CROSS BREAK

SHEET METAL

INSTALLATION & MAINTENANCE INSTRUCTIONS AND WARRANTY INFO

CrossFlex, CrossFlex Pro, CrossFlex SW, CrossFlex MW, CrossFlex HW & CrossFlex PI

v1.4

Manufactured & Distributed by Cross Break Sheet Metal
CrossFlex **UL File MH37676**
Tested to UL 1777

Limited Lifetime Warranty

Warranty Conditions
In order to maintain the warranty these guidelines must be followed:

1.The installation of the liner system must be done in accordance with the manufacturer instructions. 2. Use of this chimney lining system for venting gas appliances is limited to Category I appliances. 3.The lining system must be cleaned and inspected on an annual basis by a professional chimney sweep certified by a recognized organization (i.e. CSIA, NCSG, NFI, F.I.R.E.). Metal brushes must not be used for cleaning. 4. Corrosive chemical chimney cleaners must not be used. 5. Driftwood, wood or wood pellets containing salt, preservative treated lumber, plastic, experimental fuels, and household trash must not be burned in the appliance. 6. The chimney must have a cap installed. 7. The liner system must be registered with Cross Break Sheet Metal at the time of installation.

Warranty Coverage
Cross Break Sheet Metal assures that its chimney liner systems are shipped without defects in both materials and craftsmanship. This comes with a limited LIFETIME WARRANTY, contingent on adhering to the manufacturer's guidelines for maintenance and installation. The warranty can be passed on to subsequent homeowners, provided they comply with the warranty's terms. This warranty offers a one-time, no-cost replacement of the liner only. It does not extend to modifications of the system, appliances, or the usage of unauthorized attachments. Keeping a log or receipts of flue checks and cleanings is recommended to verify proper upkeep.The warranty does not cover improper installation which may result in damaged components.

Limitations of Liability
Cross Break Sheet Metal does not assume any responsibility for any damage incurred due to faulty or improper installation of a chimney liner and/or its components, or for defective materials that have been determined to be defective before being installed or became damaged or defective because of improper use or installation. It is the responsibility of the installer to thoroughly inspect each component before installation. Cross Break Sheet Metal and/or the installer shall not be responsible to cover costs for the replacement of a liner and/or its components that are covered by this warranty.

Claim Process
In order to receive a replacement chimney liner and/or components, a claim must be filed with Cross Break Sheet Metal. Upon approval of your claim, Cross Break Sheet Metal will supply a replacement chimney liner at no charge as the exclusive remedy.

Covered Fuels
The Lifetime Warranty encompasses the use of Wood, Oil, Gas, and Wood Pellet fuels. Due to the corrosive properties of Coal, CrossFlex MW 316, CrossFlex HW 316 liner systems are warranted for a period of 10 years only. CrossFlex, CrossFlex Pro, and CrossFlex SW systems

are not covered for coal burning applications. Corn burning systems are not covered by any warranty period.

Before Installation

Before installing the liner in a masonry chimney, it's essential to thoroughly clean the chimney. This includes removing tar, glaze, creosote, and inspecting for any cracked, loose, or absent bricks, mortar, or materials that might prevent the proper installation of the chimney liner.

If any masonry is missing it needs to be repaired prior to installing the liner system. This is a common issue when old thimbles have been covered over with interior finishing material. The chimney should be thoroughly inspected prior to installing the liner system. Any damage to the liner caused by existing chimney damage or blockages will not be covered under the warranty.

Check all clearance requirements contained in:
1) NFPA 211
2) Recognized major building codes
3) These installation instructions

Before installing the liner, test the flue opening the entire length of the chimney. Make sure the liner will fit smoothly through the entire length. Use a short piece of liner and pulling cone to make sure that sufficient clearance is available.

CrossFlex chimney liners and their components have been tested by Underwriters Laboratories to the UL1777 standard. The rigorous testing done in accordance with strict guidelines is your assurance that the product has been manufactured to the highest standards in the industry.

