



Installation and Maintenance Instructions

All models are intended for use on natural or propane gas fired direct vent appliances (stoves, heaters, fireplaces and inserts) tested and third party listed (CSA, ETL, OMNI, PFS, UL or Warnock Hersey) to appropriate ANSI Z21 standard(s) for use with coaxial (concentric) flexible aluminum vent.

MODEL DVK-HR Coaxial Flexible Direct Vent Kit with Coaxial *Horizontal Round* Termination

Kit Includes:

- Coaxial Horizontal Round Termination
- Coaxial Flexible Vent
- Coaxial Flexible Spacers
- Coaxial Flexible Supports
- High Temperature Mill-Pac Black Sealant
- Self-drilling Screws

MODEL DVK-HT Coaxial Flexible Direct Vent Kit with Coaxial *Horizontal Square* Termination

Kit Includes:

- Coaxial Horizontal Square Termination
- Coaxial Flexible Vent
- Coaxial Flexible Spacers
- Coaxial Flexible Supports
- High Temperature Mill-Pac Black Sealant
- Self-drilling Screws

MODEL DVK-VX Coaxial Flexible Direct Vent Kit with Coaxial *Vertical Extreme* Weather Termination

Kit Includes:

- Coaxial Vertical Extreme Weather Termination
- Rigid Pipe
- Storm Collar/Support
- Roof Flashing 0 - 30 Degree
- Roof Termination Support
- Coaxial Flexible Vent
- Coaxial Flexible Spacers
- Coaxial Flexible Supports
- Fire Stop/Insulation Shield
- Insulation Collar
- High Temperature Mill-Pac Black Sealant
- Self-drilling Screws

Tools Required: Safety glasses, gloves, tape measure, plumb line, level, cordless drill, drill bits, #2 Phillips bit or #2 Phillips screwdriver, snips or utility knife, reciprocating saw, hammer and framing materials.



MH60654 Direct Vent Venting System
Listed to UL 2112, ANSI Z21.88/CSA 2.33
Manufacture's address:



U.S.A.:

20 Commerce Park North
Bedford, NH 03110-6911

CANADA:

452 Attwell Drive
Etobicoke, ON M9W 5C3

DEFINITIONS

BEST PRACTICE

Indicates recommendations made by Z-Flex for installers which will help ensure optimum operation and longevity of the venting system.

CAUTION

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

WARNING

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

GENERAL INSTRUCTIONS

WARNINGS Risk of Fire! Risk of Explosion! Risk of Asphyxiation!

A Qualified professional must *INSTALL and MAINTAIN* venting system in accordance with these instructions, appliance manufacturer's installation instructions, local building codes or in absence of local codes latest edition of National Fuel Gas Code; ANSI Z223.1/NFPA 54 in USA or CSA-B149.1 or .2 in Canada. A qualified professional would be certified in USA by National Fireplace Institute (NFI) as NFI Woodburning Specialists or Chimney Safety Institute of America (CSIA) or in Canada by Wood Energy Technical Training (WETT) or other appropriate certifying body. These instructions are to be used as a guideline, if there is any conflict refer to appliance manufacturer's installation instructions.

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. Install carbon monoxide detector and alarms in accordance with local codes.

DO NOT install or attempt to repair damaged (torn, crushed or punctured) flexible vent.

To ensure proper operation of venting system 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 is any installation questions.

Do not combine flexible and rigid venting systems or systems from different vent manufacturers unless stated in these or appliance manufactures installation instructions.

Do not common vent multiple appliances in same vent or chimney.

Do not clamp flexible pipes.

WARNINGS ⚠ Risk of Fire! Risk of Explosion! Risk of Asphyxiation!

Do not allow flexible pipes to bunch up; keep flexible pipes pulled tight.

Do not bend coaxial flexible vent more than 90 degrees.

Coaxial flexible vent kits contain spacers, attach spacers to inner flexible pipe to maintain an air gap to outer flexible pipe. Maintain gap for safe operation of appliance. A spacer is required a maximum of every foot to maintain air gap. **DO NOT REMOVE SPACERS.**

Coaxial flexible vent kits contain supports. Install supports to maintain minimum clearance to combustibles from vent system as outlined in appliance manufacturer's installation instructions.

Do not place insulation or other materials in any required clearances to combustibles or air space around vent system or fire stop(s) to prevent a fire hazard.

Venting system should be inspected before first use and at least annually thereafter by qualified professional. Ensure area around appliance and venting system do not contain combustible materials, gasoline or other flammable vapors or liquids and meet appliance manufacturer's clearances to combustibles. Venting systems must be unobstructed, undamaged, properly assembled, supported and sealed.

CAUTION ⚠ Risk of Burns! Risk of Shock!

Before servicing appliance or vent system turn off gas and power and allow to cool.

CAUTION ⚠ Risk of Cuts! Risk of Abrasions!

Wear gloves and safety glasses to protect against cuts from sharp edges or flying debris.

1. Read these instructions and appliance manufacturers' installation instructions carefully prior to installing coaxial flexible direct vent kit. If any doubts or questions exist, contact your local distributor or Z-Flex at 1-800-654-5600 (in NH 603-669-5136).
2. Contact your local building and fire officials about any necessary permits, restrictions and installation inspections required in your area to ensure installation meets with all local code requirements including fire stopping.

APPLIANCE LIST

This list details the intended use of the coaxial flexible aluminum direct vent kits. If your appliance does not meet the following requirements or if you are not sure it is appropriate to use a coaxial flexible aluminum direct vent kit, contact your appliance manufacturer prior to installation.

