

# EXCELiner

## INSTALLATION INSTRUCTIONS

This chimney lining is intended for use with solid, liquid and gas fired appliances, including wood fired stoves, fireplaces and furnaces.

The liner should be the size recommended by the appliance manufacturer.

Use only EXCELiner components. Failure to do so will void the certification and warranty on the product.

Contact local building or fire officials about restrictions and installation inspection in your area.

Keep these installation and maintenance instructions for future reference.

**KEEP YOUR CHIMNEY LINING CLEAN.** Inspect your chimney a minimum of once every two months during heating season.

EXCEL Chimney Liner has been tested and listed to the ULCS635, ULCS640 and UL1777 Standards by INTERTEK



### ICC INDUSTRIAL CHIMNEY COMPANY INC

400 J.F. Kennedy, St-Jerome

Quebec, Canada, J7Y 4B7

Tel. : (450) 565-6336

Fax: (450) 565-6519

<http://www.icc-rsf.com>

# MAINTENANCE

## **KEEP YOUR CHIMNEY CLEAN**

Wood stoves can quickly create large deposits of creosote in the chimney. Some wood stoves can create enough creosote in two weeks to cause a chimney fire.

When using a wood stove, we recommend that you:

1. Initially inspect the chimney system weekly. From this you will learn how often it will be necessary to clean your chimney.
2. The chimney should be inspected at least once every two months during the heating season to determine if creosote or soot has built up. When a maximum of 1/4" of creosote or soot has accumulated, it should be removed to reduce the risk of a chimney fire.
3. Have your chimney cleaned by a qualified chimney sweep. If you want to clean your chimney yourself, then clean your chimney using a properly fitting nylon or steel brush. Do not use a brush that will scratch the stainless steel interior of the chimney liner.
4. Do not expect chemical chimney cleaners to keep your chimney clean. Their use does not negate the necessity of periodically inspecting and cleaning your chimney.

## **CHIMNEY FIRES**

**If you are having a chimney fire, follow these steps:**

1. Close all heater doors and combustion air controls. For fireplaces, block the fireplace opening with a non-combustible material (such as a piece of sheet metal).
2. Alert your family to the possible danger.
3. If you require assistance, alert your fire department.
4. If possible, use a dry chemical fire extinguisher, baking soda or sand to control the fire. Do not use water as it may cause a dangerous steam explosion.
5. Watch for smouldering or flame on combustibles next to the stove, stovepipe and chimney. Check outside to ensure that sparks and hot embers coming out of the chimney are not igniting the roof.

6. Do not use the stove again until your chimney lining and stovepipes have been inspected by a qualified chimney sweep or fire department inspector.

## **GENERAL NOTES**

1. A chimney must extend at least 3 feet above its point of contact with the roof and at least 2 feet higher than any wall, roof or adjacent building within 10 feet of it.
2. Do not vent a gas or oil-burning appliance into the same flue as a solid fuel-burning appliance. Do not vent more than one solid fuel-burning appliance into a single flue.
3. Before installing the liner into a masonry chimney, the chimney must be thoroughly cleaned and examined. Check to ensure that the chimney is structurally sound. Check for cracked, loose, or missing bricks, mortar, or other material that could inhibit correct installation of the liner.
4. Check carefully to ensure that the air space clearance between the chimney exterior and combustible materials meet the clearance requirements specified in the table on page 5.
5. You must install a rain cap on top of the liner. If a spark screen is required in your area as per authority having jurisdiction, an optional spark screen is available. Note that a spark screen may be susceptible to blockage due to freezing moisture in some cold weather areas. A rain cap with a spark screen installed needs to be inspected on a regular basis.
6. This liner must be assembled using the stainless steel rivets provided. The correct rivets are provided with the liner.
7. Do not extend the liner more than 6 inches above the masonry chimney. Using a single wall liner above a masonry chimney will cause the rapid accumulation of creosote. If you must extend the chimney above the existing masonry use ICC Excel insulated chimney.



## **INSTALLATION SAFETY**

Installing a chimney liner can be very dangerous. We highly recommend that the installation be conducted by a certified professional installer.

Insure that all ladders are solidly anchored to the building and rest firmly on the ground. In many situations a correctly installed scaffold must be used to insure installer safety. Working on any roof is dangerous, we recommend the use of an approved safety belt whenever practical.

