



UL File No.  
MH13681

# Installation & Maintenance Instructions

## MODEL "OS" Liner System

### UL 1777, ULC S635 Class 2 Listed & ULC S640

The Z-Flex "OS" Flexible Liner is intended for use as a chimney liner in masonry or pre-fab metal chimneys for oil burning appliances listed for use with Type L vents, gas burning appliances equipped with draft hoods or listed with Type B gas vents or listed solid fuel pellet fired appliances, all without insulation when the continuous flue gas temperature does not exceed 570° F (299° C).

#### Standard 3"-10" Dia. Kit - US

- Z-Max Rain Cap
- Z-Max Flashing
- Z-Flex "OS" Flexible Liner
- Mortar Guard (NFPA31, Base Tee Optional)

#### Standard 3"-10" Dia. Kit - Canada

- Z-Max Rain Cap
- Z-Max Flashing
- Z-Flex "OS" Flexible Liner
- Z-LOK™ Tee (CSA B139, Base Tee Required)

12"-22" Diameter Kits are made to order, see component options on page 17.

## MODEL "SF" Liner System:

### U.S.A. Installations UL 1777 Listed

The Z-Flex "SF" Flexible Liner is intended for use as a chimney liner in masonry chimneys for oil, gas or wood fired residential heating appliances with maximum continuous temperature of 1000° F (538° C) and occasional 1400° F (760° C) temperatures.

### Canada Installations ULC S635 Class 3 Listed & ULC S640

The Z-Flex "SF" Flexible Liner is intended for use as a chimney liner in masonry and factory built chimneys for oil, gas or wood fired residential heating appliances with maximum continuous temperature of 1200° F (650° C) and occasional 1700° F (927° C) temperatures. UL tested up to 2100° F (1149° C).

#### 3"-10" Wood Burning Stove Kit

- Z-Max Rain Cap
- Z-Max Flashing
- Z-Flex "SF" Flexible Liner
- Z-LOK™ Tee

#### 3"-10" Fireplace Insert Kit

- Z-Max Rain Cap
- Z-Max Flashing
- Z-Flex "SF" Flexible Liner
- Insert Connector

Kits can be made to order, see component options on page 17.

## For Safety's Sake

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Chimney relining and chimney repairs must be done with the utmost of care. Please ensure before starting that the safety aspect of the installation has been looked after. Secure your ladders and scaffold, wear protective gear and the appropriate footwear and gloves before starting. Avoid problems through proper safety measures ensuring every installation is an accident free installation.

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**A MAJOR CAUSE OF CHIMNEY RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UTMOST IMPORTANCE THAT THIS FLEXIBLE CHIMNEY LINER BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.**

If flexible chimney liner is not installed and maintained in accordance with these instructions the warranty will be void and this may affect the liner's UL listing and your homeowner's insurance. Keep these Installation and Maintenance Instructions in a safe location for future reference.

**WARNING**

Risk of Fire! Risk of Asphyxiation!

A Qualified professional must **INSTALL and MAINTAIN** system (appliance/connector/chimney) in accordance with these instructions, appliance manufacturer's installation instructions and local building codes. A qualified professional would be certified in USA by National Fireplace Institute (NFI) as NFI Wood Burning Specialists or Chimney Safety Institute of America (CSIA) or in Canada by Wood Energy Technical Training (WETT) or other appropriate certifying body. If there is any difference between clearance to combustibles in these instructions and appliance installation instructions always use larger clearance.

A by-product of any fuel burning appliance is carbon monoxide, which is an invisible and odorless gas. Read, understand and follow all instructions and appropriate local codes when installing, using or maintaining any fuel burning appliance and vent system (connector/chimney). Install carbon monoxide detector and alarms in accordance with detector instructions and local codes.

**DO NOT** install or attempt to repair damaged flexible chimney liner or component parts.

To ensure proper operation of venting system (connector/chimney) do not make any alterations/modifications or use any substitute materials or joining methods other than those specified in these or appliance manufacturer's installation instructions. Z-Flex® accepts no liability for any damage, injury or loss of life resulting from incorrect installation, alteration or substitute materials. Contact Z-Flex® or appliance manufacturer if there are any installation questions.

Do not common vent wood or coal burning appliance. Connect only one solid fuel burning appliance to a chimney. Do not connect a gas or oil burning appliance to a chimney venting a solid fuel burning appliance.

**Definitions**

**WARNING**

Indicates a potentially hazardous situation which, if ignored, can result in death, serious injury or substantial property damage.

**Installer's Name:**

**Installer's Address:**

**Installation Date:**

**Z-FLEX U.S. INC.**

Model OS  
Part #

BEDFORD, NH



UL 1777



- LINER FOR EXISTING CHIMNEY  
 COMPONENT FOR CHIMNEY LINERS

For Use Only With Appliances That Burn Oil, or Category 1 Appliances which burn Natural Gas or Propane.

This Liner is to be Installed in a Masonry Chimney where there is a Minimum Clearance of 0 Inch Air Space Between Combustible Materials and the Chimney Exterior.

Install and Use Only in Accordance With Z-Flex Model OS Installation and Maintenance Instructions Shipped with Liner Kit or Available at [www.z-flex.com](http://www.z-flex.com).

**CAN/ULC-S635 CLASS 2**

**WARNING**

Install only in existing chimneys. For use only with appliances which burn oil or gas only. Lining systems must be installed in accordance with Manufacturer's Installation Instructions.

**AVERTISSEMENT**

Installer seulement dans les cheminées existantes. Aux fins d'utilisation avec des appareils alimentés au gaz ou au mazout seulement. Les systèmes de chemisage doivent être installés conformément aux directives d'installation du fabricant.

For venting of oil and gas fired appliances where the temperature of the flue gas products does not normally exceed 300°C  
Évacuation pour les appareils alimentés au gaz ou au mazout dont la température des produits de combustion n'exécède normalement pas 300 °C.

INSTALLER

DATE

INSTALLER ADDRESS

**Z-FLEX U.S. INC.**

Model SF  
Part #

BEDFORD, NH



UL 1777



- LINER FOR EXISTING CHIMNEY  
 COMPONENT FOR CHIMNEY LINERS

For Use Only With Appliances That Burn Solid Fuel, Oil, or Category 1 Appliances which burn Natural Gas or Propane.

This Liner is to be Installed in a Masonry Chimney where there is a Minimum Clearance of 1 Inch Air Space Between Combustible Materials and the Chimney Exterior.

Install and Use Only in Accordance With Z-Flex Model SF Installation and Maintenance Instructions Shipped with Liner Kit or Available at [www.z-flex.com](http://www.z-flex.com).

