



SIMPSON

Dura-Vent

**DURALINER (SDL)
6"-8" DIAMETER
(ROUND & OVAL)**



MH14420



CMH1329

INSTALLATION INSTRUCTIONS

THESE INSTALLATION AND OPERATION INSTRUCTIONS COVER DURALINER MASONRY RELINING SYSTEM

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

Read through all these instructions before beginning your installation. Failure to install this DuraLiner product as described in these instructions will void the manufacturer's warranty and may have an effect on your homeowner's insurance and UL/ULC listing status. Keep these instructions for the future reference.

APPLICATION AND LISTING

DuraLiner is a double-wall, insulated all-fuel reliner for masonry chimneys. DuraLiner is listed and approved for installation with zero clearance between the liner and masonry, plus zero clearance between the masonry and combustibles. The DuraLiner lining system is intended for field installation into new or existing masonry chimney used for 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 1000°F/538°C (UL 1777) or 1200°F/650°C (ULC S635, ULC S640). DuraLiner is listed to the UL 1777 standard for Chimney Liners, under the listing file number MH14420. DuraLiner is also listed to the Canadian Standards ULC S635 and ULC S640 for lining new and existing masonry chimneys, under the listing file number CMH1329. DuraLiner meets all the thermal, mechanical and material requirements of the UL1777, ULC S635, & ULC S640 standards.

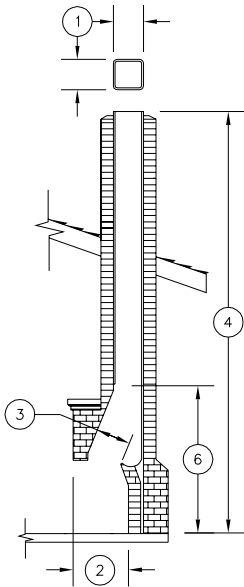


Fig. 1

IMPORTANT MEASUREMENTS

1. Flue Size I.D.
 - a. _____
2. Opening of Fireplace
 - a. Height _____
 - b. Width _____
 - c. Depth _____
3. Damper Opening
 - a.Length _____
 - b.Width _____
4. Total Chimney and Fireplace Height
 - a. _____
5. Total Chimney Height to Tee Opening
 - a. _____
6. Height to First Tile
 - a. _____
7. Height of Stove or Insert
 - a. _____

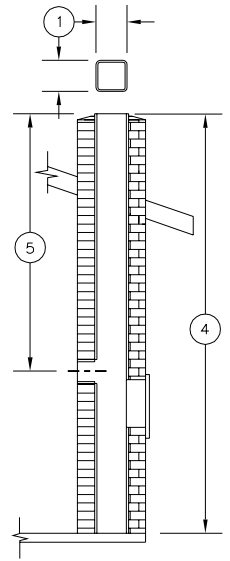


Fig. 2

Fig. 2a

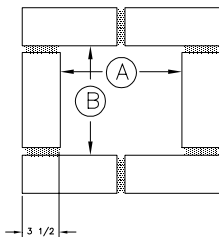


Chart 2a

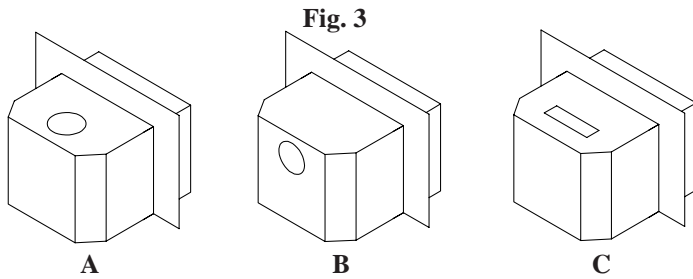
TYPE	(A)	(B)
6" ROUND	7"	7"
8" ROUND	9"	9"
6" OVAL	8"	5 1/2"
8" OVAL	11"	5 1/2-6"

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AN IMPORTANT MESSAGE ABOUT RELINING YOUR CHIMNEY

1. Have a professional installer thoroughly clean, and install your new appliance and relining system.
2. Determine condition of creosote buildup in masonry flue, always clean before relining. Any tar glaze creosote buildup must be removed prior to relining the chimney.
3. Determine condition of masonry fireplace and chimney. See that they meet code requirements. The chimney should be checked for cracked, loose or missing bricks, mortar, or other materials that could inhibit a correct installation of the liner system. Make necessary repairs before relining.
4. The air space clearances between the masonry chimney exterior and combustible materials should be checked to verify that the chimney is in accordance with the clearance specifications of 1) the NFPA; 2) other applicable building codes; or 3) these instructions (DuraLiner is approved for 0" clearance if installed in accordance with these instructions).
5. Determine if your setup is an open hearth (Figure 1) or tee installation (Figure 2). Also determine the available size of your chimney (Figure 2a) and the corresponding allowable DuraLiner size. (Chart 2a)
6. If you have an open hearth setup, verify your flue size, and the fireplace opening and depth before you purchase your appliance and reliner. (See Figure 1)



7. If you have a tee installation setup, verify your flue size and chimney height from tee, before you purchase your appliance and reliner. (Figure 2)

8. After selection of proper size appliance, determine the correct size of DuraLiner and Stove Connector to the appliance. (Follow stove manufacturer's recommendations). There are three different types of connections: (See Figure 3).

