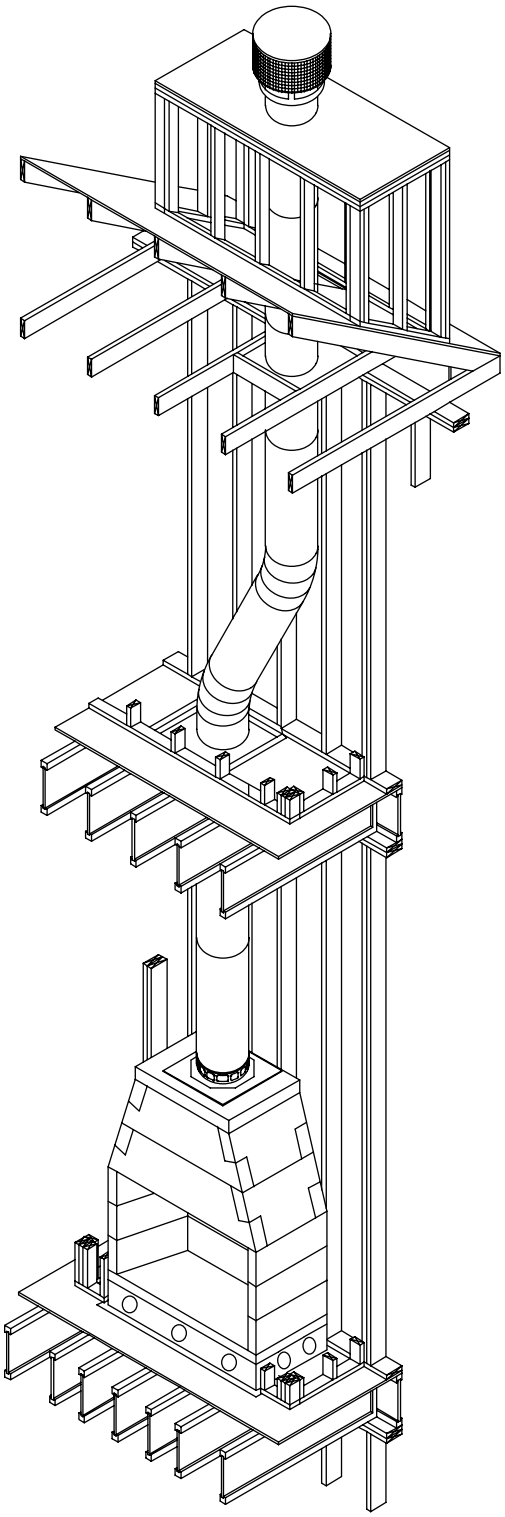


FIGURE 134

The Fire-Lite is designed, tested and listed for use with FTF-13 Class A metal chimney system, or equal.

Do not modify or alter metal flue or metal flue components as this could result in an unsafe and potentially dangerous installation that may cause a serious hazard and void the listings, approvals and the limited warranty of the system.

The following installation instructions refer to FTF-13 chimney system. If "equal" metal chimney systems are used, follow the metal flue manufacturer's explicit installation instructions.

General Information:

This chimney system is designed for installation in accordance with the National Fire Protection Standard for chimneys and solid fuel burning appliances, NFPA 211 and in accordance with codes such as BOCA Basic/National Codes, the Standard Mechanical Code and the Uniform Building Codes.

Note: Illustrations shown reflect "typical" installations with nominal dimensions and are for design and framing reference only. Actual installations may vary due to individual design preferences. However, always maintain minimum required clearances to combustible materials and do not violate any specific installation requirements.

WARNING: Failure to use manufacture's provided parts, variations in techniques and construction materials or practices other than those described in this manual may create a fire hazard and void the limited warranty.

Chimney Clearance Requirements:

The FTF-13 chimney's outer layer requires a minimum two inch (2") air space to combustibles.

The chimney system must be enclosed when installed in or passing through a living area where combustibles or people may come in contact with it. This is important to prevent possible personal injury or fire hazard.