**CAN/ULC-S635 CLASS 3**

**WARNING**

Install only in existing masonry chimneys or in chimneys approved by the authority having jurisdiction for use with solid fuel burning appliances. For use only with appliances which burn oil, gas or solid fuel only. Lining systems must be installed in accordance with Manufacturer's Installation Instructions

**AVERTISSEMENT**

Installer uniquement dans une cheminée en maçonnerie existante ou une cheminée approuvée par l'autorité compétente aux fins d'utilisation avec des appareils à combustibles solides. Aux fins d'utilisation avec des appareils alimentés au gaz, au mazout ou aux combustibles solides seulement. Les systèmes de chemisage doivent être installés conformément aux directives d'installation du fabricant

For venting of oil, gas, and solid fuel fired appliances where the temperature of the flue gas products does not normally exceed 650°C  
Évacuation pour les appareils alimentés au gaz, au mazout ou aux combustibles solides dont la température des produits de combustion n'exécède normalement pas 650 °C

INSTALLER

DATE

INSTALLER ADDRESS

# GENERAL INSTRUCTIONS

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- A. To avoid rapid accumulation of creosote, do not use single wall liner above a chimney.
- B. The use of rain cap and flashing are required to prevent moisture from entering the liner and the space between the liner and chimney.
- C. Listed rain caps incorporating bird screens are necessary and/or required in some areas but may be susceptible to blockage through freezing moisture in areas of low ambient temperature. Consult authority having jurisdiction
- D. Liner must not be field ovalized, order 2ZLSSO(X,R)\_\_\_\_ from the factory.
- E. The safe operation of a lining system is based on the use of parts supplied by the manufacturer and its performance may be affected if the combination of these parts is not used in actual building construction.
- F. The lining system safety, code compliancy, warranty and performance may be compromised if the installation instructions are not followed.
- G. Prior to installation of the lining system into a masonry chimney, the chimney must be thoroughly cleaned especially of any tar glazed creosote and checked for cracked, loose, or missing bricks, mortar, or other materials that could inhibit correct installation of the lining system, and that the air space clearances between the masonry chimney exterior and combustible materials be checked to verify that the chimney is in accordance with applicable building code requirements; NFPA 211, other recognized major building codes or appliance manufacturer's installation instructions.
- H. If the existing system is found not to be in compliance with applicable building code and / or these installation instructions, the liner shall not be installed until appropriate steps have been taken in order to bring the chimney or vent into compliance with the applicable code and / or these instructions.
- I. Installation of the lining system into an existing chimney or vent does not, in any way, upgrade the resulting relined system and make it suitable for any applications that require a vent or chimney of a higher temperature handling capability, an alternative fuel, or any other, more severe service than the original chimney or vent in which it is installed.
- J. The authority having jurisdiction (such as Gas Inspection Authority, Municipal Building Department, Fire Department, Fire Prevention Bureau, etc.) should be consulted before installation to determine the need to obtain a permit.

## WARNING

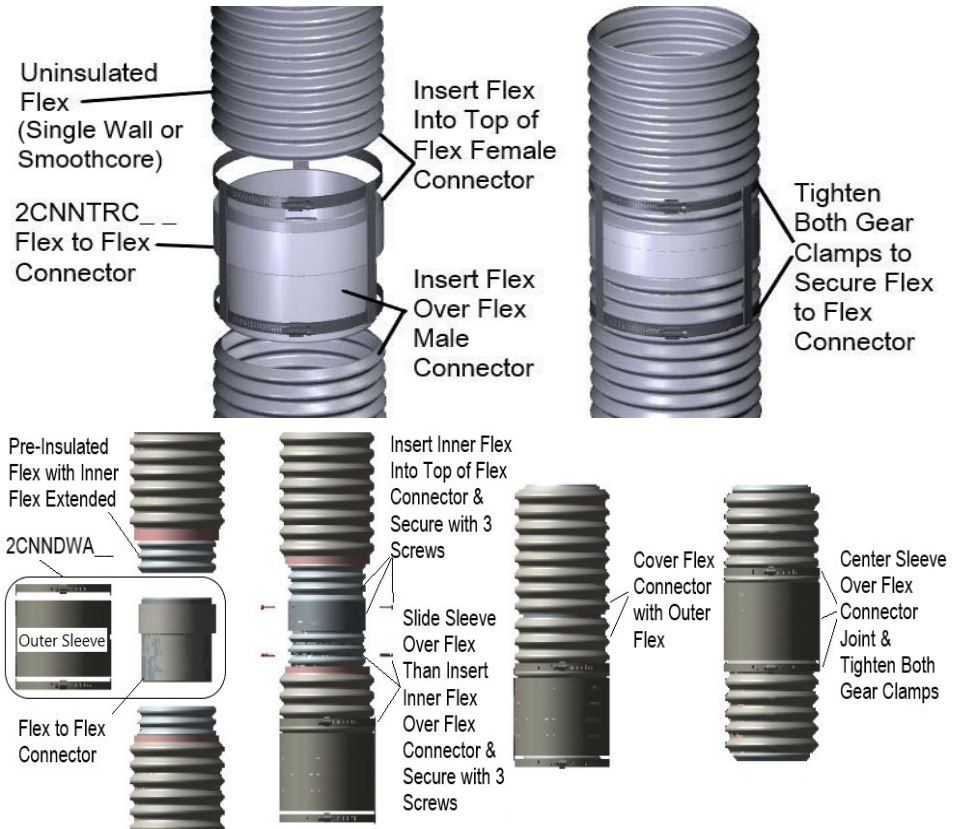
Failure to inspect and clean lining system as outlined in maintenance instructions may result in fire, health or other safety hazards. Use these and appliance manufacturer's instructions during the examination and tests of lining system.

## WARNING

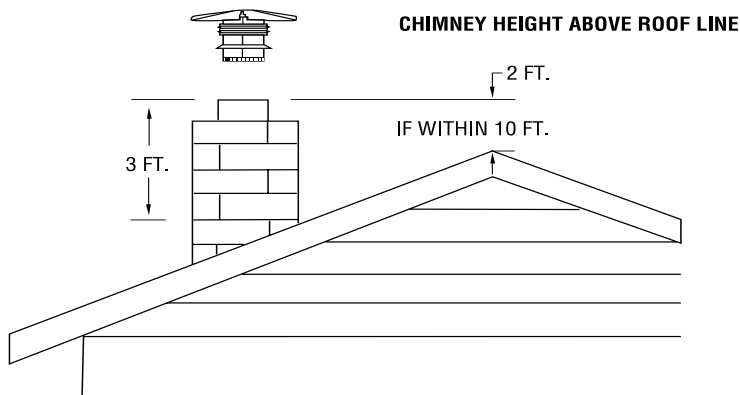
Do not use any materials other than those specified in these instructions.