Do not abuse the liner system during installation. Some force may be required to install liners through offsets or areas where the chimney reduces in size. However, it’s important to thoroughly inspect the chimney prior to installation. Keep in mind, appliance requirements dictate the needed liner diameter for an approved installation. Careful planning and research are required prior to installation.

Requirements

NOTE: The chimney lining system should be installed/inspected in accordance with all NFPA 211 and local codes. Installing a liner in a chimney that does not meet NFPA 211 and local codes may void the warranty and UL listing requirements

Warning: Installing a CrossFlex lining system in conjunction with any system components other than those approved by Cross Break Sheet Metal, will void the warranty and may cause damage to system components and/or the structure they are being installed in. The CrossFlex rain cap can be substituted with a standard single or multi-flue metal or masonry rain cap. A CrossFlex top plate support component must be used.

Approved Appliances
CrossFlex lining systems are designed for heating devices that use home heating oil, Category I appliances that burn natural or propane gas, and solid fuel types like pellets, wood, and coal, all vented via a masonry chimney. For high-efficiency appliances, an AL 29-4C lining system should be used.

These systems should not be used with Category II, III, or IV gas burning appliances, or with any appliances that lead to the condensation of corrosive acids on the chimney liner or cause positive pressures within the chimney system.

Approved Insulation
Insulation Wrap and Thermix Insulation Mix; CrossFlex Pre-Insulated Liners

Insulation for Solid Fuel Burning Appliances
Liners venting solid fuel burning appliances must be insulated with one of the following options: A) .5-inch insulation wrap, covering the entire length of liner, including the tee body. B) Thermix Pour Down Insulation, which requires 1 inch around the entire length of liner, including the tee body. C) CrossFlex PI (pre-insulated) is also available in several select sizes and lengths

Insulation for Gas/Oil Fuel Burning Appliances
Insulation is not required for liners venting oil or gas burning appliances. Insulation is highly recommended as it will increase draft performance and reduce condensation build-up.

Joining Flexible Liner Sections
If you choose to install sections of flexible pipe, you must connect the sections with an approved liner coupler. CrossFlex lining systems may be coupled with male to male or female to male couplers.

Clearances

Within a Masonry Chimney:
Minimum airspace clearance of the liner to the interior surfaces of the masonry chimney to be maintained is zero inches. The chimney itself should be constructed from solid masonry, using bricks or blocks at a minimum thickness of four nominal inches.

Exterior of Masonry Chimney:
Required clearances to combustible materials from the exterior of the masonry chimney is zero inches. The chimney must meet NFPA 211 and local codes. In order to meet this clearance, a liner must be insulated in accordance with this manual if burning a solid fuel.