The FTF-13 chimney's fire stop spacer and roof flashing (not chase flashings) may be placed directly on or against normal construction materials.

Note: "Normal construction materials" are considered to be: framing materials, particle board, mill board, plywood, paneling, flooring, and drywall.

Chimney Height Requirements:

The minimum recommended installed height of the completed fireplace system is fourteen feet (14' 0"). The minimum recommended installed height of the completed fireplace system that includes one offset chimney section is seventeen feet (17' 0").

FTF-13 or Equivalent Chimney System (cont.)

Installation of the FTF-13 Metal Chimney System for the Fire-Lite:

Transition from the Fire-Lite to the FTF-13 Metal Chimney System:

The FTF-13 metal flue attaches to the smoke dome's top plate by use of the AP-ISO masonry anchor plate. The Anchor Plate is fitted with an octagonal base plate to affix it to the smoke dome's top plate. The anchor plate also has starter rings for both the inner and the outer sleeves of the metal flue (Figure 137).

Step 1. Attach the AP-ISO anchor plate to the top plate of the Fire-Lite by first laying a twenty-four inch (24") square, half inch (1/2") thick (minimum) piece of ceramic fiber high temperature blanket ("Inswool" Ceramic Fiber HP Blanket, rated for temperatures up to 2400 degrees F., by Harbison-Walker Refractories Co. 600 Grant Street, Pittsburgh, PA 15219, or equal.) on the top of the top plate.
Cut a hole approximately 11" in diameter in the center of the high temperature blanket and align the blanket on the flue hole in the top plate (Figure 136).

Step 2. Fit the AP-ISO Anchor Plate assembly onto the top plate so that the inner flue sleeve projecting out the bottom of the anchor plate is inserted through the high temperature blanket and into the hole in the top plate. The high temperature blanket is held between the anchor plate and the top plate as a gasket (Figure 137).
Attach Anchor Plate to the top plate with masonry attachment screws through holes provided in the anchor plate into the top plate. Do not over torque masonry screws into the Fire-Lite material.

Chimney Terminations:

FTF-13 chimney pipe requires a termination component to be installed at or near the top of the chimney chase flashing (Figure 138).

The FTF-13-CTD Round Termination is the recommended termination.

Installation:
Step 1. Hold the FTF13-CTD over top of last chimney section.
Step 2. Center inner slip section in inner flue pipe and slip down.
Step 3. Center outer locking section over outer flue pipe.
Push down until locking tabs are firmly engaged.
Step 4. Pull up slightly on CTD to ensure locking joint has firmly engaged.

Note: It is recommended that all exterior exposed metal chimney components - such as terminations, flashings, and flue - be painted with a premium quality, high temperature, rust preventative paint designed for metal. This is especially important when installations are made in abnormally adverse or corrosive environments such as near lakes and oceans or, in areas with consistently high humidity conditions. Consult the paint manufacturer's instructions for proper preparation and application.

Ten Foot Rule Summary:
Refer to page 54 of this manual.