- a. Round, for top flue exit.
- b. Round, for rear flue exit.
- c. Rectangular, for top flue exit

9. Chimney flue size (Figure 1) determines the size top you select. (See catalog for details).

10. Necessary tools and equipment you may need:

Ladder	Vicegrips
Safety Glasses	Light Rope
Gloves	Snips
Tape Measure	Drill & 5/32" Twist Drill Bit
Hammer	Metal Saw
Screwdriver	Pop Rivet Gun
High Temperature Waterproof Sealant	

Make sure all equipment is in good condition.

11. Safety Tips:

- Do not go on roof when wet or icy.
- Sheet metal parts have sharp edges, wear gloves.
- Safety Glasses.
- Safety Hat.

Practice good workmanship. Sloppy work could jeopardize your installation.

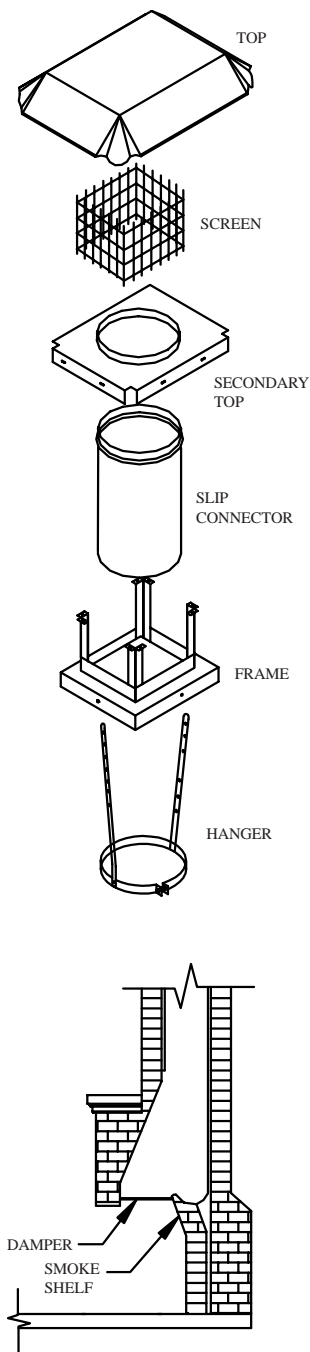


Fig. 4

12. Clearances: Simpson Dura-Vent's DuraLiner is listed by Underwriters Laboratories (UL & ULC) as a liner for listed all-fuel burning appliances. DuraLiner is designed and listed for installation in masonry chimneys only. The minimum clearance from pipe to masonry construction is "0". Never fill any required clearance (air space) with combustible or noncombustible materials. DuraLiner shall be sized not less than that specified in the appliance manufacturer's instructions.

13. Permits: Contact your local building official or fire department regarding permits, restrictions, and installation inspection in your area.

GENERAL INSTALLATION INSTRUCTIONS

Choose an appliance that is listed by a recognized testing laboratory.

- a. Follow the appliance manufacturer's instructions.
- b. Connect only one flue liner per appliance.
- c. **DO NOT** mix or match with other products or improvise solutions. (You may void warranties.) **DO NOT** modify parts.
- d. Follow the appliance manufacturer's instructions and manual for maximum efficiency and safety. Over firing can damage the appliance and lining system.

Follow these basic assembly instructions when installing DuraLiner in the open hearth installation (Figure 1). For tee installations, refer to the Tee Installation section of these instructions. The oval liner fits together in the same manner as the round liner.

STEP ONE: If needed, remove the existing damper from your fireplace to allow liner to fit.

Your fireplace insert or stove and DuraLiner are designed to work without your existing damper. In order to install the DuraLiner, you must remove the damper and in some cases part of the smoke shelf, to allow DuraLiner to pass through this area freely. Note: DuraLiner flex pipe is available in both round and oval shapes to ease installation.

Now that the old damper assembly and part of the smoke shelf has been removed, the chimney and fireplace should be free from obstructions.

STEPTWO: The DuraLiner system is held in place by the framework at the top of the chimney is designed to support the weight of a relining system up to 50 feet. The minimum height of system must be at least 10-feet to insure proper drafting performance.

The top comes assembled. You must take the top apart to get the bottom frame in place. The top has six major components: Top, Screen, Secondary Top, Frame, Slip Connector and Hanger. (See Figure 4) Place frame on top of masonry chimney, the weight of the DuraLiner will hold the top in place. We also provide screws that may be attached to bottom of frame and attached tile. (See Figure 5).

STEP THREE: All DuraLiner pipe (flex and rigid) has male and female connectors with (4) pre-punched holes and slots that line up and are connected with stainless steel pop rivets. Do not use screws. When connecting sections of flex pipe, it is necessary to first align the holes with the slots, and then drill through the flex pipe with a 5/32" (4 mm) diameter twist drill bit. Next, install the pop rivets. Drilling is not needed to connect sections of rigid pipe. Connect first rigid section of DuraLiner on top of flex section with (4) stainless steel pop rivets.