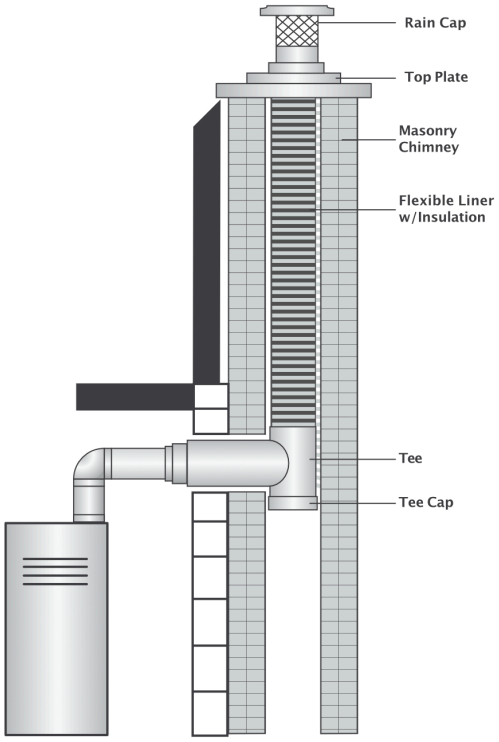
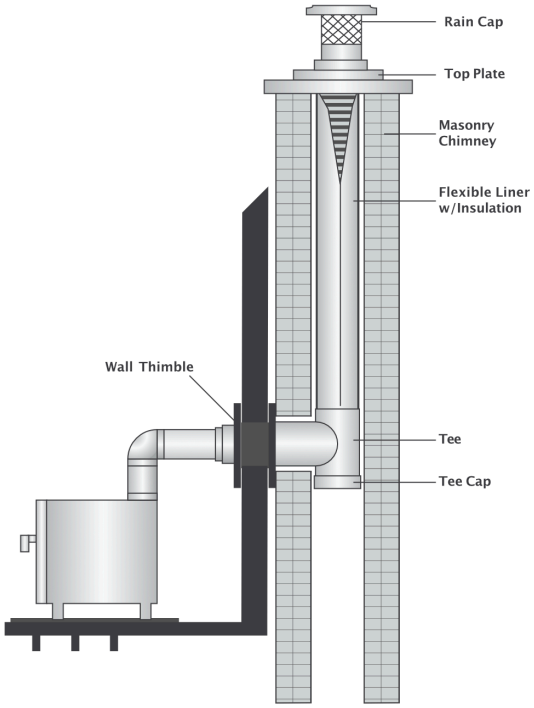
Top Termination:
The termination at the chimney's top must adhere to NFPA 211 standards, requiring that it extend at least three feet above where it exits the roof and stand two feet taller than any nearby structure within a ten-foot radius, including the roof itself. This termination should include an authorized Top Plate and Rain Cap, although the Rain Cap can be substituted with a single/multi-flue cap or any similar cap designed to prevent rain from entering the liner and can be securely fastened to either the crown or Top Plate.

Determining Liner Size:
The size of the liner is based on the venting requirements of the appliances it serves and must comply with NFPA 211, NFPA 54, NFPA 31, and local codes.

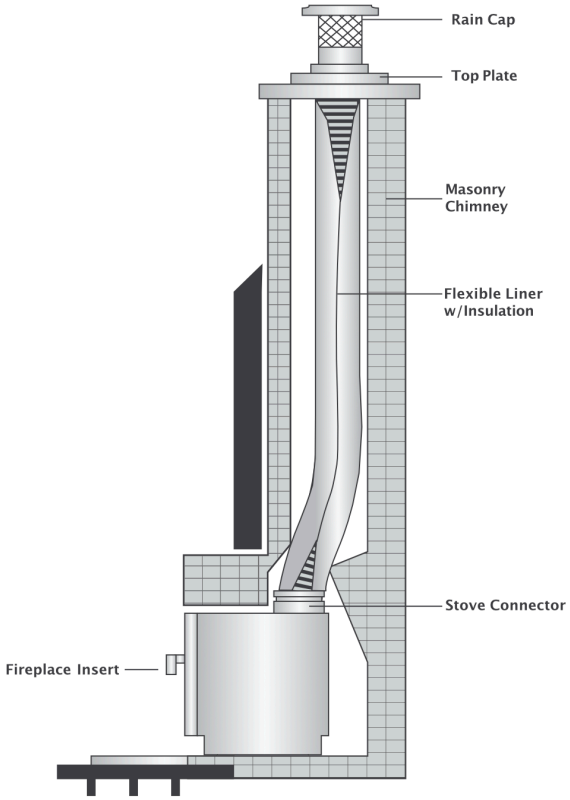
Parts List
CrossFlex, CrossFlex Pro, CrossFlex SW, CrossFlex MW, CrossFlex HW, CrossFlex PI - Rain Cap, Top/Bottom Support Plate, Support Clamp, Storm Collar, Flex Liner, Tee or Stove Connector, Liner Coupler (male to male, female to male), Elbow.