- **All models are intended for use on natural or propane gas fired direct vent appliances (stoves, heaters, fireplaces and inserts) tested and third party listed (CSA, ETL, OMNI, PFS, UL or Warnock Hersey) to appropriate ANSI Z21 standard(s) for use with coaxial (concentric) flexible aluminum vent.**

Installation Procedure


Z-FLEX

1. Read all instructions and warnings carefully prior to installing and using appliance.
2. Refer to appliance manufacturers' installation instructions for appropriate use, minimum and maximum vent lengths, number of elbows or bends, minimum vertical vent rise between appliance and first elbow or bend, relationship between length of vent run to vent rise, joining methods, spacers, supports, clearances to combustibles, clearances to termination and wall or combustible ceiling penetrations, etc.

BEST PRACTICE

Minimize vent length and number of bends and use 45 degree bends instead of 90 degree bends whenever possible for optimum performance.

3. Determine placement of coaxial termination (vertical or horizontal) ensuring location meets all clearance requirements in appliance manufacturer's installation instructions, local codes and national codes, is not easily blocked or obstructed and meets appliance manufacturer's allowable vent configuration.

WARNING  Risk of Fire! Risk of Explosion! Risk of Asphyxiation!
Check coaxial termination after each snow fall and corresponding clean up to ensure termination and surrounding area are clear and unblocked. Do not direct any snow towards termination especially when using a snow blower. Termination must be above grade and expected snow level or snow accumulation/drift.

WARNING ⚠️ **Risk of Fire! Risk of Explosion! Risk of Asphyxiation!**
Total length of coaxial flexible vent must not exceed maximum length specified in the appliance manufacturer's installation instructions.

COAXIAL FLEXIBLE DIRECT VENT KITS

- a. Coaxial flexible direct vent kits may be purchased in 3"/5", 4"/6", 4"/7", 5"/8" and 8"/11 coaxial diameters and are available in 5', 10', 20' or 40' lengths. Additional kit lengths are available upon request.
- b. Inner flexible pipe is 4' longer in coaxial flexible direct vent vertical kits; 2DVK-VX to extend inner flexible pipe through rigid pipe at roof.
- c. Read and follow appropriate sections within these instructions before installing kit.

COAXIAL FLEXIBLE VENT EXTENSION KITS

BEST PRACTICE

Order Coaxial Flexible Direct Vent Kit in required length to avoid additional joints associated with Coaxial Flexible Vent Extension Kit.

- a. Coaxial flexible vent extension kits may be purchased in 3"/5", 4"/6", 4"/7", 5"/8" and 8"/11 coaxial diameters, kit includes 20 feet of coaxial flexible vent, coaxial flexible coupling, coaxial flexible spacers, coaxial flexible supports, Mill-Pac Black sealant and screws.
- b. **ONLY IF NECESSARY** a single coaxial flexible vent extension kit with coaxial flexible coupling is allowed to extend the length of coaxial flexible vent.

BEST PRACTICE

Attach flexible extension kit to APPLIANCE COAXIAL COLLAR or DV TO COAXIAL FLEXIBLE ADAPTOR if required when used to extend coaxial flexible direct vent vertical kits; 2DVK-VX to avoid cutting extra 4' of inner flexible pipe provided in these kits; 2DVK-VX necessary to extend inner flexible pipe through rigid pipe at roof.

- c. Coaxial flexible vent extension kits; part numbers: 2DVK(305,406,407,508,811)20X are sold separately.
- d. Read and follow appropriate sections within these instructions before installing kit.

COAXIAL FLEXIBLE COUPLING

- a. **ONLY IF NECESSARY** a single Z-Flex coaxial flexible coupling is allowed to join 2 coaxial flexible vents.
- b. Join inner flexible pipes to each end of coaxial flexible coupling inner collars with a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant applied approximately 3/4" from end of each flexible coupling inner collar outside edge and evenly slip inner flexible pipes over flexible coupling inner collars with as much overlap as possible. Secure inner flexible pipes to flexible coupling inner collars with four self-drilling screws evenly spaced 90 degrees apart for each flexible pipe.
- c. Join outer flexible pipes to each end of coaxial flexible coupling outer collars with a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant applied approximately 3/4" from end of each flexible coupling outer collar outside edge and evenly slip outer flexible pipes over flexible coupling outer collars with as much overlap as possible. Secure outer flexible pipes to flexible coupling outer collars with four self-drilling screws evenly spaced 90 degrees apart for each flexible pipe.
- d. Add coaxial flexible support directly below coaxial flexible coupling.
- e. Z-Flex coaxial flexible couplings; part numbers: 2DVK(305,406,407,508,811)C are sold separately.