Always inspect the installation site carefully before starting. Pay particular attention to items such as power lines, antennas, and loose masonry.

Working with existing masonry chimneys can generate a large volume of dust, creosote and soot, as well as sharp masonry chips. Always wear gloves, eye protection, and a respirator mask.

Ensure that the existing chimney is structurally sound

These instructions are written on the assumption that the existing chimney is structurally sound. Before attempting to re-line the chimney inspect it for cracks, loose or eroded mortar, missing bricks, improper clearances, internal obstructions and any other structural problems. Repair all structural problems before starting the liner installation.

## **CERTIFICATION AND CLEARANCE REQUIREMENTS**

EXCELiner is certified to three different standards:

- The ULC S635 Standard for installation in existing masonry chimneys in Canada.
- The ULC S640 Standard for use as a flue in new masonry chimneys in Canada.
- The UL 1777 Standard for the installation in the USA.

The installation requirements vary depending on which Standard your installation is required to meet, particularly with respect to the required clearances from the liner. You must insure that your EXCELiner is installed in accordance with your local building codes.

EXCELiner is certified to be installed in an existing masonry chimney whether or not there it has a clay tile liner, and may be used instead of a clay tile liner in a new masonry chimney.

## CLEARANCE REQUIREMENTS

	ULC S635 Standard (Existing Chimney)	ULC S640 Standard (New Chimney)	UL 1777 Standard
<b>Liner without insulation wrap</b>	may be retrofit into any structurally sound masonry chimney	0" from liner to masonry	0" from liner to masonry
<b>Liner with one layer of 1/4" (minimum) Foil Faced Insulation Wrap*</b>		2" ** from outside of chimney to combustible materials	1" from outside of chimney to combustible materials.
<b>5", 5 1/2" and 6" dia. liner with one layer of 1/2" Foil Faced Insulation Wrap*</b>		0" from liner to masonry	0" from liner to masonry
		1/2" from outside of chimney to combustible materials	0" from outside of chimney to combustible materials
		0" from outside of chimney to combustible materials	

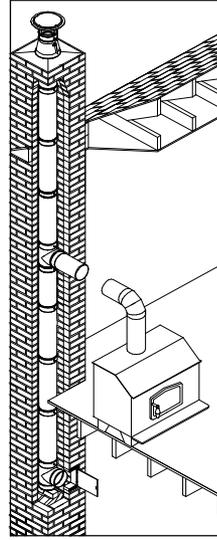
\* See Insulated liners section.

\*\* This clearance can be reduced to 1/2" in Canada for an exterior masonry chimney. An exterior chimney has at least one surface exposed to the outside atmosphere or unheated space over the majority of its height.

# **INSTALLATION INSTRUCTIONS**

## **Straight up in a masonry chimney**

1. Determine the location of the opening where you want the liner to pass through the masonry chimney wall. In general the higher up on the wall you install the tee the better, this will improve draft and reduce liner cost. Remember: A single wall stove pipe must be at least 18" from combustible materials including the ceiling. If you must penetrate a combustible wall to connect the liner to the appliance you should use an insulated thimble (ITH). Installation instructions for the insulated thimble are on pages 13-15.



2. Make an opening in the masonry at the height determined above. If you wish to install a clean out tee then make a second opening below the first. A clean out tee will allow you to clean your vertical chimney without removing the stovepipe.
3. Measure the height from the opening in the masonry chimney to the top of the chimney. Lay out the liner lengths to insure that you have the correct parts for the job.
4. Attach the first vertical length to the vertical portion of the tee and fasten with the three stainless steel rivets provided. Don't attach the horizontal portion of the tee yet. The male end of each liner length should always point downwards. Be sure to put a stainless steel rivet in each pre-punched hole.
5. The easiest way to lower the liner into the chimney is to attach a hook to a lightweight chain or rope, then put the hook on the mouth of the tee section with the rope running on the outside of the stainless steel liner system. Continue attaching vertical lengths until the tee is aligned with the opening made in step 2.
6. Slide the top support plate over the chimney lining and place it on the top of the masonry chimney. Slide the top support collar down until it rests on the top support plate and tighten it firmly, this will hold the lining in place while you install the horizontal tee section. You can remove the rope or chain at this point.