Note: CrossFlex MW and CrossFlex HW components connect to the liner with stainless screws or rivets. CrossFlex, CrossFlex Pro, CrossFlex SW, CrossFlex MW components connect to the liner with stainless steel hose clamps. Do not replace stainless hose clamps with galvanized steel as they will corrode and fail. Hose clamp connections are permitted to be reinforced with stainless steel screws or rivets.

Typical Installation Types

Basement Appliance	**Free-standing Stove**
	
Insulation is optional for gas and oil burning systems. Pay close attention to clearances from vent pipe to nearby ceiling and wall combustibles. Consult NFPA and appliance manufacturer requirements. When the liner system is installed according to these instructions, the exterior chimney clearance to combustibles is 0 inches.	Insulation is required for solid fuel burning systems. This means removal of fireclay tiles is often needed in order to install the correct size liner. When passing through a combustible wall consult NFPA 211 for proper thimble installation. **Never pass a tee through a combustible wall without meeting proper clearances.** When the liner system is installed according to these instructions, the exterior chimney clearance to combustibles is 0 inches.

Fireplace Insert



Insulation is required for solid fuel burning systems.

When the liner system is installed according to these instructions, the exterior chimney clearance to combustibles is 0 inches.

Flexible Liner Installation Instructions

Caution: Liner and components may be sharp. Always wear protective gloves when handling.

1. Remove the liner from packaging and straighten it out as much as possible on a flat surface. This is mostly important when insulating the liner. If you are installing an uninsulated liner, you may opt to leave the liner in the plastic wrap and feed it directly into the chimney. When using this install method, ensure that each section of uncoiled liner gets straightened as it's fed into the flue. If the line liner doesn't feed straight, it will be more likely to hang on small offsets or mortar protrusions.
2. Attach the bottom termination (Tee or Stove Connector). Tighten the hose clamp on the component to the liner. Be sure not to overtighten the clamp as it may damage that section of liner.
3. Determine the length of liner needed to reach the bottom termination and cut any excess before installing. You may also wait to cut excess until the liner is fully installed.

Insulating with Wrap

1. Insulation should extend to the end of the Tee or Stove Connector.
2. Ensure the insulation overlaps by at least one inch along its length. Calculate the needed insulation width by multiplying the liner's diameter by 3.14 and adding an inch for the overlap. Trimming the insulation to this specific width is optional, but note that an overlap exceeding one inch could cause the liner to snag if extra clearance isn't available.
3. Place the insulation flat on a surface with the foil side facing downwards.
4. Position the liner centrally on the insulation.
5. Wrap the insulation around the liner, ensuring a minimum overlap of one inch at the seam. Spray adhesive can be applied for better hold, and foil tape should be used at intervals of one foot to secure the seam. Make sure the insulation is snug.
6. Apply a continuous strip of tape vertically along the entire seam after the insulation is positioned.
7. Roll out the wire mesh to cover the entire length of the liner, including the bottom connector. Secure the mesh at one end with a hose clamp. Then, tighten the mesh around the liner by pulling it at the opposite end and securing it with another hose clamp. Trim any surplus mesh. Optionally, use stainless steel locking wire to spiral wrap around the mesh for added stability during installation.
8. The liner is ready for installation.

Insulating with Thermix Pour-down Mix

1. Mix the insulation to the proper consistency based on the mixing instructions. 1-inch of insulation mix is required to surround the entire liner. The mix should be the consistency of potting soil before installing.

2. Once the liner is installed and properly centered, pour the insulation around the liner. Be sure to block off any areas at the bottom so the mix doesn't escape the chimney flue.

   NOTE: In order to get the required 1 inch of insulation mix around the liner, an insulation spacer kit may be used. This consists of spring spacers held in place by hose clamps. The spacers should be placed a minimum of 24 inches apart the entire length of the liner.

3. You can vibrate the liner as you pour the mix to make sure it settles properly. It's important that the mix covers the entire liner system. Do not pack.