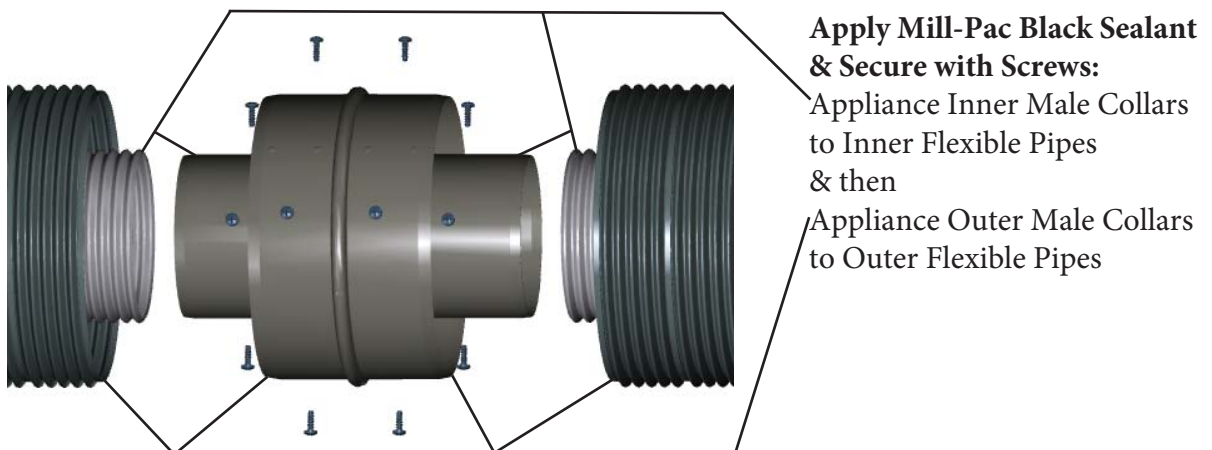


Fig. 1 Installation of Z-Flex Coaxial Flexible Coupling

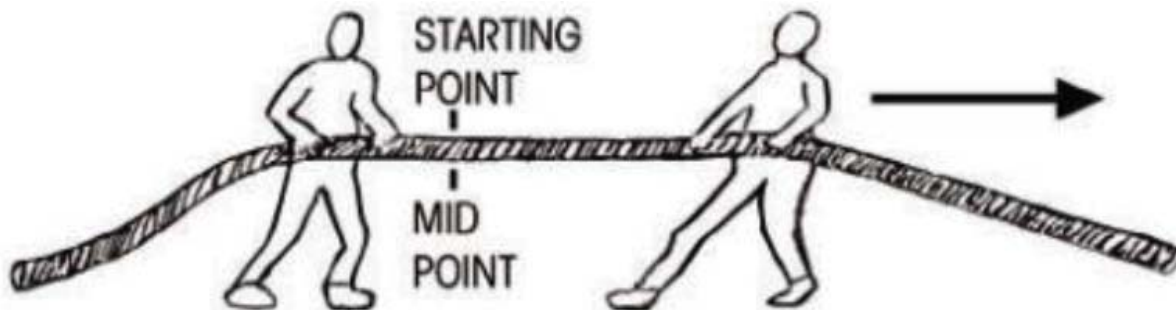
COAXIAL FLEXIBLE VENT

- a. Coaxial flexible vent diameters must not be sized less than that specified in the appliance manufacturer's installation instructions.
- b. Prior to installing any flexible pipes extend pipes to their maximum length (see figure 2 for proper stretching techniques).

CAUTION ⚠ Risk of Injury! Risk of Damage!

Follow these instructions carefully to prevent personal injury and damage to flexible pipes.

PROPER STRETCHING TECHNIQUE FOR FLEXIBLE PIPES



The enclosed flexible pipes are in a fully compressed form.

The stretching of the flexible pipes requires two people wearing gloves.

A flexible pipe should be stretched working half the length at a time.

Start by facing each other at the appropriate mid point in the flexible pipe.

Holding the flexible pipe firmly in your hands one person should walk backwards, stretching portions of the pipe as they backup.

As you stretch the flexible pipe, watch the corrugations to make sure you are expanding the pipe fully as well as not over-stretching it.

Follow the same procedure for the other half of the flexible pipe.

The flexible pipe should now be at full length.

Repeat above for other flexible pipe.

If you have any questions contact Z-Flex or appliance manufacturer.

Fig. 2 Proper Stretching Technique For Flexible Pipes

COAXIAL FLEXIBLE SPACERS

- a. Install coaxial flexible spacers included in kit(s) around extended/stretched inner (smaller diameter) flexible pipe at every foot maximum, rotate each spacer 1/4 turn from previous installed spacer.
- b. Slide outer extended/stretched flexible pipe over inner flexible pipe with spacers exercising care not to dislodge any spacers.
- c. Additional coaxial flexible spacers; part numbers: 2DVK(35,46,47,58,811)S are sold separately in kits of 10.