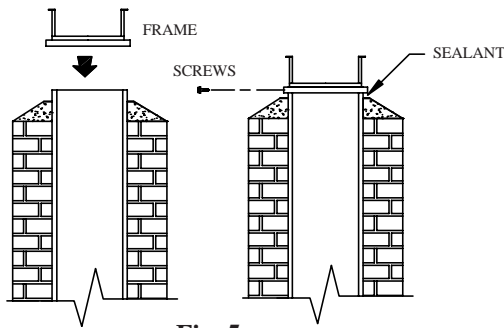


Fig. 5

Note: The DuraLiner flex sections can be easily insulated with the Two-Ply Insulation Sleeve. This blanket insulating sleeve permits complete flexibility. It is held in place by simple strap clamps that are secured with bolt and nut at each

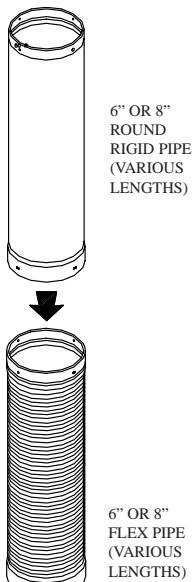


Fig. 6

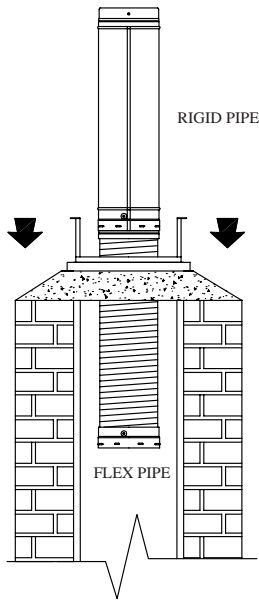


Fig. 7a

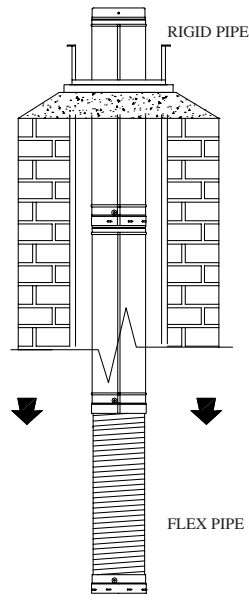


Fig. 7b

end of DuraLiner flexible pipe lengths. Refer to the Insulation Sleeve Instruction section.

From the stove, up through the damper to the first flue tile, it is NOT mandatory to use an Insulation Sleeve. Above the first flue tile, flex pipe must be insulated. (NOTE: For improved draft and fire safety, we recommend the use of an insulation sleeve on all flex pipes.)

After pipe is riveted together, lower through the Frame of DuraLiner Top and hold in position. Each DuraLiner pipe section is then riveted and lowered down the chimney. This procedure is repeated until the flex section reaches the smoke shelf area. As the pipe is being lowered further down, bend the flex pipe to fit through the damper. (See Figure 7a and 7b)

STEP FOUR: Before you rivet the last section of pipe in place, attach the hanger to the last section of pipe just below the bead. (See Figure 8)

Attach the hanger strap holder to the last hole on the strap. (See Figure 8) Lower DuraLiner to final position. (See Figure 9) If appliance has top flue exit, hold approximately 1/2" above connector. (See Figure 13) If appliance has rear flue exit, line up branch of tee with connector. (See Figure 16)

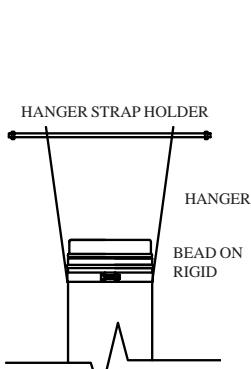


Fig. 8

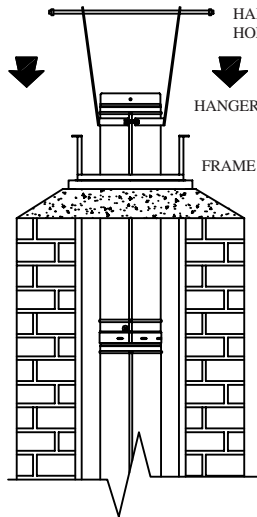


Fig. 9

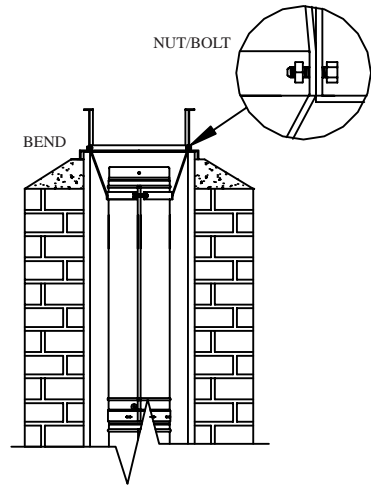


Fig. 10

Attach hanger strap to holes in chimney top frame. Secure with nut and bolt. (See Figure 10)

STEP FIVE: Stove top connector - round and oval. Attach the proper Stove Connector to your insert or stove. (See Figure 3) The DuraLiner round Stove Connector fits either a top vented found flue appliance or a rear vented round flue appliance. Place the proper sized connector over the flue exit and mark on the insert or stove the locations of the holes where the connector will be attached. (See Figure 11a or 11b) Drill and tap hole in top or rear of appliance or use self tapping screws. Before attaching permanently, put a bead of high temperature sealant between stove connector and insert. (See Figure 11a and 11b)