   Note: *You do not need to let the insulation cure. However, keep flue gas temperatures below 700 degree F for a period of at least three weeks.*

Installing the Liner

1. Ensure adequate personnel are available to manage the liner installation, and prioritize safety measures during rooftop activities.
2. The installation process might necessitate the use of a rope attached to a pulling cone secured to the end of the liner. It may require one individual at the chimney's base to pull on the rope, while another at the top directs the liner into place. Alternatively, CrossFlex liners may be able to be installed through the base of the flue system and pulled up through the chimney by means of a winch.
3. Maintain the liner's position in the center of the chimney to prevent damage to both the liner and its insulation.
4. When the bottom connector is properly positioned, trim the liner's top, adding an extra four inches above the crown height.

Completing the Bottom Termination

1. For Tee installations, Identify where the connector pipe will enter the chimney and connect to the tee body. For Stove Connector installations, simply connect the Connector to the stove collar according to stove manufacturer requirements.
2. For insulated liners, make a hole in both the insulation and mesh at the point where the Tee Snout will join the Tee Body.

3. Attach the Snout to the Tee Body using the provided metal band that encircles the rear of the Tee Body.
4. When going through a masonry wall, seal the area around the snout with bricks, mortar, and/or high temp insulation.
5. Finalize the connection to your heating unit, ensuring compliance with all relevant codes and the manufacturer's guidelines.
6. For open fireplace installations, the base of the flue liner must be sealed and supported by means of a support plate, mesh support plate or other means. Parge surfaces of smoke chamber with refractory mortar to form a smooth transition from the smoke chamber to the base of the stainless steel flue liner.

Completing the Top Termination

1. Top Plate can be secured to the chimney crown/wash with masonry screws or anchors. A bead of silicone caulk should be placed on the crown/wash prior to securing the Top Plate. This step is not needed if installing a terra-cotta mount top plate.
2. Tighten the hose clamp on the Top Plate collar, or utilize support clamp & storm collar, to secure the liner in place. Before tightening the clamp it may be necessary to take up slack on the liner by pulling up and then tightening the clamp before loosening the tension.
3. Install the Rain Cap by fitting it over the collar on the Top Plate. Tighten the hose clamp on the Rain Cap.

Passing Through a Combustible Wall

Always refer to the NFPA 211 when installing a liner through a combustible wall.
The thimble must meet NFPA 211 standards and local codes before installing the liner. U.L. listed thimbles are a good option. Other options are possible, consult the NFPA 211 for more information on properly constructed thimbles.

Passing through a Masonry Wall

Installing a liner through a masonry wall should only be done with a Tee assembly. Liner should not be bent through the thimble.

Passing Through a Fireplace Damper (Fireplace Insert Installation)

If there are clearance issues in the damper area for a fireplace insert installation, it is recommended that the damper area be opened to allow for the liner to fit. Consult local codes/AHJ, and the NFPA 211 before modifying any parts of a fireplace. Consult local codes/AHJ, and stove manufacturer requirements before field ovalizing a liner to fit

through a damper. Field ovalizing may cause draft restrictions and may cause damage to the liner or stove.

Shaping Liners to Oval, Rectangle or Square
When a round liner will not fit within the inside dimensions of the available flue area, CrossFlex, CrossFlex MW and CrossFlex HW may be shaped at our factory to facilitate proper fit. NOTE: The change from round to oval, square or rectangle will alter its cross-sectional area. You must ensure that you are maintaining the minimum cross-sectional area required by the appliance that is being vented.

Flexible Liner Maintenance

Note: Never use metal chimney brushes on stainless steel liners. Use nylon, poly, or natural bristle brushes.

Cleaning the Chimney
Make sure to have the lined chimney inspected and/or swept annually at a minimum or semi-annually, depending on use. In order for the warranty to be honored, the liner must be swept at least once every 12 months. Solid fuel applications may require more frequent maintenance. It is recommended to keep a record of your annual maintenance.