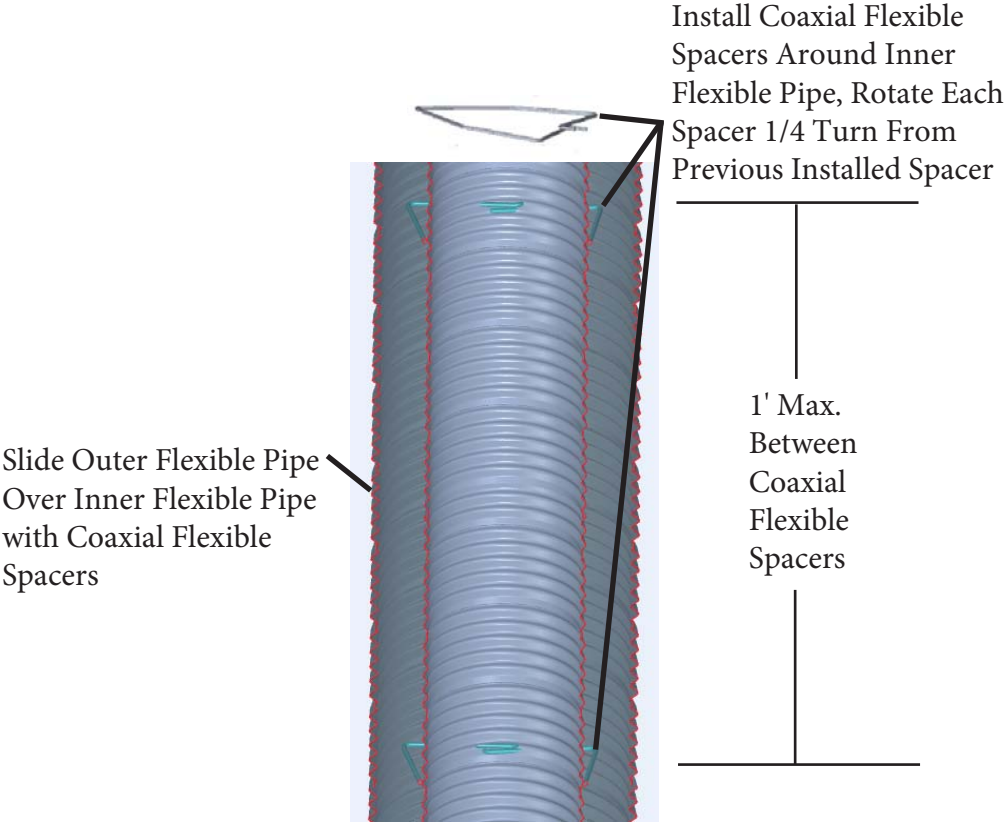


Fig. 3 Coaxial Flexible Spacer Installation

APPLIANCE COAXIAL COLLAR

4. Apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from male end of appliance inner collar outside edge and slip inner flexible pipe over appliance inner collar with as much overlap as possible. Secure inner flexible pipe to appliance inner collar with four self-drilling screws evenly spaced 90 degrees apart.
5. Apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from male end of appliance outer collar outside edge and slip outer flexible pipe over appliance outer collar with as much overlap as possible. Secure outer flexible pipe to appliance outer collar with four self-drilling screws evenly spaced 90 degrees apart.

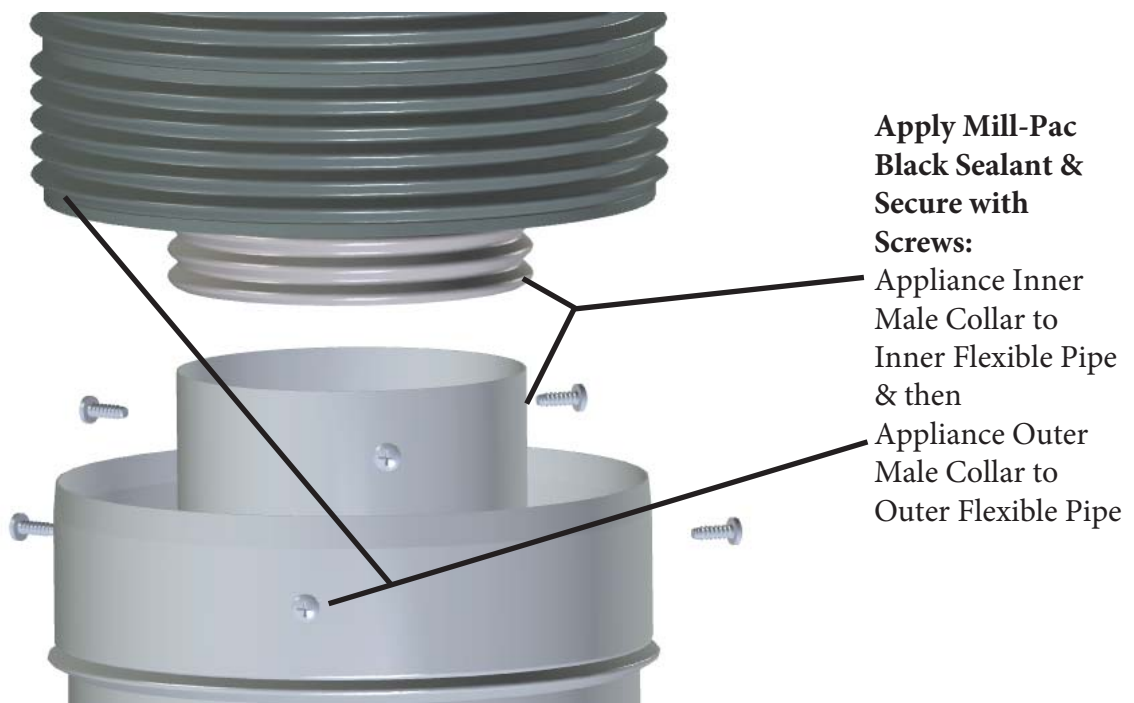


Fig. 4 Appliance Coaxial Collar Installation

DV TO COAXIAL FLEXIBLE ADAPTOR - OPTIONAL

- This adaptor is used to adapt an appliance with Duravent coaxial rigid twist lock vent connection to coaxial flexible vent. The adaptor's appliance connection has an inner male collar and outer female collar. The adaptor's flexible vent connection has an inner male collar and outer male collar. The adaptor part numbers are 2DVK407A or 2DVK508A & are sold separately.
- On adaptor's appliance connection with inner male collar and outer female collar, apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from inner male collar outside edge.
- On adaptor's appliance connection with inner male collar and outer female collar, apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from outer female collar inside edge.
- Slip adaptor's appliance connection into/over appliance inner and outer collars with as much overlap as possible. Secure outer collars with four self-drilling screws evenly spaced 90 degrees apart.
- On adaptor's flexible vent connection with inner and outer male collars, apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from male inner collar outside edge and slip inner flexible pipe over inner collar with as much overlap as possible. Secure inner flexible pipe to inner collar with four self-drilling screws evenly spaced 90 degrees apart.
- On adaptor's flexible vent connection with inner and outer male collars, apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from male outer collar outside edge and slip outer flexible pipe over outer collar with as much overlap as possible. Secure outer flexible pipe to outer collar with four self-drilling screws evenly spaced 90 degrees apart.