7. Fasten the top support plate to the top of the chimney with silicone, masonry anchors, or with thinset cement. Be sure to fasten the support collar to the lining with the stainless steel rivets provided.
8. Fasten the chimney cap with the screws or rivets provided.

From inside the house:

9. Measure the horizontal length required between the tee mouth and the termination of the lining in the room. Rivet the required length to the horizontal branch of the tee mouth before installing it on the vertical tee section. We make an adjustable snout tee which simplifies this job.
10. Align the horizontal tee section with the tee opening and fasten it with the stainless steel screws provided.
11. Fasten the trim collar to the masonry wall.

### **Installing EXCELiner through a masonry fireplace**

It is very difficult and in many cases impossible to install a chimney lining through the damper area of a masonry fireplace unless the damper has been removed. These instructions are written based on a typical masonry fireplace with the damper removed. In most cases the best way to install liner through the damper area is to use flexible liner below the damper plate.

1. Measure the distance from the top of the masonry chimney to the smoke shelf area immediately above the damper.
2. Measure the distance from the smoke shelf to where you want the lining to terminate inside the fireplace opening. Cut your flexible lining to suit this measurement.
3. Fasten the flexible liner to the EXCELiner with the stainless steel rivets provided -in most cases you will not require a flex adapter if the flexible liner is below the rigid liner. Attach a flex adapter to the bottom of the flexible liner.
4. Lower the liner into the masonry chimney from the top. The easiest way to lower the liner into the chimney is to attach a hook to a lightweight chain or rope, then put the hook through the bottom of the flexible lining with the chain running on the outside of the liner. Continue attaching vertical lengths until the flexible lining rests on the smoke shelf, then attach one more section. Be sure to put a

stainless steel rivet in each pre-punched hole. Remove the rope or chain.

5. From the bottom pull the flexible lining through the fireplace throat. Make sure it is far enough into the fireplace to connect with the appliance.
6. If the chimney lining is being used to re-line a masonry fireplace and no insert is being installed, then the flexible lining should be attached to a liner base support (LSB). This plate fastens to the fireplace throat with masonry anchors and has a collar, which holds the lining securely in place.
7. Slide the top support plate over the chimney lining and place it on the top of the crown or flue tile.
8. Slide the top support collar down until it rests on the top support plate and tighten it firmly.
9. Fasten the chimney cap with the screws or rivets provided.

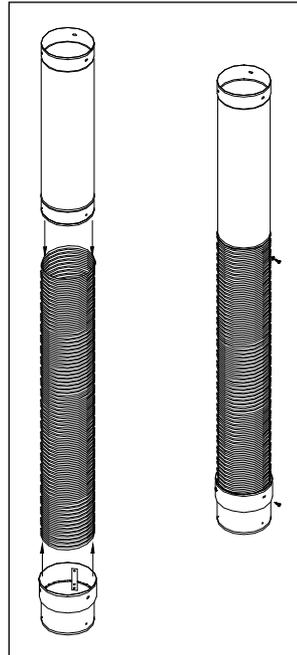
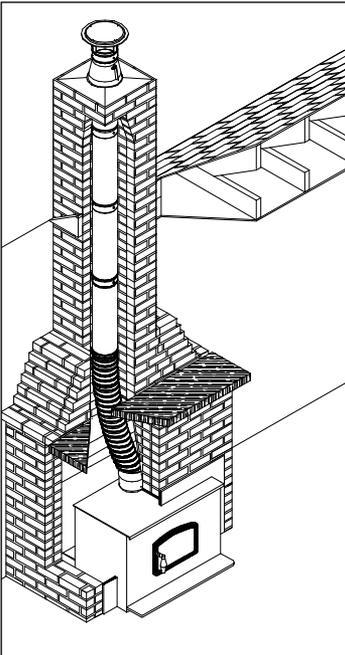
Fasten the top support plate to the top of the chimney with silicone, masonry anchors or with thinset cement. Be sure to fasten the support collar to the lining with the stainless steel rivets provided.