- 1. Read the installation instructions carefully prior to installing the chimney liner. If doubts exist, contact your local distributor or in U.S.A. Z-Flex U.S. Inc. at 1-800-654- 5600 (in NH 603-669-5136) or in Canada Flexmaster Canda Limited at 416-679-0045.

2. Clean and repair chimney as required.  
**NOTE: Removal of all tar glazed creosote is a must prior to installation of chimney liner. Also, cracked, loose or missing bricks, mortar or other materials that could inhibit correct installation of the chimney lining system, should be removed/repaired.**
3. Contact your local building or fire officials about any restrictions and inspections required.
4. The wall penetration assemblies must not be located directly behind a heating appliance.
5. The chimney liner must not be sized less than that specified in the appliance manufacturer's instructions.
6. The liner may be purchased in various lengths to suite chimney height. If it is necessary a single joint can be allowed to join two liners.
  - **Note:** Its recommended to have the liner in one continuous length, however if liner must be joined to achieve correct length use Part ID 2CNNTRC\_\_ or 2CNNTRA\_\_OV for oval liners or 2CNNDWA\_\_\_ for factory pre-insulated flex.



7. Nose cones (2NC\_\_\_\_), insulation kits (2INSKIT\_\_) (with woven fiberglass cloth or stainless steel mesh covering) and factory pre-insulated liners (2ZFSFIKIT\_\_\_\_PI with next size up cap and flashing or 2INSERTKT\_\_\_\_PI) are optional items. (**NOTE: U.S.A. only Model "SF" UL Listing requires insulated Liner when used with wood burning appliance.**)
8. Be sure to extend the chimney liner to conform to applicable building codes (local & national). That is, chimneys are required to extend at least 3 feet (1 m) above the highest point where they pass through the roof of building, and at least 2 feet (61 cm) higher than any portion of the building within 10 feet (3 m).



9. The air space clearance between the masonry chimney exterior and combustible materials should be checked to verify that the chimney is in accordance with the clearance specifications contained in the NFPA 211 Standard for U.S.A. installations or CAN/CSA-B365 Standard for Canada installations or other recognized major building codes, i.e., on an **exterior chimney clearance is 0" for "OS" Liners or 1" (25 mm) for "SF" Liners while on an interior chimney, clearance is 0" for "OS" Liners or 2" (51 mm) for "SF" Liners.**
10. The "OS" Liner is intended for use as a chimney liner in masonry or pre-fab metal chimneys for oil burning appliances listed for use with type L vents, gas burning appliances equipped with draft hoods or listed with type B gas vents or listed solid fuel pellet fired appliances, all without insulation when the continuous flue gas temperature does not exceed 570°F (299°C).  
The following list details only some intended uses of "OS" chimney liner. If your appliance is not on this list and you are not sure if it is appropriate to use with "OS" liner, contact the appliance manufacturer prior to installation.
  - Furnace
  - Water Heater
  - Gas Fireplace
  - Boiler

**"OS" Liner** Minimum and maximum clearances:

Maximum chimney height = 65 feet (20 m) high

Minimum chimney height = 10 feet (3 m) high

Minimum brick thickness = 3.5 inches (9 cm) thick

11. The "SF" Liner is intended for installation into masonry (and in Canada factory built) chimneys that are used for the natural draft venting of gas-liquid and solid-fuel-fired residential-type appliances in which the maximum continuous flue-gas outlet temperatures do not exceed in USA 1000° F (538° C) or in Canada 1200° F (650° C)

The following list details only some intended uses of "SF" chimney liner. If your appliance is not on this list and you are not sure if it is appropriate to use with "SF" liner, contact the appliance manufacturer prior to installation.

- Furnace
- Burner
- Fireplace or Fireplace Inserts
- Water Heater
- Range
- Wood or Pellet Stoves
- Boiler
- Clothes Dryer

In U.S.A. the "SF" Liner recommended minimum air space clearance between the liner and the chimney wall is 1" (25 mm) (in accordance with major recognized standards).

"SF" Liner minimum and maximum clearances in inches:

Liner Dia.	Min. Chimney Flue Opening U.S.A*	Min. Chimney Flue Opening Canada
3	6 X 6	3.63 X 3.63
4	7 X 7	4.63 X 4.63
5	8 X 8	5.63 X 5.63
5.5	8.5 X 8.5	6.13 X 6.13
6	9 X 9	6.63 X 6.63
7	10 X 10	7.63 X 7.63
8	11 X 11	8.63 X 8.63
9	12 X 12	9.63 X 9.63
10	13 X 13	10.63 X 10.63

Maximum chimney height = 65 feet (20 m) high

Minimum chimney height = 10 feet (3 m) high

Minimum brick thickness = 3.5 (9 cm) inches thick

\*For liner with 1/4" thick insulation - required on wood burning appliances

12. In U.S.A. clearance from connectors to unprotected combustible material shall be in accordance with the table below (ref: NPFA 211).

Description of Appliance	Minimum Clearance inch (mm)
Gas appliances without draft hoods	18 (457)
Oil appliances and for "SF" Liners solid-fuel appliances	18 (457)
Unlisted gas appliances with draft hoods	9 (229)
Boilers and furnaces equipped with listed gas burners and with draft hoods	9 (229)
Listed gas appliances with draft hoods	6 (152)

**Note 1:** These clearances apply except if the listing of an appliance specifies different clearance, in which case the listed clearance takes precedence.

**Note 2:** These clearances apply except if a listed wall penetration assembly is used.

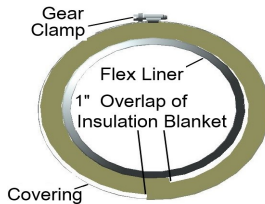
13. Ensure access to clean out Tee are in accordance with the enforcing authorities and clearances are maintained to your local building codes.