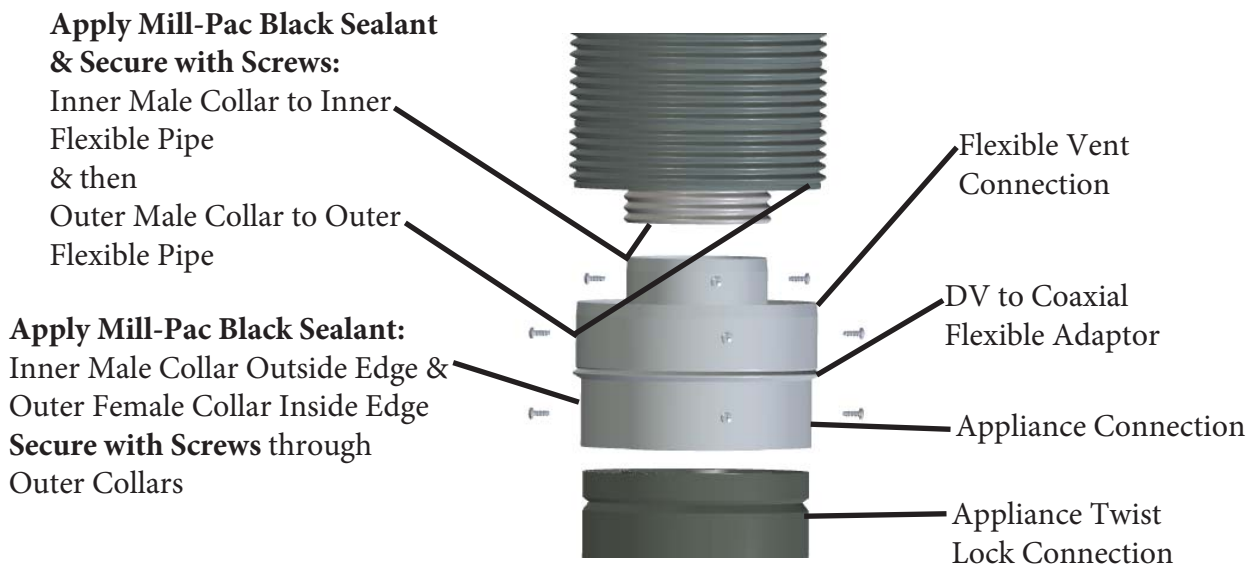


Fig. 5 DV To Coaxial Flexible Adaptor Installation

6. Slope all horizontal runs up and away from appliance with no sags or dips; a minimum of 1/4" vertical rise per 1 foot of horizontal run.

BEST PRACTICE

For optimum performance; slope all horizontal runs up and away from appliance with no sags or dips; 1" vertical rise per 1 foot of horizontal run.

WARNING ⚠ Risk of Fire! Risk of Explosion! Risk of Asphyxiation!
Do not slope horizontal runs downward which can lead to poor draft and excessive temperatures.

COAXIAL FLEXIBLE SUPPORTS

- a. Install coaxial flexible supports included in kit every 2 feet maximum for horizontal runs and every 3 feet maximum for vertical runs and top of each elbow/bend or according to appliance manufacturer's installation instructions to maintain appliance manufacturer's clearance to combustibles.
- b. Additional coaxial flexible supports; part numbers: 2DVK(05,06,07,08,11)SUP are sold separately in kits of 5.

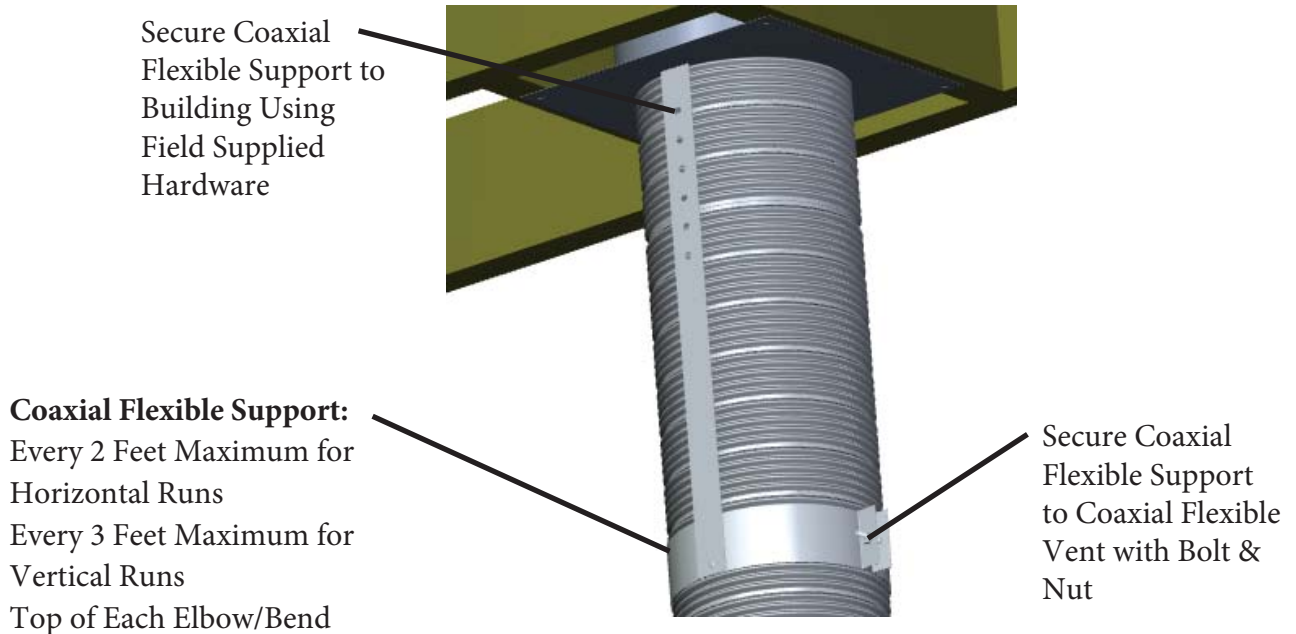


Fig. 6 Coaxial Flexible Support Installation

7. Using snips or utility knife trim the flexible pipes to the required length.

HORIZONTAL INSTALLATION

8. Use wall thimble(s) when coaxial flexible vent passes through any combustible walls according to appliance manufacturer's installation instructions .