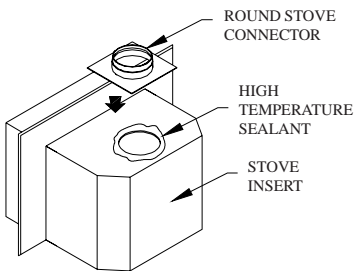


Fig. 11a

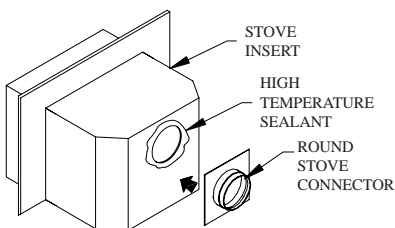


Fig. 11b

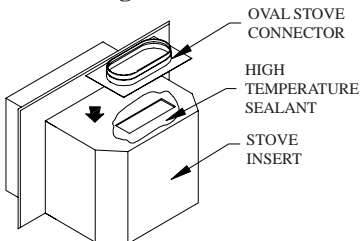


Fig. 12

The DuraLiner oval Stove Connector fits on top vented appliances or inserts with oval or rectangular openings. (See Figure 12) Attach same as in round openings. (See Figure 11a)

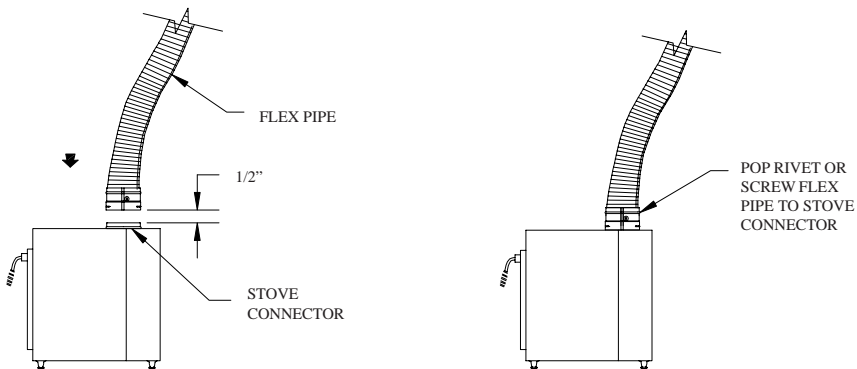
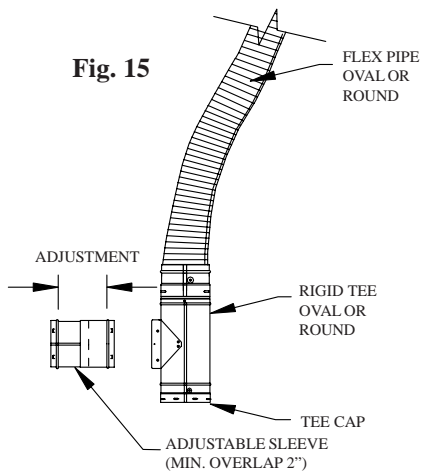
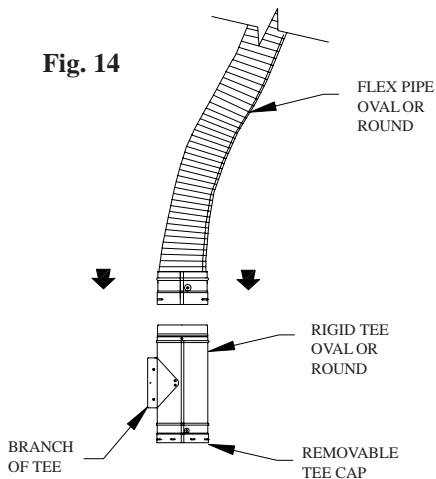


Fig. 13

STEP SIX: Connect stove or insert to DuraLiner. When connecting DuraLiner to top-exiting appliance outlets, follow this procedure. After stove or insert has been set in proper location, pull flex pipe down over Stove Connector and pop rivet or screw together. (See Figure 1) If the flex pipe does not provide sufficient height adjustment, further adjustment may be made by selecting a different set of holes on the DuraLiner Hanger at the top of the system. The Slip Connector will accommodate up to 10" adjustment.

Note: If you have a round flue outlet on your stove, and you have used Oval Flex or Oval-To-Round flex through the damper area, a 14" Round-To-Oval flexible pipe adapter will be required for the stove connection. (See Catalog)

If stove or insert has a round rear exit, attach round or oval Tee to bottom of flex pipe. (See Figure 14) Line up branch of Tee with stove outlet.



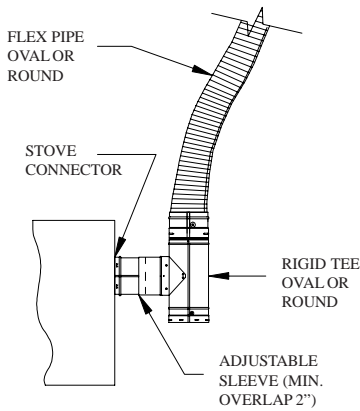


Fig. 16

When branch of tee is aligned with rear exit of appliance, attach DuraLiner Adjustable Sleeve to branch. The Adjustable Sleeve has pre-formed buttons. (See Figure 15) The buttons snap into branch ring. Slide stove or insert into proper position. Adjust pipe and snap into back of stove. Secure Adjustable Sleeve in final position with sheet metal screws. Rear flue exit should look like Figure 16.