## **Installing EXCELiner in combination with a flexible liner**

It often simplifies the installation of an EXCELiner system if you can use a length of flexible liner in the system. This is especially useful when installing a liner through a masonry fireplace. When installing flexible liner as a connector from a fireplace insert through the throat of a fireplace the insulation wrap is not required. Flexible liner can also be used as a substitute for rigid elbows. EXCELiner can be used in combination with all brands of UL and ULC approved flexible chimney liner. (E.g.: with Z-Flex, Flexmaster, TruFlex, Flex-L, Homeowners Choice, Homesavers, TransContinental, Elmers, Magnaflex, Dura-Vent, Ventinox, etc.).

### **Using the Flex Adapter**

In general you do not require an adapter if the flex is installed below EXCELiner in the system, the male end of an EXCELiner length will fit inside most standard diameter flexible liners. If the flexible liner is installed above the rigid liner a flex adapter will be required to connect them properly. A flex adapter is also commonly used to connect a flexible liner to the flue collar on a stove or fireplace insert.



## **Installing rigid lining through the fireplace damper area**

1. Measure the distance from the top of the masonry chimney to the smoke shelf area immediately above the damper.
2. Measure the distance from the smoke shelf to where you want the lining to terminate inside the fireplace opening.
3. Lay out the liner elbows and lengths to determine that you have the correct parts. Usually the offset through the damper area requires a pair of 45° elbows.
4. Fasten one elbow to the first liner section, the male end always points down. The easiest way to lower the liner into the chimney is to attach a hook to a rope, then put the hook through the bottom of the elbow with the rope running on the outside of the chimney. Continue attaching vertical lengths until the elbow is about 1 inch above the smoke shelf. Be sure to put a stainless steel rivet in each pre-punched hole. Remove the rope.
5. From the bottom fasten the angled liner section to the elbow, be sure to use the three stainless steel rivets provided. Attach the return elbow and short vertical length as required.
6. If the chimney lining is being used to re-line a masonry fireplace and no insert is being installed then the return elbow should be attached to a Liner base support (LSB). This plate fastens to the fireplace throat with masonry anchors and has a collar, which holds the lining securely in place.
7. Slide the top support plate over the chimney lining and place it on the top of the masonry chimney. Slide the top support collar down until it rests on the top support plate and tighten it firmly, this will hold the lining in place while you install the horizontal tee section. You can remove the rope or chain at this point.
8. Fasten the top support plate to the top of the chimney with silicone, masonry anchors, or with thinset cement. Be sure to fasten the support collar to the lining with the stainless steel rivets provided.
9. Fasten the chimney cap with the rivets or screws provided.

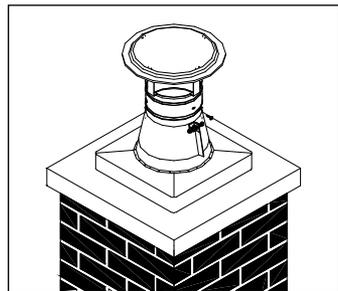
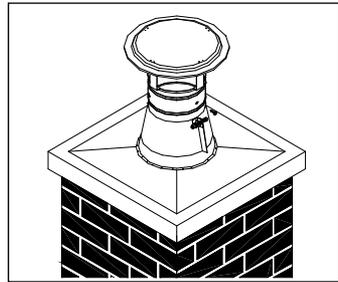
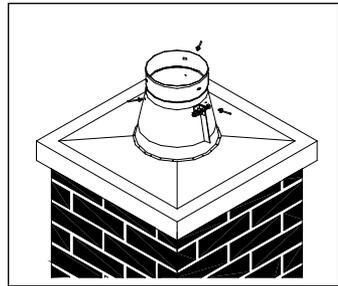
## **Installing the top support**

The top support serves three different functions.

- It supports the chimney liner.
- It seals out moisture.
- It enables the system to expand and contract freely.

Do not fasten the chimney liner directly to the top support plate. The support plate/support collar system has been designed to permit the liner to expand and contract.

1. Slide the top support plate over the chimney lining and place it on the top of the crown or flue tile.
2. If you are mounting to a flue tile you may wish to trim the support plate to fit - see drawing.
3. Slide the top support collar down until it rests on the top support plate and tighten it firmly. Fasten the support collar to the lining with the stainless steel rivets provided.
4. Fasten the top support plate to the top of the chimney with silicone, masonry anchors or thinset cement.
5. Seal any gaps between the support plate and the masonry with silicone.
6. Fasten the rain cap with the rivets or screws provided.