WALL THIMBLE for Horizontal Combustible Wall

- a. Locate center of coaxial flexible vent on wall and mark Inside Opening around center mark - see Table 1.

Concentric Diameter (Nominal)	Vent to Thimble Clearance	Thimble to Combustible Clearance	Combustible Wall Inside Opening MINIMUM	Thimble Outer Plate Dimensions
3"/5"	1.5"	0"	8.5" x 8.5"	11" x 11"
4"/6"	1.5"	0"	9.5" x 9.5"	12" x 12"
4"/7"	1.5"	0"	10.5" x 10.5"	13" x 13"
5"/8"	1.5"	0"	11.5" x 11.5"	14" x 14"
8"/11"	1.5"	0"	14.5" x 14.5"	17" x 17"

Table 1. Combustible Wall Inside Opening MINIMUM for Wall Thimble

WARNING  Risk of Fire!

Review appliance manufacturer's instructions and verify above clearances in Table 1 are appropriate as it maybe necessary to increase Combustible Wall Inside Opening MINIMUM for additional clearance.

- b. Cut opening, frame wall & sheet rock to accept wall thimble.
- c. Wall thimble is adjustable/telescopic and accomodates wall thickness of 4" to 7".
- d. Wall thimble extended is adjustable/telescopic and accomodates wall thickness of 6" to 11".
- e. Separate two halves of thimble and secure to wall with screws from both sides ensuring each end of thimble overlaps in middle (telescopic).
- f. Seal around outer flexible pipe/thimble and wall/thimble with field supplied sealant. If horizontal fire stop is necessary, discuss sealant and assembly with fire stop professional and local building and fire officials to ensure assembly meets with local fire stopping code requirements.
- g. Wall thimble; part numbers: 2DVK(05,06,07,08,11)WT, Wall thimble extended; part numbers: 2DVK(05,06,07,08,11)WTE and Mill-Pac Black sealant; part number: 2DVKS are sold separately.

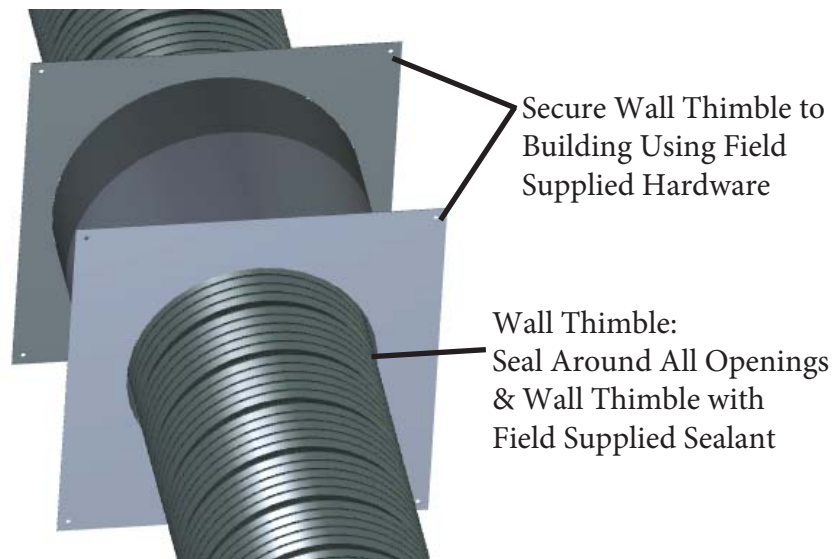


Fig. 7 Wall Thimble Installation - Sold Separately

9. Use siding standoff when flexible pipes pass through and terminate on exterior side wall with vinyl or wood siding.

WARNING ⚠ **Risk of Fire! Risk of Explosion! Risk of Asphyxiation!**
Coaxial vent/air termination must not be installed recessed into a wall or siding.

SIDING STANDOFF for Horizontal Termination

- a. Install siding standoff between exterior wall and coaxial horizontal termination.
 - b. Secure and seal siding standoff to wall with field supplied screws and sealant.
 - c. Siding standoffs; part numbers: 2DVK(05,06,07,08,11)SS are sold separately.
10. Properly orient HorizontalTermination with "UP" stamp on termination.
 11. Apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from male end of Horizontal Termination inner collar outside edge and slip inner flexible pipe over horizontal termination inner collar with as much overlap as possible. Secure inner flexible pipe to inner collar with four self-drilling screws evenly spaced 90 degrees apart.
 12. Apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from male end of Horizontal Termination outer collar outside edge and slip outer flexible pipe over horizontal termination outer collar with as much overlap as possible. Secure outer flexible pipe to outer collar with four self-drilling screws evenly spaced 90 degrees apart.
 13. Secure Horizontal Termination to the wall or standoff, ensure "UP" stamp on termination is properly oriented. Seal around termination where it comes in contact with wall or standoff with field supplied sealant and paint if required.