STEP SEVEN: Now you are ready to do the final top assembly. Take the slip connector and attach to Secondary Top. This is held in place by pre-formed buttons. (NOTE: with oval pipe the Slip Connector pipe must be attached to the Secondary Top with pop rivets in four pre-punched holes.) (See Figure 17) When this is done, slide Slip Connector into DuraLiner and over chimney top Frame. Attach Secondary Top to frame using eight screws. (See Figure 18)

After Secondary Top is attached to Frame, slide Screen into position between legs of Frame (optional). Put Top on (4) legs, line up prepunched holes and bolt firmly into position. (See Figure 19)

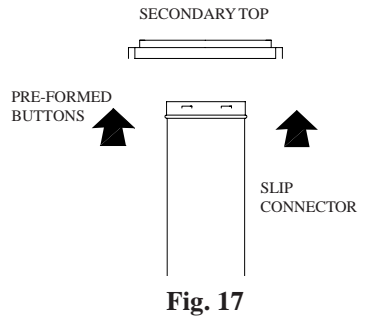


Fig. 17

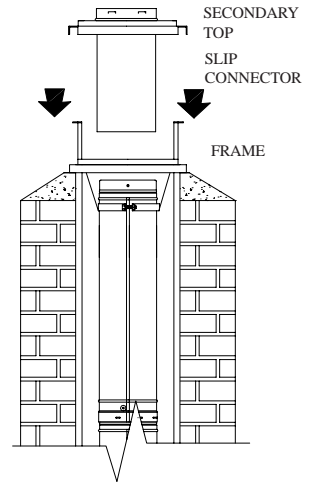


Fig. 18

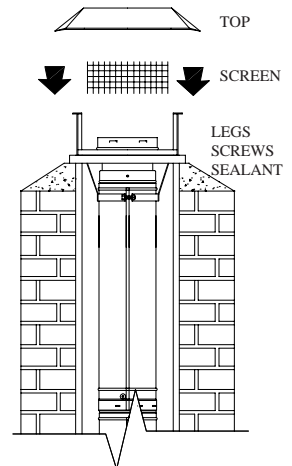
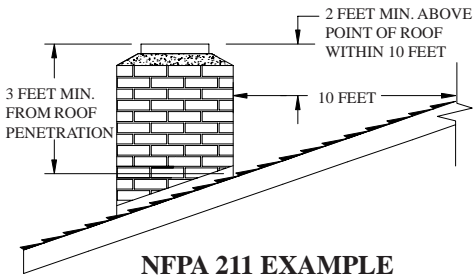


Fig. 19



Note: National Fire Protection Association standard #211 states; “Chimneys shall extend at least three feet above the highest point where they pass through roof of a building and at least two feet higher than any portion of a building within ten feet.” (See NFPA 211 Example)

MASONRY THIMBLE AND WALL PENETRATIONS

Follow these basic assembly instructions when installing DuraLiner in a Tee installation, as shown in Figure 2. (Note: Wall penetration assemblies shall not be located directly behind a heating appliance.)

STEP ONE: If a Masonry Thimble is used as a wall pass through for a Tee installation, you must maintain proper clearances to combustibles from the connector pipe. (See Figure 20)

STEP TWO: All DuraLiner pipe, flex or rigid, has male and female connectors with prepunched holes and slots that line up and are connected with stainless steel pop rivets. Do not use screws. When connecting sections of flex pipe, it is necessary to first align the holes with the slots, and then drill through the flex pipe with a 5/32” (4 mm) diameter drill. Next, install the pop rivets. Drilling is not needed to connect sections of rigid pipe. Connect

Fig. 20

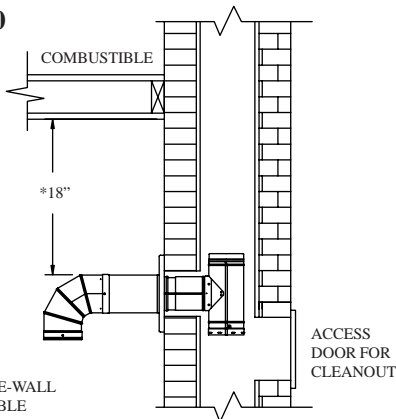
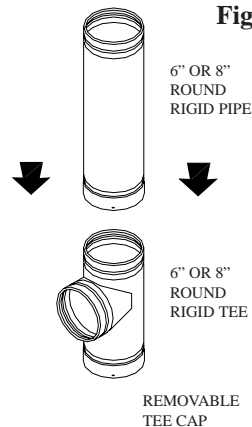


Fig. 21



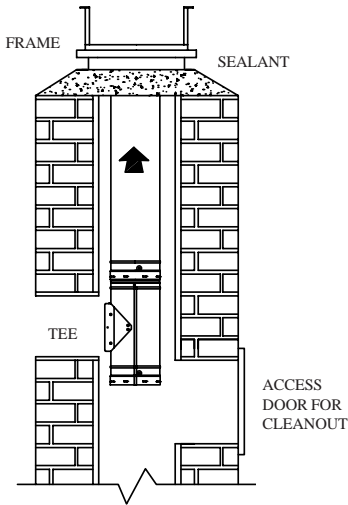


Fig. 22

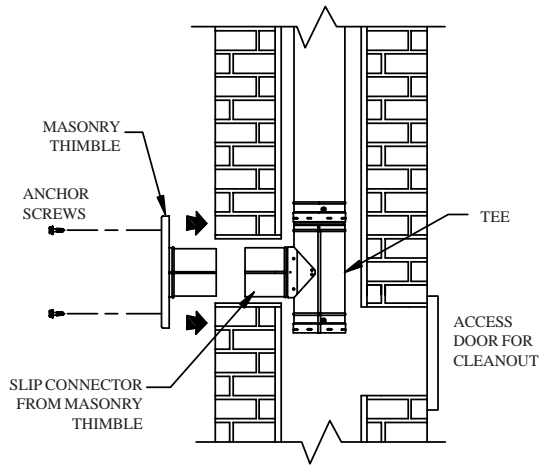


Fig. 23

first rigid section of DuraLiner on top of Tee with four stainless steel rivets. (See Figure 21) After pipe and Tee are riveted together, lower them down through the Frame of DuraLiner Top and hold in position. Each DuraLiner pipe section is then riveted and lowered down the chimney. This procedure is repeated until the Tee reaches the masonry opening.