# INSTALLATION INSTRUCTIONS

1. Unroll the Flexible Liner and extend to the maximum allowable length.
2. **NOTE: U.S.A. only Model "SF" UL Listing requires insulated Liner when used with wood burning appliance.**

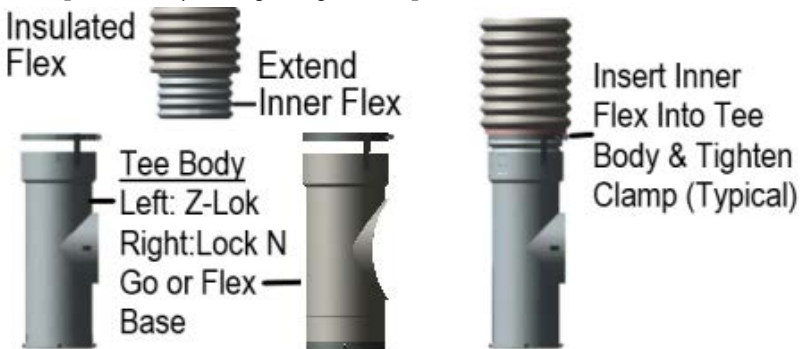
*BEST PRACTICE use an insulated liner in exterior chimney or brick chimney without any clay liner. An insulated liner will keep the flue gases warm, improve draft and minimize condensation. Refer to the equipment manufacturer's instructions for their recommendations.*

Factory pre-insulated liners are available: (2ZFSFIKIT \_\_\_PI or 2INSERTKT \_\_\_PI). If insulating the liner with optional insulation kit with blanket and covering (woven fiberglass cloth or stainless steel mesh), wrap the liner with a minimum of 1" (25 mm) overlap of insulation blanket (foil on outside when installing mesh covering). Use metal tape to hold insulation. Wrap liner with covering **allowing space at end of inner liner to attach tee or connector** and secure covering to liner with provided clamps at each end of liner. The outer woven fiberglass cloth has a 538°C (1000°F) recommended continuous use limit.



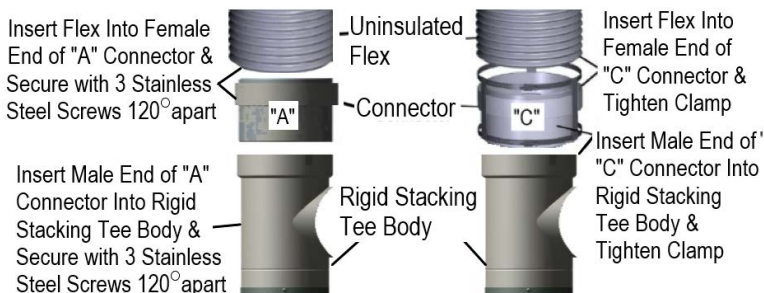
- 3a. If chimney is straight and clearance between outside of liner and inside of chimney is greater than 1" (25 mm) and TEE is used, it's recommend to secure a tee body (without branch attached) to liner by:

**For Z-LOK™ Tee (2ZFTJ\_\_\_) or Lock N'Go Tee (2ZFTCB\_\_\_) or Flex Base Tee (2ZFT\_\_\_ or for oval liner 2ZFOT\_\_\_ or 2ZRBTOX\_\_\_)** Insert inner liner into top of tee body and tighten gear clamp.

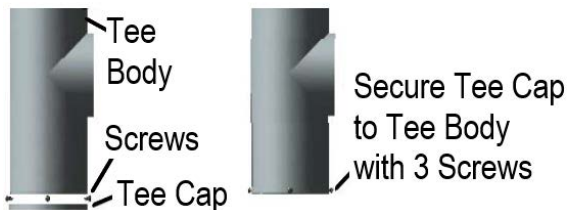


**For Rigid Stacking Tee (2ZRBTX\_\_\_) with "C" Connector (2CNNTRC\_\_\_)** Insert inner liner into top of female end of connector and tighten connector gear clamp. Next insert male end of connector into top of rigid stacking tee and tighten connector gear clamp. See image on page 9.

**For Rigid Stacking Tee (2ZRBTX\_\_\_) with "A" Connector (2CNNDWA\_\_\_)** Insert inner liner into top of female end of connector and secure with three stainless steel screws spaced 120° apart. Next insert male end of connector into top of rigid stacking tee and secure with three stainless steel screws spaced 120° apart. See image on page 9.



Secure tee cap to bottom of tee body with three stainless steel screws.



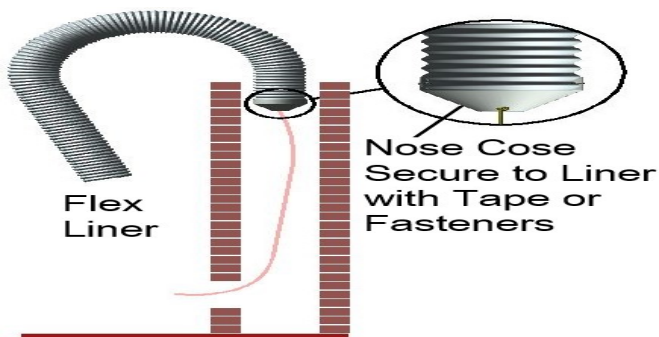
If liner is insulated excluding SF Factory Pre-Insulated Liner (2ZFSFIKIT PI) loosen cover clamp and slide insulation & cover over liner/connector/tee joint than secure cover with clamp.

Gently guide liner down chimney, with TEE BODY (without branch attached) first, until tee is present at bottom opening. To avoid damaging the liner, DO NOT FORCE LINER down chimney.

If TEE is NOT used follow instructions in 3b.

- 3b. If chimney has an offset or clearance between outside of liner and inside of chimney is less than 1": it's recommend to secure a Nose Cone (2NCXXXX\_ \_) to liner by threading one end of rope longer than liner through hole in nose cone than knot rope ensuring its firmly attached to cone. Secure nose cone to end of liner with tape or fasteners.

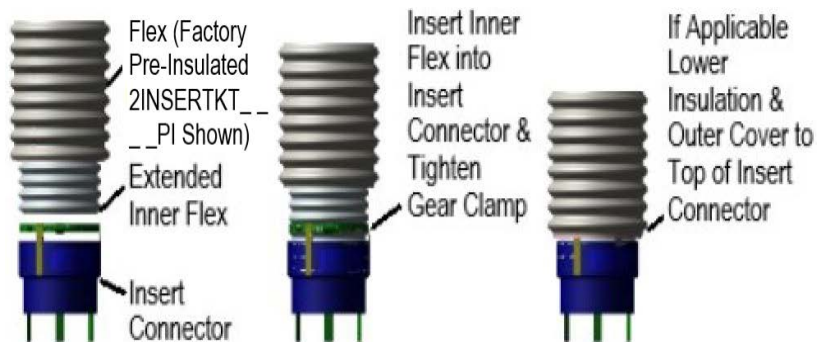
Gently guide liner down chimney, with NOSE CONE first using two people; one at top of chimney and other at bottom. Drop rope attached to nose cone down chimney and pull rope through bottom opening until nose cone is present at opening. To avoid damaging the liner, DO NOT FORCE LINER down chimney. Remove tape or fasteners securing nose cone to liner and remove nose cone.