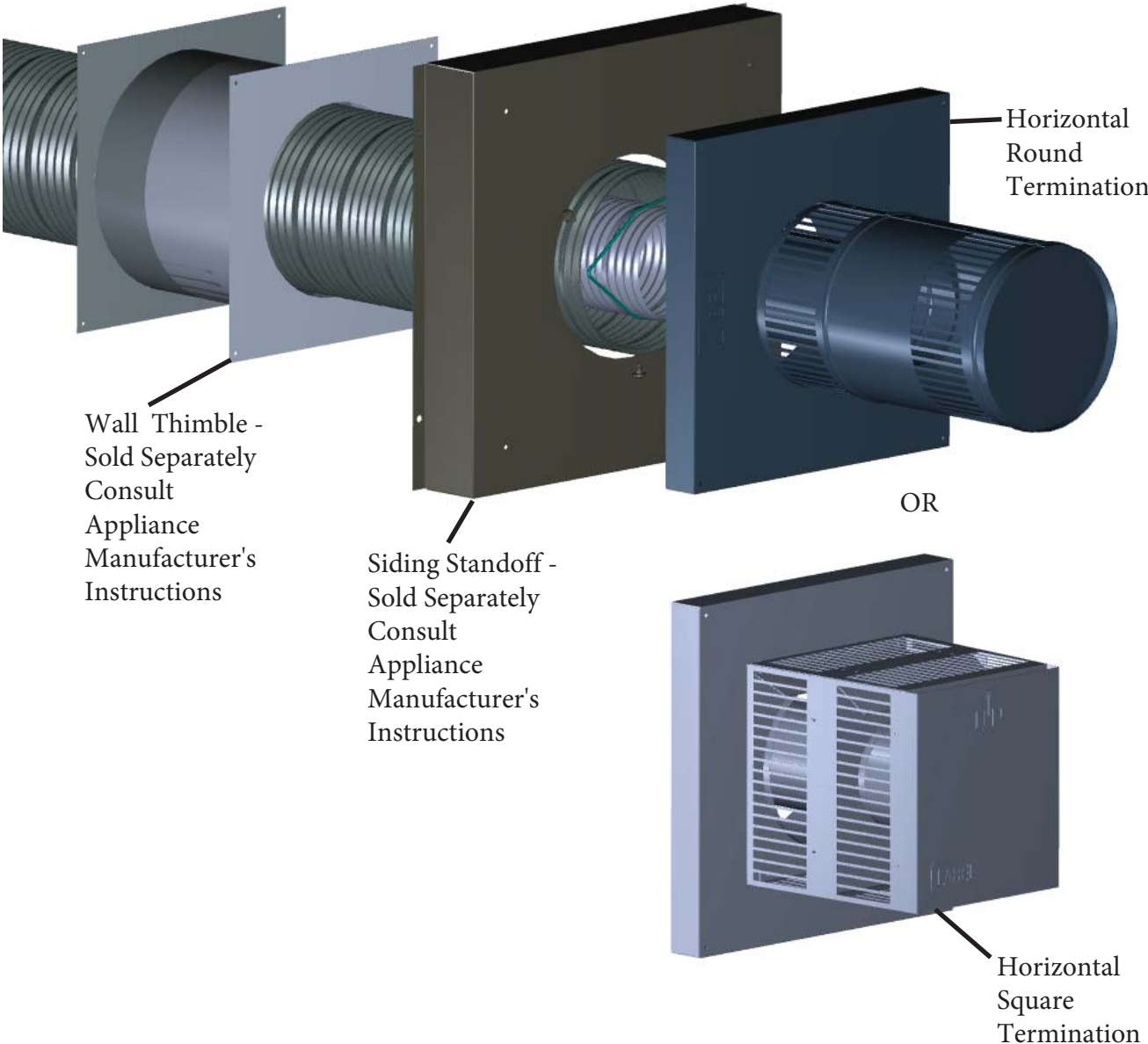


Fig. 8 Wall Thimble, Siding Standoff & Horizontal Terminations

VERTICAL INSTALLATION

14. Use firestop(s) when coaxial flexible vent passes through any combustible floors or ceilings without insulation.
15. Use fire stop/insulation shield kit(s) with insulation collar when coaxial flexible vent passes through any combustible floors or ceilings with insulation.

FIRE STOP - Vertical

- a. Locate center of coaxial flexible vent on floor or ceiling and mark Inside Opening around center mark - see Table 2.

Concentric Diameter (Nominal)	Vent to Combustible Clearance	Combustible Ceiling Inside Opening MINIMUM	Fire Stop Outer Plate Dimensions
3"/5"	1.5"	8.5" x 8.5"	11" x 11"
4"/6"	1.5"	9.5" x 9.5"	12" x 12"
4"/7"	1.5"	10.5" x 10.5"	13" x 13"
5"/8"	1.5"	11.5" x 11.5"	14" x 14"
8"/11"	1.5"	14.5" x 14.5"	17" x 17"

Table 2. Combustible Ceiling Inside Opening MINIMUM for Fire Stop

WARNING ⚠️ **Risk of Fire!**

Review appliance manufacturer's instructions and verify above clearance in Table 2 is appropriate as it maybe necessary to increase Combustible Ceiling Inside Opening MINIMUM for additional clearance.

- b. Cut opening, frame floor joists or ceiling & sheet rock to accept fire stop. AVOID cutting joists by offsetting coaxial flexible vent.
- c. Install fire stop on ceiling (bottom side of ceiling or floor joists) and secure with screws.
- d. Seal around outer flexible pipe/fire stop and fire stop/ceiling/joists with field supplied fire stop sealant. Discuss sealant and assembly with fire stop professional and local building and fire officials to ensure fire stop meets with local code requirements.
- e. Fire stops; part numbers: 2DVK(05,06,07,08,11)FS are sold separately.