Do not extend the liner more than 6 inches above the masonry chimney. Using a single wall liner above a masonry chimney will cause the rapid accumulation of creosote. If you must extend the chimney above the existing masonry use an ICC Excel insulated chimney.

## Insulated Liners

In general insulated liner systems will provide better performance than non-insulated systems. An insulated system will accumulate less creosote and provide better draft than a non-insulated system. Insulation is a code requirement for some installations; see the table on page 5 to determine if insulation is required for your application. The EXCELiner system is certified to UL 1777 for zero clearance when it is insulated with one layer of either 1/4" or 1/2" foil faced insulation.

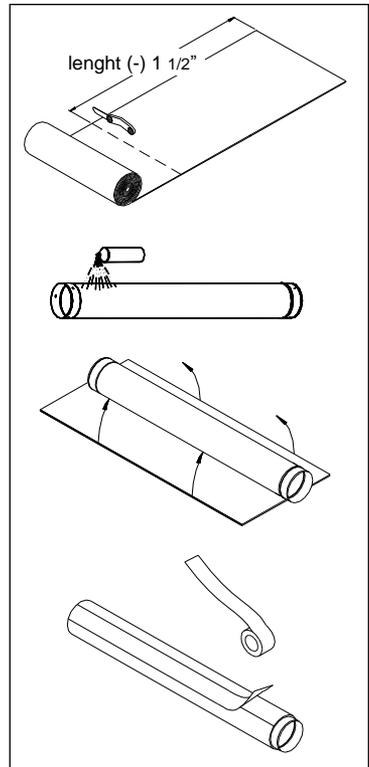
The types of insulation accepted are:

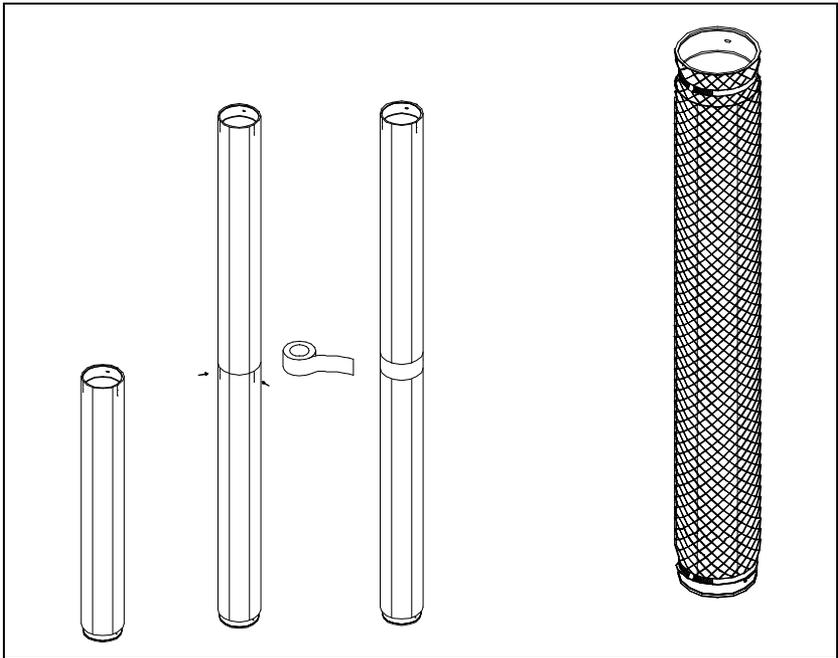
- Premier Refractories Canada, Type LT; 8 lb/cu.ft
- All Fabrication Inc., Hi-Temp Blanket; 8 lb/cu.ft
- Thermal Ceramics, Kaowood blanket; 8 lb/cu.ft
- Thermal Ceramics, Cerablanket; 8 lb/cu.ft
- Carborundum, Durablanket; 8 lb/cu.ft

### Installing the insulation wrap

The insulation wrap is available in three widths to fit different liner diameters. You can either insulate one liner length at a time or pre-assemble a few liner lengths and insulate them with one long length of insulation.