In U.S.A. Model "OS" Liner can be installed through Mortar Guard (2MGUARD\_ \_) at bottom chimney opening. Cement around outside of guard with standard mortar mix.

-OR-

In U.S.A. & Canada, SF Liner can be installed on Fireplace Insert, install inner liner into female end of Insert Connector (2CNNI\_ \_) or Insert Offset Adaptor (2ZOAI\_ \_ \_ \_) both with pull handle & tabs or Insert Connector without pull handle and tabs (2CNNS\_ \_) and tighten gear clamp.



For SF Factory Pre-Insulated Liner (2ZFSFIKIT\_ \_ \_PI) installed on Fireplace Insert, install inner and outer liners with insulation into female end of Insert Connector (2CNNS\_ \_PI) tighten gear clamp and install included screws through holes in both liners.

-OR-

In U.S.A. & Canada and TEE is used:

**For Z-LOK™ Tee (2ZFTJ\_ \_) or Lock N'Go Tee (2ZFTCB\_ \_) or Flex Base Tee (2ZFT\_ \_ or for oval liner 2ZFOT\_ \_ \_ \_ or 2ZRBTOX\_ \_)** Insert inner liner into top of tee body (without branch attached) and tighten gear clamp. See image on page 8.

**For Rigid Stacking Tee (2ZRBTX\_ \_) with "C" Connector (2CNNTRC\_ \_)** Insert inner liner into female end of connector and tighten connector gear clamp. Next insert male end of connector into top of rigid stacking tee (without branch attached) and tighten connector gear clamp. See image on page 9.

**For Rigid Stacking Tee (2ZRBTX\_ \_) with "A" Connector (2CNNDWA\_ \_)** Insert inner connector into female end of connector and secure with three stainless steel screws spaced 120° apart. Next insert male end of connector into top of rigid stacking tee (without branch attached) and secure with three stainless steel screws spaced 120° apart. See image on page 9.

Once tee body is installed secure tee cap to tee body with three stainless steel screws. See image on page 9.

If liner is insulated excluding SF Factory Pre-Insulated Liner (2ZFSFIKIT\_ \_ \_PI) loosen cover clamp and slide insulation & cover over liner/connector/tee joint than secure cover with clamp.

4. If tee is used align branch opening with bottom chimney opening and:

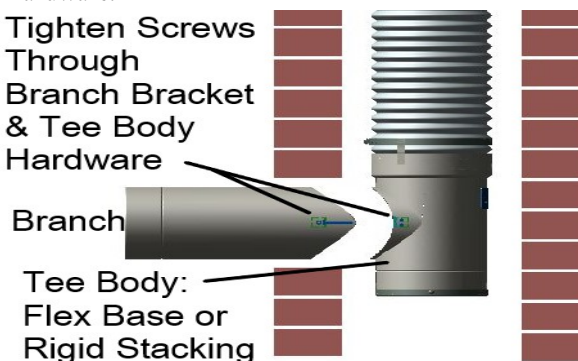
**For Z-LOK™ Tee (2ZFTJ\_\_)** hold tee body and insert slotted end of branch into body and twist branch clockwise until slots lock with tee body lugs.



**For Lock N'Go Tee (2ZFTCB\_\_)** insert opened clamp end of branch into chimney, install tee body through clamp, align openings through branch and tighten clamp around tee body until snug.



**For Flex Base Tee (2ZFT\_\_ or for oval liner 2ZFOT\_\_\_\_ or 2ZRBTOX\_\_) or Rigid Stacking Tee (2ZRBTTX\_\_)** secure branch to tee body by snugly tightening two screws inserted through branch brackets and tee body hardware.



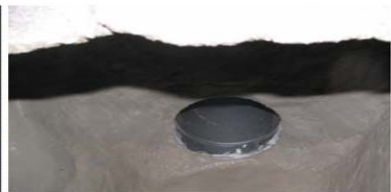
5. If two tees are used (preferred - See Page 14 Installation #2), the lower tee branch is for a clean out. It's recommended to install the lower tee at the bottom chimney opening. Remove tee cap from upper tee.

If using Lock N'Go Tee (2ZFTCB \_\_ ) or Rigid Stacking Tee (2ZRBTXX \_\_ ) or Flex Base Tee (2ZFT \_\_ ), secure Rigid Stacking Tee (2ZRBTXX \_\_ ) (with tee cap fastened to bottom of tee with stainless steel screws and without branch attached) with three stainless steel screws under tee. Secure branch to Rigid Stacking Tee body by snugly tightening two screws inserted through branch brackets and tee body hardware. Secure tee cap to lower tee branch/clean out with stainless steel screws. If necessary to extend spacing between branch connections a Rigid Liner (2ZR321F\_ \_\_ \_\_ ) can be installed between the tees and secured with three stainless steel screws per joint.

If using Z-LOK™ Tee (2ZFTJ \_\_ ), secure Z-LOK™ Stacking Tee (2ZFTJS\_ \_\_ ) (with tee cap fastened to bottom of tee with stainless steel screws and without branch attached) with three stainless steel screws under tee. Secure branch to Z-LOK™ Tee body by inserting slotted end of branch into body and twist branch clockwise until slots lock with tee body lugs. Secure tee cap to lower tee branch/clean out with stainless steel screws. If necessary to extend spacing between branch connections a Z-LOK™ Spacer (2ZFTJS\_ \_1) can be installed between the tees and secured with three stainless steel screws per joint.

6. If tee(s) are used cement around tee branch(es) at chimney opening(s) with standard mortar mix.
7. If "SF" Liner is installed with fireplace insert, fully install Insert Connector/Adaptor (2CNNI\_ \_\_ or 2ZOAI\_ \_ \_ \_ or 2CNSN\_ \_\_ ) into fireplace insert flue collar and secure connector/adaptor using appropriate fastener to flue collar. When using Insert Connector/Adaptor (2CNNI\_ \_\_ or 2ZOAI\_ \_ \_ \_ ) bend connector/adaptor tabs flush with underside of fireplace insert. NOTE: If there is no collar present on the outlet of the fireplace insert for the Insert Connector/Adaptor (2CNNI\_ \_\_ or 2ZOAI\_ \_ \_ \_ ) to fasten onto, bend the tabs of the Insert Connector/Adaptor back to the underside of fireplace insert fire chamber and affix using best practice method and/or approved cement. IMPORTANT: Follow Fireplace Insert instructions for flue connection when applicable. NOTE: U.S.A. only Model "SF" UL Listing requires insulated Liner when used with wood burning appliance. If liner is insulated excluding SF Factory Pre-Insulated Liner (2ZFSFIKIT\_ \_ \_ \_ PI) loosen cover clamp and slide insulation & cover over connector than secure cover with clamp. Set fireplace insert into place pulling any liner slack up through chimney.