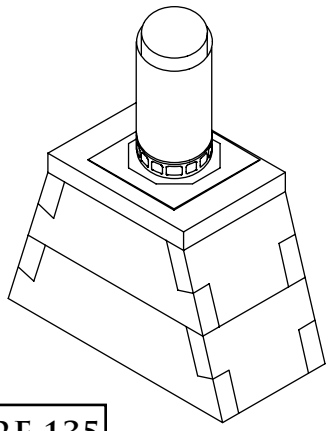


FIGURE 135

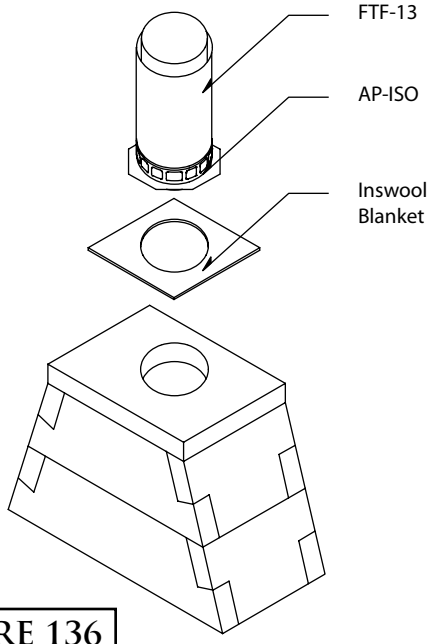


FIGURE 136

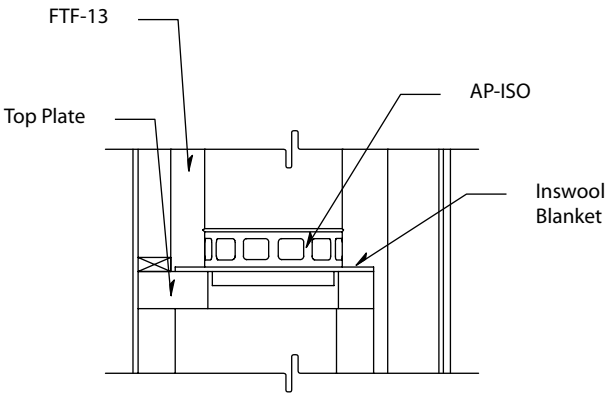
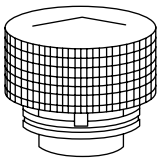
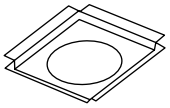


FIGURE 137

FTF-13 Installation Components

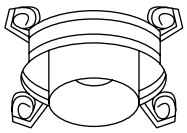


Round Termination

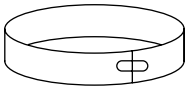


FireStop Spacer

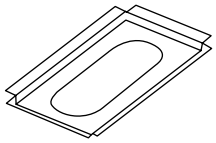
Chimney Section



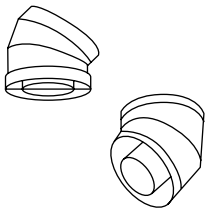
Stabilizer



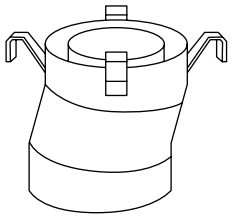
Locking Band



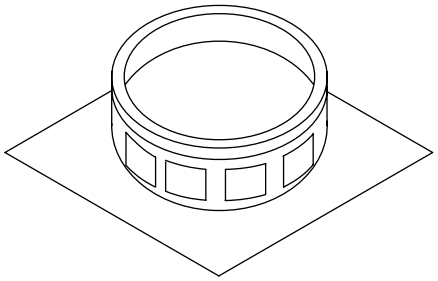
FireStop Spacer (30°)



Offset/Return
Package (30°)



Combination Offset
Return Elbow



Anchor Plate

Summary

1. WARNING:

Fire-Lite fireplace and Class "A" metal chimney systems will only draught properly when they are installed according to the instructions, in an appropriate location and with the proper chimney height. Installing the fireplace according to the instructions, choosing an appropriate location, and choosing an appropriate chimney
height are the responsibility of the designer and the building contractor.

Tightly insulated and sealed homes, two story interior spaces and high vaulted ceilings can cause negative air pressures within the house which can impair drafting performance. HVAC return air ducts near the fireplace opening will adversely affect the fireplace drafting performance.

It is the responsibility of the designer, the building contractor and their mechanical contractor to determine that the building's internal air pressures are conducive to positive fireplace drafting.

Avoid placing any fireplace in an area near tall trees, tall buildings, or high land masses. These structures can reduce ambient air flow pressure as well as produce down draughts, either of which can impair fireplace drafting performance.

Earthcore Industries L.L.C. does not warrant drafting and is not responsible for it.