1. Lay the blanket on a flat surface and cut it 1 1/2" shorter than the assembled liner length. Do not install insulation on the last 2" of liner below the top support plate. This will permit the support collar to be solidly fastened and allow for expansion and contraction.
2. Spray the liner with adhesive.
3. Wrap the blanket around the liner, starting just above the bead on the male end - the male end should be left exposed to connect to the next section. The female end must be insulated.
4. Tape all vertical seams with foil tape.





5. Using a knife or a sharp object such as an awl cut or pierce the insulation wrap where you need to install rivets.
6. Once the liner sections are riveted together tape all horizontal seams.
7. Slip the mesh sleeve over the insulated liner starting at the male end, you may find it easier if you roll the mesh sleeve up on to itself like a stocking.
8. Once you have fully covered the insulated liner with mesh fasten it in place with two stainless steel clamps per length of stainless steel mesh.

# EXCELiner Insulated Thimble Installation instructions

You will need to use a listed thimble if the liner must pass through a combustible wall in order to connect to the chimney. These instructions are for our #ITH thimble which is specifically designed for this purpose. When installing a #ITH the minimum clearance from the outside of the masonry chimney to combustibles materials is 2" in Canada and 1" in the USA for an un-insulated liner. When the liner is insulated with either a ¼" or ½" foil face insulation wrap those clearances can be reduced to ½" in Canada and 0" in the USA.

1. Determine the location of the opening where you want the masonry adapter to pass through the wall. In general the higher up on the wall you install the adapter the better, this will improve draft and reduce the cost of the chimney liner. Remember: a single wall stove pipe must be at least 18" from the ceiling.

2. Cut and frame a hole in the combustible wall according to the following opening sizes (dimension A in drawing 1):

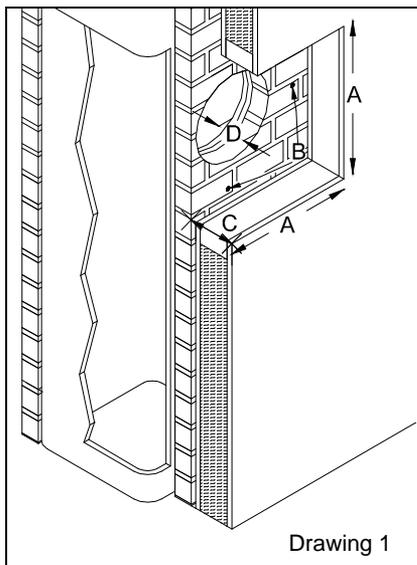
5" diameter - 11" X 11"

6" diameter - 12" X 12"

7" diameter - 13" X 13"

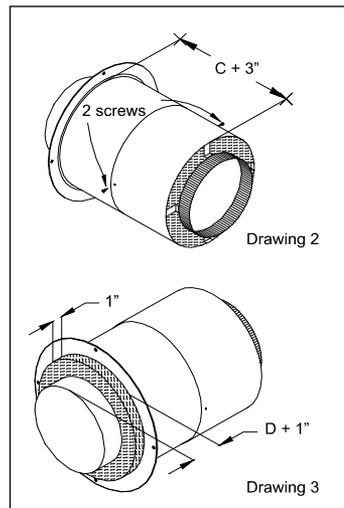
8" diameter - 14" X 14"

3. Make a hole in the masonry chimney and the clay tile liner using a masonry drill bit or a hammer and cold chisel. Make sure that the hole is just slightly larger than the liner diameter and is centered in the clay tile liner.

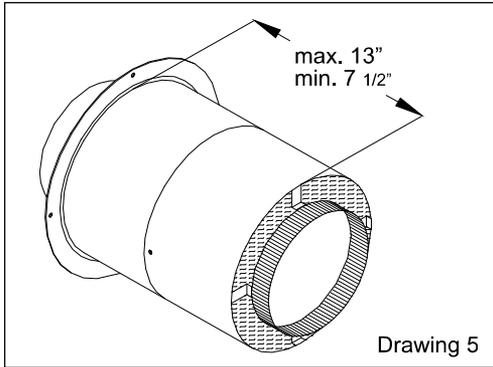
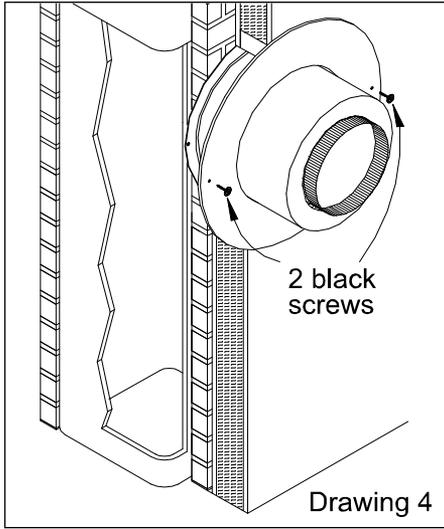