STEP THREE: Before you rivet the last section of pipe in place, attach the Hanger to the pipe just below the top on the last of the rigid DuraLiner pipe. (See Figure 8) As the DuraLiner rigid pipe is being lowered into final position, line up the branch of the Tee with hole in the masonry chimney wall. (See Figure 22).

When branch of tee is in line with hole in wall of masonry chimney, attach slip connector from the Masonry Thimble. The Slip Connector has pre-formed buttons. The buttons snap into branch ring. Slide Thimble section into slip connector and attach black finishing ring to wall of chimney using screws. (See Figure 23).

EXTEND-A-CAP INSTALLATION

The Extended-A-Cap is used with a DuraLiner system when it is desired to extend the length above the level of the existing masonry for the purpose of improving draft, to accommodate remodeling, to comply with safety requirements for height of chimney above the roof, or as an alternative to the Standard Termination.

Refer to the General Installation Instructions for the majority of the installation. Extend-A-Cap installation only refers to the top of the DuraLiner installation, and is used instead of the Standard Termination. All notes, warnings, maintenance procedures, clearance, and basic instructions contained in the General Installation Instructions are applicable to the Extend-A-Cap.

An exploded diagram of the Extend-A-Cap is shown in Fig. 24. The cap may be installed on both round and oval rigid systems.

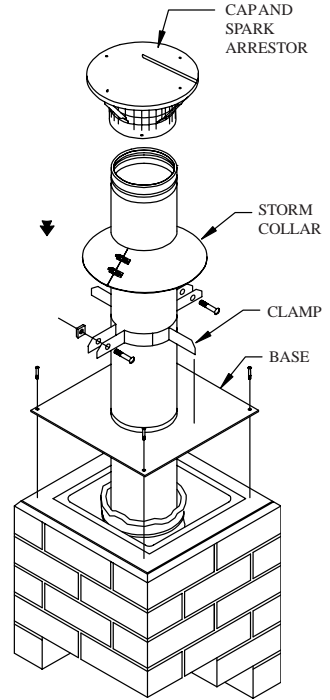


Fig. 24

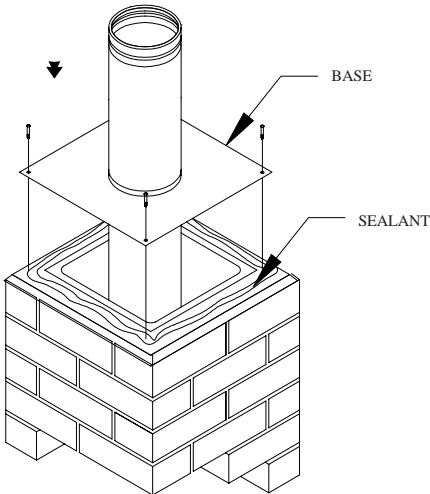


Fig. 25

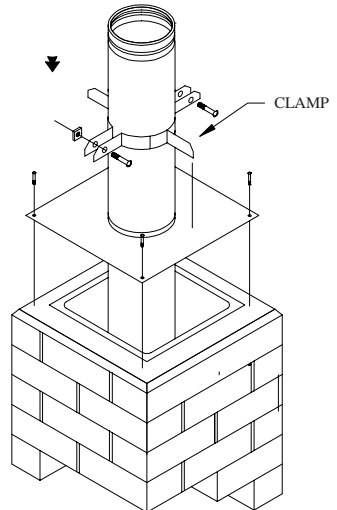


Fig. 26

STEP ONE: Center the base plate on the top of the masonry chimney as shown in Fig. 25. Trim to fit the chimney as required. Use non-hardening sealant to seal the base plate to the masonry chimney, but this can be done after the liner has been lowered into place. Anchors or screws are recommended but not required, as the base plate will ultimately be supporting the entire weight of the installation.

STEPTWO: Position the clamp assembly on top of the base as shown in Figure 26. Adjust the bolts on the clamp assembly so that pipe sections will just pass through the clamp.

STEP THREE: If needed, remove the existing damper from the fireplace, as stated in STEP ONE on page 5 of the General Installation Instructions. It