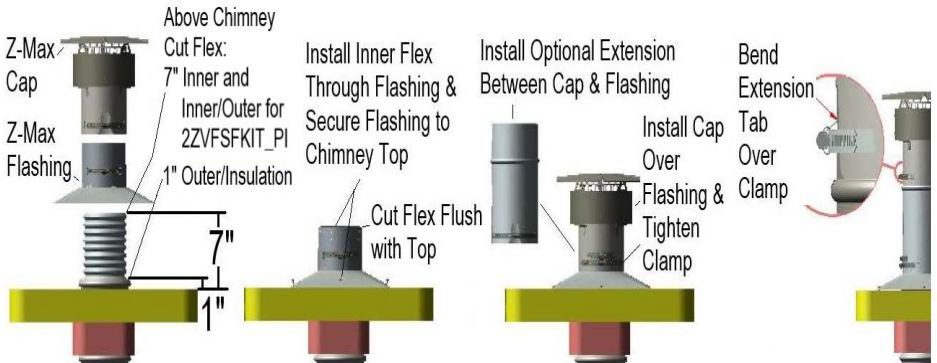
8. If "SF" Liner is used to reline a wood burning fireplace chimney, the space between the chimney interior and Z-Flex Liner should be suitably sealed off to create a dead air space. Mesh Bottom Plate (2MBP\_ \_\_ ) may be connected to the SF Liner at the top of smoke chamber. Insert liner into Mesh Bottom Plate collar and secure with collar gear clamp. Contour, secure and parge mesh with refractory cement to form a smooth transition at top of chamber. NOTE: U.S.A. only Model "SF" UL Listing requires insulated Liner when used with wood burning appliance. If liner is insulated excluding SF Factory Pre-Insulated Liner (2ZFSFIKIT\_ \_ \_ \_ PI) loosen cover clamp and slide insulation & cover over Mesh Bottom Plate connector than secure cover with clamp.



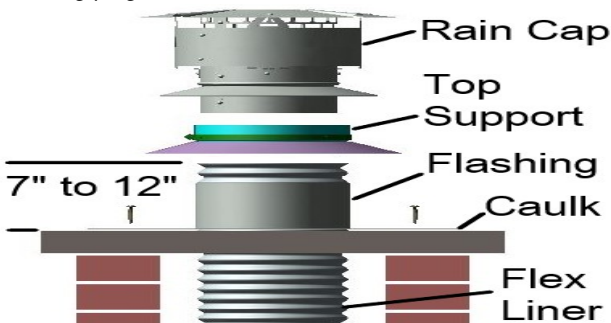
9. Allow at least 7-12" (18-30cm) of inner liner, and inner/outer liners only for SF Factory Pre-Insulated Liner (2ZFSFIKIT\_ \_ \_ \_PI) above the top of the chimney. If outer liner and insulation is present excluding SF Factory Pre-Insulated Liner (2ZFSFIKIT\_ \_ \_ \_PI), allow 0" (if Chimney Flashing 2ZSCS\_ \_ \_ \_ or 2ZSC(O,SO)\_ \_ \_ \_ for oval liner is being installed) or 1" (25mm if Z-Max Flashing 2AFC\_ \_ \_ is being installed) above the top of the chimney. Place liner through flashing and secure flashing to top of chimney using suitable anchors. Seal all joints with high temperature sealant and paint as necessary.
10. If Z-Max Flashing (2AFC\_ \_ \_ or 2ZSCS13\_ \_ \_ or 2ZSC(O,SO)\_ \_ \_ for oval liner) is used, tighten gear clamp on Z-Max Flashing to secure liner to flashing. Cut liner flush with top of Z-Max Flashing using a knife or hacksaw.

If Z-Max Rain Cap Extension is NOT used, install Z-Max Rain Cap (2ZMR\_ \_ \_ or 2ZMRCA\_ \_ \_ or for oval liner 2ZMRC(V,SV)\_ \_ \_) over top of Z-Max Flashing, align gear clamps and tighten rain cap clamp.

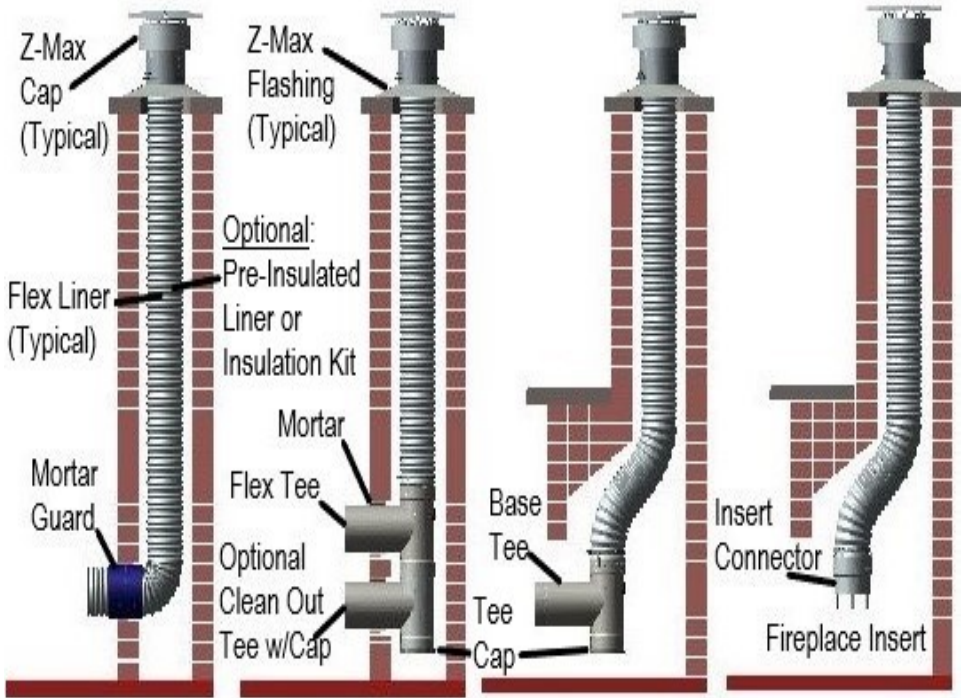
If Z-Max Rain Cap Extension 2ZMEXT\_ \_ \_ (for use with 2ZMR\_ \_ \_) or 2ZMRCAEXT\_ \_ \_ (for use with 2ZMRCA\_ \_ \_) is used, install extension over Z-Max Flashing, align gear clamps and tighten extension clamp. Next bend tab out on male end of extension (2ZMEXT\_ \_ \_). Install Z-Max Rain Cap (2ZMR\_ \_ \_ or 2ZMRCA\_ \_ \_) over extension until bottom of cap rests on top of extension bead. Position rain cap (2ZMR\_ \_ \_) gear clamp under extension tab (2ZMEXT\_ \_ \_). Tighten clamp on rain cap.