4. Using the template provided mark the four hole locations and then drill four holes in the chimney using a masonry drill bit. (Note: Masonry chimneys vary considerably in terms of construction -be certain that the anchors you are using are solidly fastened into the masonry. See drawing 1 arrow B).

5. Place a masonry anchor in each hole.
6. Measure the distance between the front face of the finished wall and the front face of the masonry chimney (dimension C in drawing 1). Adjust the masonry adapter so that it is a minimum of 3" longer than this dimension by sliding the two halves together. See drawing 5 for the minimum and maximum dimensions the thimble can be adjusted to. Once you have adjusted the length correctly fasten the two halves together with the two sheet metal screws provided (see drawing 2).
7. Cut off the extra insulation from the back of the masonry adapter leaving approximately 1" of insulation protruding (see drawing 3).
8. Measure the distance between the front face of the masonry chimney and the inside of the flue tile (dimension D in drawing 1). Trim the inside sleeve (flue) of the masonry adapter so that the sleeve is 1/4" longer than this distance (see drawing 3).



9. Fasten the adapter to the masonry chimney using all four anchors and the appropriate screws. Tighten these screws firmly compressing the 1" of protruding insulation around the opening.
10. Fill in the gaps between the clay tile liner and the adapter with refractory cement by reaching through the centre of the adapter and packing the cement into place with your fingers.
11. Slide the black sleeve over the protruding adapter and install the finish trim collar around the sleeve using the two black screws provided (see drawing 4).
12. You are now ready to connect your stove pipe to the adapter.
13. If you are installing an EXCELiner stainless steel chimney liner inside the clay tile liner you can connect the EXCELiner directly to the insulated thimble.



# EXCELiner Stainless Steel Chimney Liner LIMITED LIFETIME WARRANTY

ICC warrants its stainless steel chimney liner to be free from functional failure due to defects in material or workmanship for as long as the original consumer owns the chimney system. This warranty provides for replacement of any stainless steel components, except rain caps, which fail as a result of normal use with a residential freestanding fireplace, wood burning stove, furnace or boiler, including damage to the liner due to a chimney fire. This warranty does not cover damage caused to the original masonry chimney, or to the building, by chimney fires or misuse of the product.

**Note: Chimney fires are dangerous and preventable, we strongly encourage you to have your chimney liner cleaned regularly.**

ICC will only be responsible for repair or replacement of stainless steel components found to be defective under this warranty. In no event shall ICC be responsible for any incidental or consequential damage caused by defects in the stainless steel chimney liner system.

During the first ten years of the warranty ICC will repair or replace any defective stainless steel components, except rain caps, at no charge. For the balance of the warranty ICC will provide replacement stainless steel components at 50% of the current retail price at the time of the warranty claim. To obtain service under this warranty the defective liner should be returned to the dealer from whom it was purchased. If you are unable to return the liner to the original dealer contact ICC for the name of the closest dealer who can assist you. ICC will not be responsible for shipping charges related to warranty replacements.

ICC will not be responsible for labor of any kind required in the removal or replacement of a chimney liner system replaced under this warranty.

This liner is designed to vent residential heating oil, untreated wood, low sulphur coal and natural or LP gas. It is designed to operate at a continuous temperature of 1200°F or less. It is not designed to vent condensing gas or condensing oil appliances. This warranty is void if the liner is used in an application for which it is not designed.

The chimney liner system must be installed according to the Installation Instructions included with every system at the time of purchase. If you do not have a set of installation instructions they are available free upon request. This warranty is void if the liner system is not installed according to the installation instructions.

This warranty may not be extended or modified by our agents or representatives. This warranty is in lieu of all other express warranties or guarantees of any kind.

Notes