2. Magnum Fireplace and Fire-Lite Fireplace Curing Instructions:

It is critical that the Isokern masonry elements in the Fire-Lite firebox and smoke dome assembly be dry before firing of the unit. Moisture left in the Fire-Lite components from exposure during storage and shipping, as well as moisture from the installation phase, must be eliminated before the unit is put to its intended use.

The first step in reducing the ambient moisture is to be sure that the completed Fire-Lite fireplace rest totally in a dried-in setting for a minimum of 28 days after construction of the unit is complete.

The next step in curing the Fire-Lite fireplace is to be sure that the first five or six fires are of short duration.

The first fire of the unit can take place once the minimum twenty-eight day drying period has passed. This fire should be especially short.

Start the first fire slowly with a small amount of paper and kindling (small dry wood splits or twigs) and a maximum load of four to six pounds of dry firewood, estimated to be no more than two or three logs each of about three inches (3") to four inches (4") diameter.

The first fire should burn for no more than thirty to sixty minutes and then allowed to go out. Do not refuel the fireplace during the first lighting.

A cooling off period of twenty-four hours, at a minimum, should follow the first fire.

The second fire should be the same as the first fire.

The second fire should burn for no more than thirty to sixty minutes and allowed to go out. Do not refuel the fireplace during the second lighting.

A twenty-four hour cooling off period must be observed following second lighting.
After first and second fire, continue use of the unit with three or four small fires of short duration (sixty minutes or so) and small fuel load.

After these first five or six small fires of short duration normal use of the fireplace can proceed. For normal use the maximum recommended fuel load is twelve to sixteen pounds of dry firewood at a time. This fuel load is considered to be approximately three to five cured hardwood logs of about three inches (3") to six inches (6") in diameter. As the fire burns down, refueling should be only one or two logs added at a time.

Important: Do not burn construction debris or trash of any kind in the Fire-Lite fireplace.

Whereas it is not uncommon for construction debris and refuse to be burned in a fireplace by site personnel on a project that is under construction, this activity must be avoided.

It is the responsibility of the building contractor to insure that the required dry-in period is met and that the required lighting sequence is performed by the owner or by the owner's agent.

3. Log grates are required for burning solid fuel in the Isokern fireplace. Grates allow for easy air flow up through the burning logs thus creating a more complete and efficient burning of the fuel.

4. How to Build a Fire:

First set the fireplace damper in the full open position. Begin laying the fire by placing several pieces of wadded up paper directly on the log grate. Place kindling (small splits of dry pine or other dry softwood) on top of the paper, enough to loosely cover the paper. Next arrange several small, dry hardwood or softwood logs or log splits on top of the kindling layer.

Finally, arrange two or three larger hardwood logs (oak, hickory, etc.) or log splits on top of the stack.
Ignite the paper at the bottom of the stack. The burning paper will ignite the kindling which will, in turn, set the remaining fuel on fire.

Be sure to stack all firewood in such a way that it will settle into the log grate as the paper and kindling layers are burned away. Additional logs can be set onto the fire as each fueling burns down.

Ideally, fuel logs should be of a hardwood species that have been air dried for one year or longer. Use of cured or uncured pine logs and uncured hardwood logs for fuel should be avoided. Pine logs and uncured hardwood logs will tend to smolder and burn at relatively low temperatures producing high levels of soot and creosote.

Important: Do not throw, toss, jam, kick or otherwise force logs into the Standard fireplace.

Summary

WARNING:

Never use gasoline, gasoline type lantern fuel, kerosene, charcoal lighter fluid or other similar liquids to start or "freshen up" the fire in this fireplace or in any fireplace.

WARNING:

If processed solid fuel firelogs are used: Do not poke or stir the logs while they are burning. Use only firelogs that have been evaluated for the application in fireplace and refer to firelog warnings and caution markings on packaging prior to use.

5. Avoid over-firing this fireplace. Some examples of over-firing are:

a. Burning of scrap lumber, construction debris, pine branches and brush or cardboard boxes;
b. Burning small diameter twigs, branches or any other small sized combustible materials in quantities which exceed the volume of the normal log fire;
c. Use of artificial wax base logs, trash or other chemicals or chemically treated combustibles.