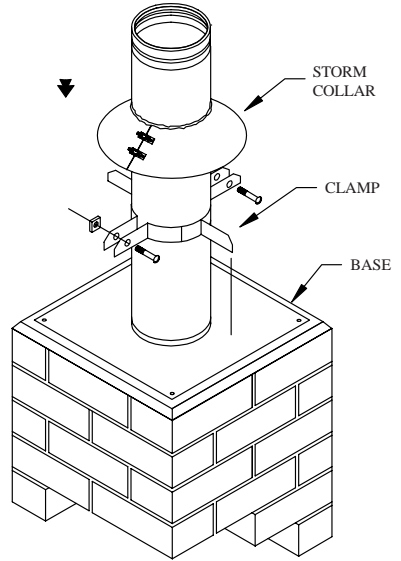
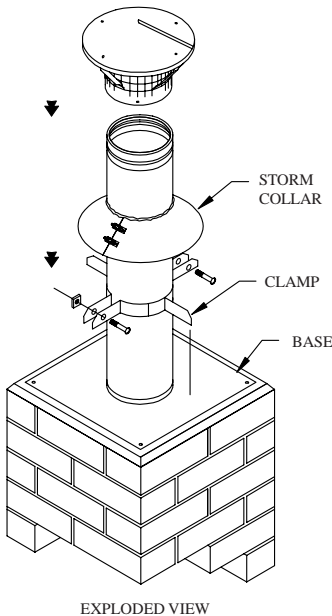
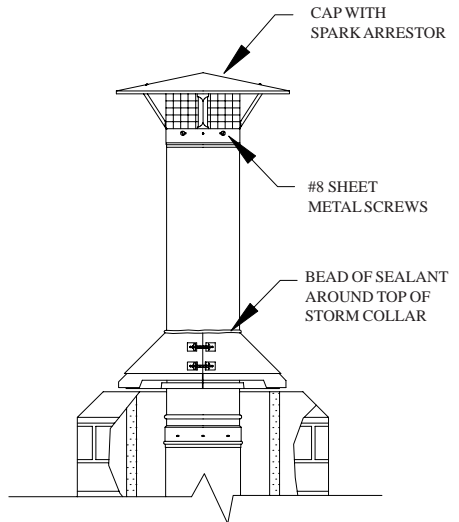


Fig. 27



EXPLODED VIEW



COMPLETED EXTEND-A-CAP

Fig. 28

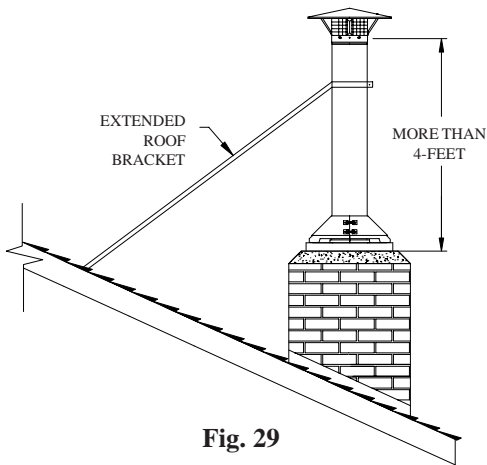


Fig. 29

may be necessary to remove part of the smoke shelf to allow the liner sections to pass through the throat.

STEP FOUR: After the basic measurements have been taken, and the correct parts are on hand, begin assembling the pipe sections as described in **STEP THREE** on page 6 of the General Installation Instructions. Alternately tighten and loosen the clamp assembly to hold and lower the pipe sections as they are assembled with pop rivets.

STEP FIVE: Once the desired length of liner has been achieved, tighten the clamp assembly bolts, until the system is firmly supported by the base. Attach the storm collar, and seal with non-hardening sealant as shown in Figure 28.

STEP SIX: Install the cap, using #8 sheet metal screws, as shown in Fig. 28. If the cap is 4-feet or more above the top of the masonry chimney, use an extended roof bracket as shown in Fig. 29.

STEP SEVEN: Complete the connection of your stove or insert as described in **STEP FIVE** on pages 8, 9, and 10 of the General Installation Instructions.

The Maintenance Instructions contained on page 18 of these Installation Instructions are all applicable to the Extend-A-Cap installation, other than cap removal, which is accomplished by removing the four sheet metal screws holding the band to the pipe section.

DuraLiner systems are designed solely for relining masonry chimneys, therefore no clearances to combustibles have been established for these systems outside of masonry chimneys. In view of this, do not construct chases or other enclosures around DuraLiner pipe sections which extend above the masonry.

INSTALLING INSULATION SLEEVES

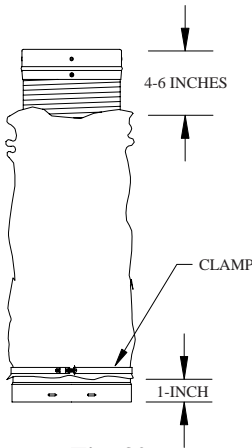


Fig. 30

In a situation where the chimney liner consists of rigid sections, except for the first section of flex pipe, as shown in Figure 6 on page 7, and it is desired to insulate the flex pipe, follow the steps listed below:

STEP ONE: Slip the proper size of the Two-Ply Insulation Sleeve over the flex pipe, and position it approximately 1" up from the bottom. (See Figure 30) Install the bottom insulation sleeve clamp, and push the top of the sleeve down 4" to 6". Position clamps so that the nut and bolt connections are pointing towards the corner of a rectangular chimney.

STEP TWO: Connect the first rigid section of pipe to the top of the flex pipe using stainless steel pop rivets, as described in the General Installation Instructions. (See Figure 6)

STEP THREE: Push the insulation sleeve back to its full length and secure it with an insulation sleeve clamp. (See Figure 31)

STEP FOUR: From this point on, follow the general instructions as written. Refer to Figure 6, 7a, 7b, 8, 9 and 10. The liner should now be ready to be attached to the appliance. (Figure 32).

STEP FIVE: Secure the flex pipe to the insert or tee as shown in Figure 13 or Figure 14 of the General Installation Instructions.