If Chimney Flashing (2ZSCS\_ \_ \_ excluding both 2ZSCS13\_ \_ \_ and 2ZSC(O,SO)\_ \_ \_ for oval liner) is used, place liner through Top Support (2ZTSXXX\_ \_ \_) and slide support over flashing collar allowing 1" (25 mm) of overlap. Cut liner flush with top support using a knife or hacksaw. Insert Rain Cap (2RNCAPS\_ \_ \_) into liner and tighten top support gear clamp securing liner and rain cap. Install three stainless steel screws 120° apart, 3/8" (10 mm) down from upper end of top support through top support/liner/rain cap (not through flashing collar as this allows for thermal expansion) and snugly tighten screws.



## 11. Typical Installations



Installation 1  
(U.S.A. "OS" Liner Only)

Installation 2\*

Installation 3

Installation 4  
("SF" Liner Only)

\* If two tees are used (preferred); the lower tee branch is for a clean out (see step 5 above).

Oval Cap  
2ZMRC(V,SV)\_\_\_

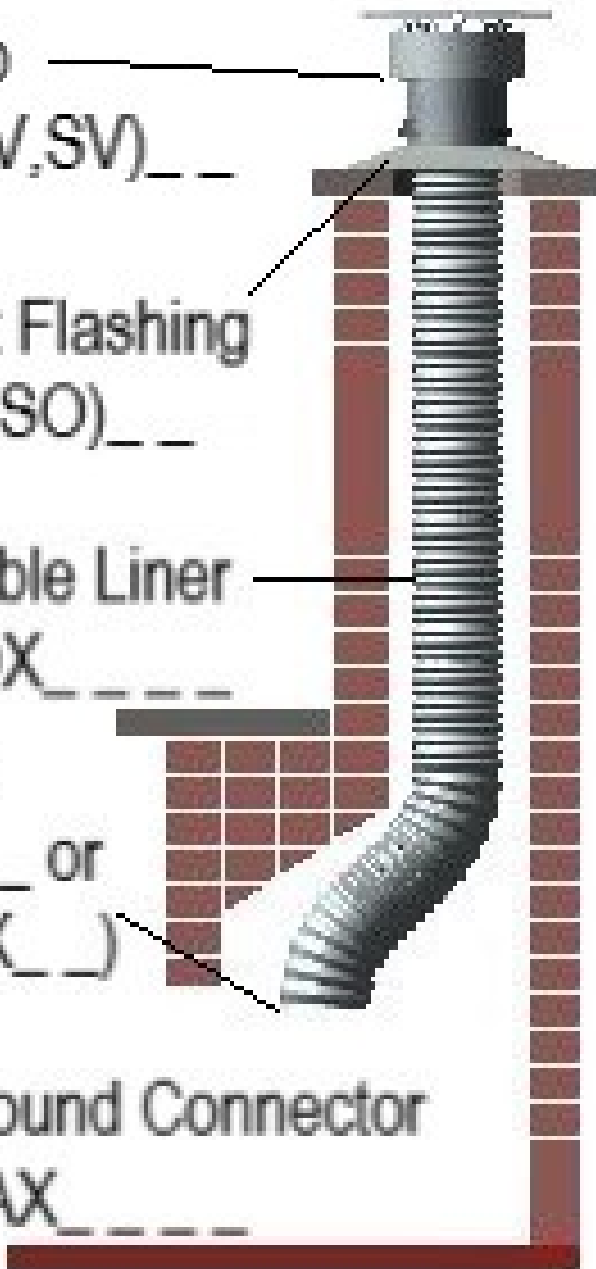
Oval Flat Flashing  
2ZSC(O,SO)\_\_\_

Oval Flexible Liner  
2ZLSSOX\_\_\_\_\_

Oval Tee  
(2ZFOT\_\_\_ or  
2ZRBTOX\_\_\_)

or

Oval to Round Connector  
2ZRORZAX\_\_\_\_\_



Installation 5

# MAINTENANCE INSTRUCTIONS

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Manufacturer's address:

In U.S.A.:  
Z-Flex U.S. Inc.  
20 Commerce Park North  
Bedford, NH 03110-6911  
Tel: 1-800-654-5600 or  
in NH 603-669-5136

In Canada:  
Flexmaster Canada Limited  
452 Attwell Drive  
Etobicoke, ON M9W 5C3  
Tel 416-679-0045

- A. The replacement parts/components for the "SF" & "OS" chimney liner system are available from Z-Flex U.S. Inc. or Flexmaster Canda Limited.

## **WARNING**

DO NOT USE ANY MATERIAL/PARTS OTHER THAN THOSE SPECIFIED IN THE INSTALLATION INSTRUCTIONS.

- B. "Creosote or Soot Formation and Need for Removal".

### **For "SF" Liner System:**

When wood is burned slowly, it produces tar and other organic vapors, which combined with expelled moisture, forms 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 makes an extremely hot fire.

### **For "OS" Liner System:**

When fuel (oil or gas) is burned it produces soot.

The chimney should be inspected every two (2) months during the heating season to determine if a creosote or soot buildup has occurred. If creosote or soot has accumulated, it should be removed to reduce the risk of chimney fire.

- C. The recommended method of cleaning your Z-Flex Liner is with a poly chimney brush approximately 1/8" (3 mm) larger than the inside diameter of your liner. The liner should be brushed until all creosote or soot has been removed.
- D. It is recommended to have the chimney lining system checked by a qualified chimney inspector, such as a certified chimney sweep, at least once annually following the initial installation of the lining system.
- E. Any heating appliance connected to the chimney liner must not have a flue outlet size larger than the chimney liner area at its smallest point.