WARNING: Over-firing can permanently damage this fireplace system.

6. Fireplace Doors and Screens:

This fireplace has not been tested for use with doors. To reduce the risk of fire or injury, do not install doors. If doors are required by the local authority having jurisdiction then doors must be kept in the fully open position when the fireplace is in operation. Isokern does not limit the use of fireplace screens.

7. Disposal of Ashes:

It is recommended that the firebox be cleaned of excessive ashes before each use. It is necessary to remove ashes from the open front of the fireplace. To do so, proceed in the following manner:

Allow the fire to go out and the ashes to cool for at least six to eight hours.

After the cooling period carefully pick up the ashes from the firebox with a small, metal fireplace shovel or other metal scoop and place them in a metal container with a tight fitting lid.

If possible do not sweep the ashes as this will stir them into the air and disperse them into the room.

The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

8. Inspection and Cleaning:

At least twice a year in warm climates or monthly during the heating season in colder climates, thoroughly inspect the Fire-Lite fireplace and chimney system. Chimneys must be installed so that access is provided for inspection and cleaning. The chimney should be inspected monthly during the heating season.

Inspect the entire flue from the top down for obstructions such as birds' nests, leaves, etc. Such obstructions must be removed.

Check spark arrestor screens for clear flow of smoke every two to four weeks during the heating season.
Inspect the flue periodically during the heating season for the presence of soot and creosote build up. If creosote or soot has accumulated, it should be removed to reduce the risk of chimney fire.

Have your chimney cleaned by a professional chimney sweep if you have doubts about your ability to do it.
Use a plastic, wood or steel brush to clean the chimney.
Scrub the spark arrestor/chimney cap with a wire brush.
Remove any chimney cap for flue cleaning from the top. Open the damper in the firebox for cleaning access from below.

Clean the inner portion of the flue by using a flexible handled chimney cleaning brush.

For straight run flue the proper size brush can be pulled up through the flue from the firebox with the damper open.

If the chimney has an offset chimney section, brush cleaning from the chimney top down to the offset/return and then from the firebox up to the offset section is the proper method.

In either case, cover the fireplace opening with a damp sheet (sealed to the opening with masking tape) before brush cleaning. Do not remove sheet until the soot has settled. It is advised to vacuum loosened soot. Do not sweep loosened soot as sweeping will disperse soot into the air and about the room.

WARNING: Do not use chemical fireplace and chimney cleaners that are poured on a hot fire. These can be dangerous and generally work only on the flue section nearest the fire, leaving the rest of the flue unaffected.

9. Exterior Maintenance:

Annually, at a minimum, check all metal flashings and weather seals around the exterior chimney where it penetrates the roof surface; inspect any chimney top spark arrestors, metal cowlings and weather hoods to make sure they are secure and weather tight.

Seal any cracks or gaps in chimney-to-roof flashings to prevent possible roof and chimney chase leaks.
Inspect any cement chimney cap or clay chimney pot terminations to make sure they are not diverting water into the structure. Seal any suspected cracks or gaps in these masonry components.

Notes

Warranty & Disclaimer

ISOKERN FIREPLACE

ISOKERN offers a lifetime warranty for all Isokern components, 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, VENTS, DUCTING, METAL FLUES, FIRE BRICK OR ACCESSORIES. THIS WARRANTY DOES NOT COVER DRAFTING, SMOKING OR PUFFING OF THE FIREPLACE SYSTEM. Factors beyond the manufacturer's control affect fireplace drafting, smoking, and puffing, and ISOKERN 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 ISOKERN, 6899 Philips 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.

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

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

ISOKERN, 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 OR CHIMNEY SYSTEMS. ALL SUCH DAMAGES AND EXPENSES ARE HEREBY EXCLUDED.

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

This warranty applies only to those fireplace and chimney systems 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.

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

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