STEP SIX: After attaching the insert or the tee, proceed with the remainder of the General Installation Instructions.

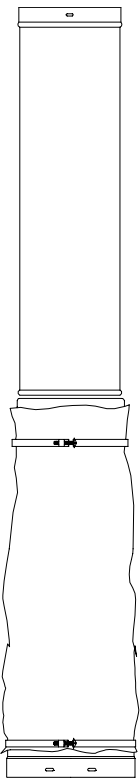


Fig. 31

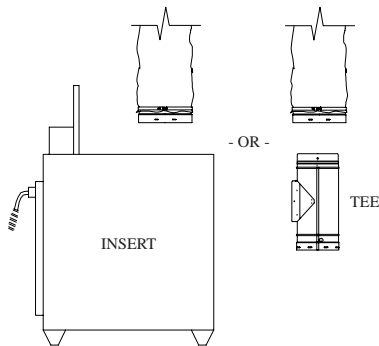


Fig. 32

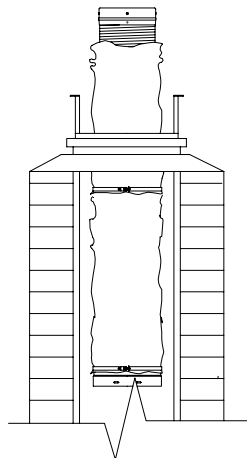


Fig. 33

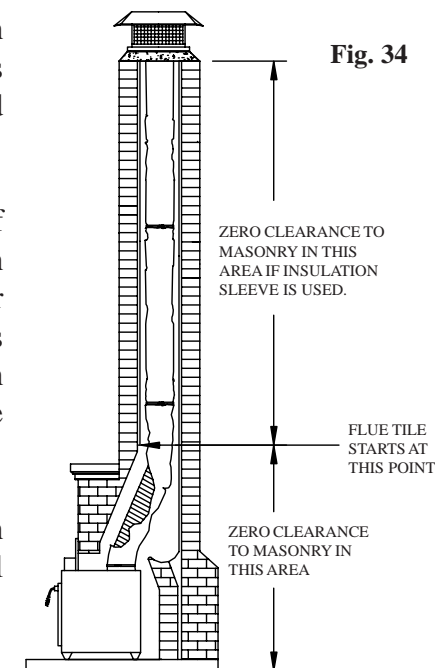
In situations where the chimney liner will consist totally of flex-pipe, insulate the entire length and follow the steps listed below:

STEP ONE: Slip the appropriate sized insulation sleeve over the first section of flex-pipe and position as shown in Figure 30. Lower the first section down the chimney approximately $\frac{3}{4}$ of its length, and hold in place.

STEPTWO: Connect the second section of flex-pipe to the first section by means of stainless steel pop rivets as described in the general installation instructions.

STEP THREE: Slip another length of insulation sleeve over the second section of flex-pipe. Pull up the top of the lower section of insulation shield so it overlaps the top section by 1" to 2" and attach an insulation sleeve clamp as shown in Figure 33.

STEP FOUR: Lower the assembly down the chimney. Repeat steps and three until the desired length is achieved.



STEP FIVE: Complete the installation as described in the General Installation Instructions. Complete insulated system shown in Figure 34.

DURALINER MAINTENANCE INSTRUCTIONS

Creosote and Soot-Formation and 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 may condense on the inside of the chimney liner during slow-burning firing periods. As a result, creosote residue accumulates on the chimney liner. When ignited, this creosote makes an extremely hot fire.

1. Access – Chimney liners must be installed so that access is provided for inspection and cleaning.
2. When to Clean – The chimney liner should be inspected at least once every two months during the heating season to determine if creosote or soot buildup has occurred. Check spark arrestor screens every 2-4 weeks. If creosote or soot has accumulated, it should be removed to reduce the risk of chimney fire. At a minimum, the liner must be cleaned at least once a year.
3. How to Clean – Have your chimney liner cleaned by a professional certified chimney sweep if you have doubts about your ability to clean it. Use a plastic, wood, or flexible steel or wire brush. Do not use a brush that will mar the stainless steel liner surface. Scrub the spark arrestor with a wire brush.

To remove the chimney cap for cleaning, unscrew the four screws that attach the cap's support legs to the cap base.

4. Coal – To reduce corrosion in chimneys where coal is burned, clean the chimney thoroughly within 48 hours of shutting down the stove for the season. Check the chimney's lining for acid corrosion regularly.
5. No Chemical Cleaners – Do not use chemical chimney cleaners. Their use does not eliminate the need for mechanical cleaning and they may be highly corrosive.

6. In case of Fire – If a flue fire occurs, close all appliance draft openings and call your Fire Department. Do not use the chimney again until it is inspected for possible damage.

7. Flues – Connect only one solid fuel appliance per chimney liner. DuraLiner shall be sized not less than that specified in the appliance manufacturer's instructions.

8. Appliance – Choose an appliance that is listed by a recognized testing and listing agency and is not larger than you need.

WARRANTY

Simpson Dura-Vent warrants DuraLiner for a period of 25 years from date of installation. The warranty includes all components and fittings except chimney caps. Chimney caps carry a five-year warranty. All warranties, whether expressed or implied, shall be limited to replacement (exclusive of installation costs) of the product found to be defective under this warranty providing all recommended installation and maintenance instructions are followed.

SIMPSON DURA-VENT, INC. ENGINEERED EXCELLENCE

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