# COMMON LINER SYSTEM PARTS - OPTIONS

## "OS" & "SF" Liner Systems:

- Z-Max Rain Cap (2ZMRCS\_\_)
- Z-Max Rain Cap Extension (2ZMEXT\_\_)
- Z-Max Flashing w/13" (33 cm) Square Base (2AFCS\_\_)
- Z-Max Flashing w/18" (46 cm) Square Base (2AFCX\_\_)
- Z-LOK™ Tee (2ZFTJ\_\_)
- Deluxe Rain Cap (2RNCAPS\_\_)
- Top Support/Storm Collar (2ZTSXXX\_\_)
- Chimney Flashing w/16" (41 cm) Square Base (2ZSCSXX\_\_)
- Chimney Flashing w/18" (46 cm) Square Base (2ZSCS18\_\_)
- Lock N'Go Tee w/Cap & 10" (25 cm) Long Branch (2ZFTCB\_\_)
- Lock N'Go Tee w/Cap & 22" (56 cm) Long Branch (2ZFTCB\_\_L)
- Rigid Stacking Tee w/2 Branch Screws (2ZRBXXX\_\_)
- Dripless Type "C" Connector w/Clamps (2CNNTRC\_\_)
- Dripless Type "A" Connector w/Screws (2CNNDWA\_\_)
- Pre-Insulated Connector (2CNNDWA\_\_\_\_)
- Flex Base Tee w/2 Branch Screws (2ZFT\_\_)
- Liner Insulation Kit (2INSKIT\_\_)

## "OS", "SF" & "ZR" Liner Systems:

- Deluxe Rain Cap (2RNCAPS\_\_)
- Top Support/Storm Collar (2ZTSXXX\_\_)
- Chimney Flashing w/16" (41 cm) Square Base (2ZSCSXX\_\_)
- Chimney Flashing w/18" (46 cm) Square Base (2ZSCS18\_\_)
- Rigid Stacking Tee (2ZRBXXX\_\_)

## "SF" Liner Systems:

- Z-Max (Mushroom) Rain Cap (2ZMRCA\_\_)
- Z-Max (Mushroom) Rain Cap Extension (2ZMRCAEXT\_\_\_\_)
- Z-Max (Flat with Clamp) Chimney Flashing w/13" (33 cm) Square Base (2ZSCS13\_\_)
- Z-LOK™ Stacking Tee (2ZFTJS\_\_)
- Z-LOK™ Stacking Tee 1' Long Spacer (2ZFTJS\_\_1)
- Insert Connector w/Pull Handle & Tabs (2CNNI\_\_)
- Insert Offset Adaptor w/Pull Handle & Tabs (2ZOAI\_\_\_\_)
- Insert Connector without Pull Handle & Tabs (2CNNS\_\_)
- Factory Pre-Insulated "SF" Liner
- Pre-Insulated Connector (2CNNS\_\_PI)
- Adaptor (2ZOA\_\_90,45)A
- 6"-12" Adj. Insert Boot 6" Dia. (2ZR24AIB06)
- Oval Flashing (2ZSC(O,SO)\_\_\_\_)
- Oval Rain Cap (2ZMRC(V,SV)\_\_)
- Oval Flex Base Tee (2ZFOT\_\_ or 2ZRBTOX\_\_\_\_)
- Oval Connector (2CNNTRA\_\_OV)
- Stacking Tee (2ZFTCBS\_\_)
- Stacking Tee 1' Long Spacer (2ZFTS\_\_)
- Slip Connector X 18" Long (2ZRBTA\_\_)

## "OS" Liner Systems:

- Z-LOK™ Tee w/Female Branch End (2ZFTJ\_\_L)
- Factory Pre-Insulated "OS" Liner

## "OS" & "GA" Liner Systems:

- Mortar Guard (2MGUARD\_\_)

## "OS", "SF" & "GA" Liner Systems:

- Nose Cone (2NC\_\_\_\_)

- Storm Collar (2ZRSTRM\_\_)
- Rigid Liner (2ZR31624\_\_)
- Rigid 90 (2RE9031624\_\_)



Z-FLEX®

Lifetime Liner Warranty

Z-Flex, Inc. warrants its Stainless Steel Chimney Liners to the original purchaser or if purchased by a contractor, to the end user. The warranty is valid for as long as the original purchaser owns the property in which the liner is installed, provided it is installed according to U.L. installation instructions. Deviating from the installation and use instructions included with the liner will void the warranty.

Z-Flex warrants that at the time of shipping the Stainless Steel Chimney Liner will be free of manufacturer's defects in material and/or workmanship.

Liability under the warranty shall be limited to the replacement of the liner and accessories found to be defective according to the terms of the warranty, and shall not include replacement installation or other costs.

IMPORTANT: Z-Flex Chimney Liners are designed to be used with these fuels only: natural gas, propane gas, oil, and seasoned hardwood. The following fuels are not recommended for use in Z-Flex chimney liners: coal, ocean driftwood or garbage. Excessive condensation with high chlorine content will corrode some stainless steel. Where these conditions prevail, we recommend AL29-4C™ Stain-less Steel Liners. Refer to equipment manufacturer's installation instructions for proper liner material for appliances which produce condensation.

Excessive creosote accumulation, sulphur residue from burning coal or the use of unapproved chemical cleaners may cause chimney fit res that could warp the liner or may corrode the liner. Such misuse will void the warranty.

To activate the warranty, the purchaser or end user must complete and return the Z-Flex warranty registration card within ninety (90) days of installation. Upon receipt of written notice of any defect, Z-Flex reserves the right to examine or engage others to examine the liner. Such examination must establish reasonable proof of defective material or workmanship justifying replacement.

The sole remedy for breach of any and all warranties and the sole remedies for Z-Flex's liability of any kind shall be limited to the remedies provided herein. Z-Flex shall not be liable for any special, incidental, indirect or consequential damages, or for any claim against the purchaser or end user by any other party. EXCEPT AS SPECIFICALLY PROVIDED HEREIN, Z-FLEX DOES NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. Some states do not allow the exclusion of implied warranties or the limitation or exclusion of liability for incidental or consequential damages, so the above limitations may not apply to you. You may also have other rights which vary from state to state.

For further information, call or write to:

In U.S.A.
Z-Flex U.S. Inc.
20 Commerce Park North
Bedford, NH 03110-6911
Toll Free: 1-800-654-5600 or
in NH: (603) 669-5136

In Canada
NovaFlex
20 East Pearce Street
Richmond Hill, Ontario L4B 1B7
Tel: (905) 731-9411

Z-FLEX® Warranty Registration Card

For this warranty to be effective this card must be completed upon purchase of the covered liner and returned to Z-Flex, Inc.

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

LINER PURCHASED FROM: \_\_\_\_\_

DATE OF INSTALLATION: \_\_\_\_\_

MODEL OF VENTED APPLIANCE(S): \_\_\_\_\_

I understand and agree to the warrant as stated: \_\_\_\_\_

(signature)