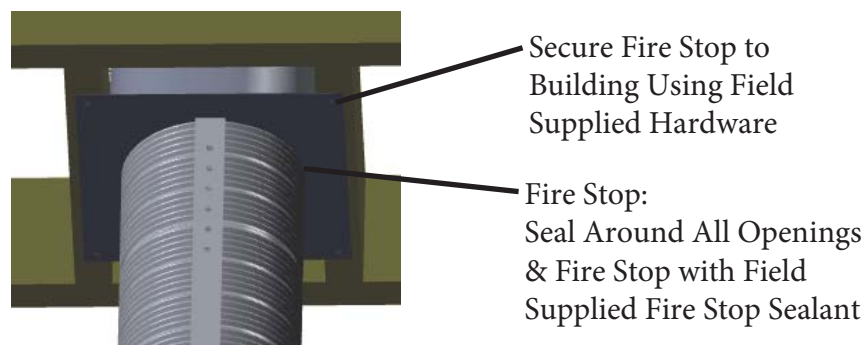


Fig. 9 Fire Stop Installation

FIRE STOP/INSULATION SHIELD KIT with INSULATION COLLAR

- a. Fire stop/insulation shield kit with insulation collar prevents insulation from coming in contact with flexible pipes when passing through any combustible floor or ceiling.
- b. Fire stop/insulation shield is 18" tall and the height of it's insulation shield (pipe) can be cut down provided installed height of shield is above insulation.
- c. Locate center of coaxial pipe on floor or ceiling and mark appropriate opening (inside dimensions) around center mark - see Table 2.
- d. Cut opening and frame floor joists or ceiling to accept fire stop. AVOID cutting joists by offsetting coaxial flexible pipe.
- e. Install fire stop on ceiling (bottom side of ceiling or floor joists) and secure with screws.
- f. Seal around outer flexible pipe/fire stop/insulation shield and fire stop/insulation shield/ceiling/joists with field supplied fire stop sealant. Discuss sealant and assembly with fire stop professional and local building and fire officials to ensure fire stop meets with local code requirements.
- g. Cover top of fire stop/insulation shield (pipe) with insulation collar included in kit; slide insulation collar with flared end down, over and down coaxial pipes until it is just above top of fire stop/insulation shield (pipe).
- h. Secure insulation collar to coaxial flexible pipe with gear clamp.
- i. A fire stop/insulation shield kit: part number: 2DVK(05,06,07,08,11)FSIS is included in the vertical kit additional kits are sold separately.

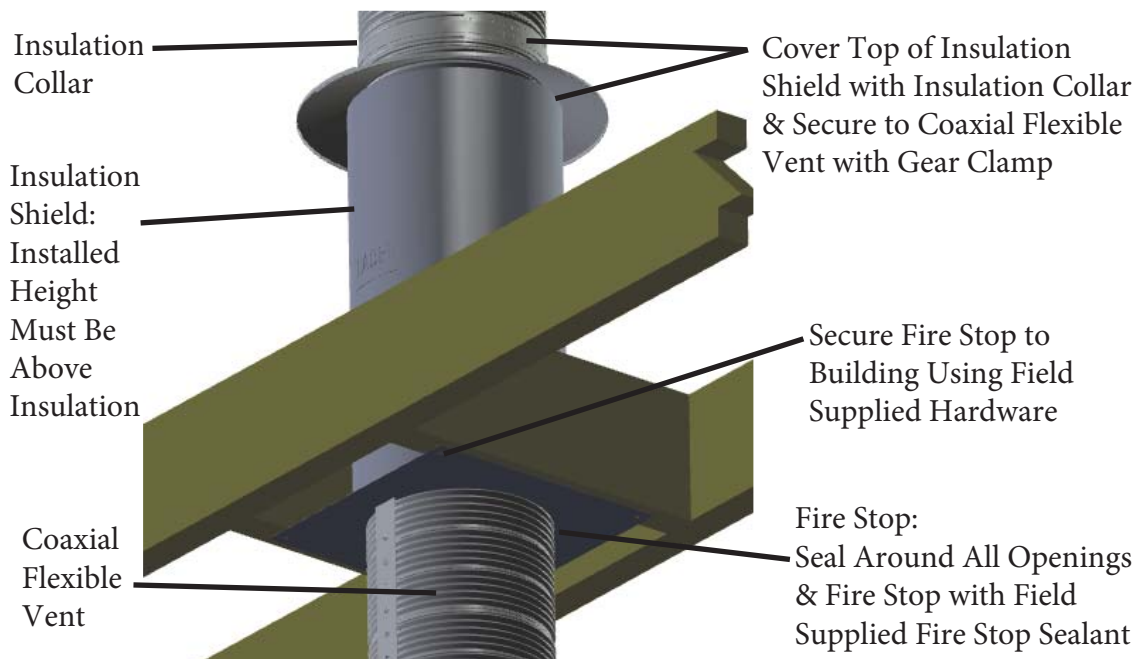


Fig. 10 Fire Stop/Insulation Shield Kit Installation

Installation Procedure

Z-FLEX

16. Enclose coaxial vertical pipes in any occupied areas above first floor, including closets and storage spaces. The enclosure needs to support and maintain minimum clearances to coaxial pipes/vent and may be framed and sheet rocked.
17. Locate and mark center of coaxial pipe on roof.
18. Review appliance manufacturer's installation instructions for clearances of vent to combustible surfaces and cut appropriate sized hole in roof incorporating necessary clearances.

ROOF TERMINATION SUPPORT

- a. Center roof support over hole in roof and secure to top of roof.
- b. Install 42" long rigid pipe included in vertical kit through roof support and tighten roof support around outer rigid pipe and with provided 1/2" long screws ensuring pipe is vertically plumb and extends below roofline approximately 1 foot below lowest opening in roof or enough to facilitate connection to outer flexible pipe.
- c. Inner flue pipe provided in 2DVK-VX kits are 48" longer than outer pipe and include 4 additional coaxial flexible spacers.
- d. Install spacers every foot on inner flue pipe and route inner flue pipe through 42" long rigid pipe yielding a coaxial assembly.

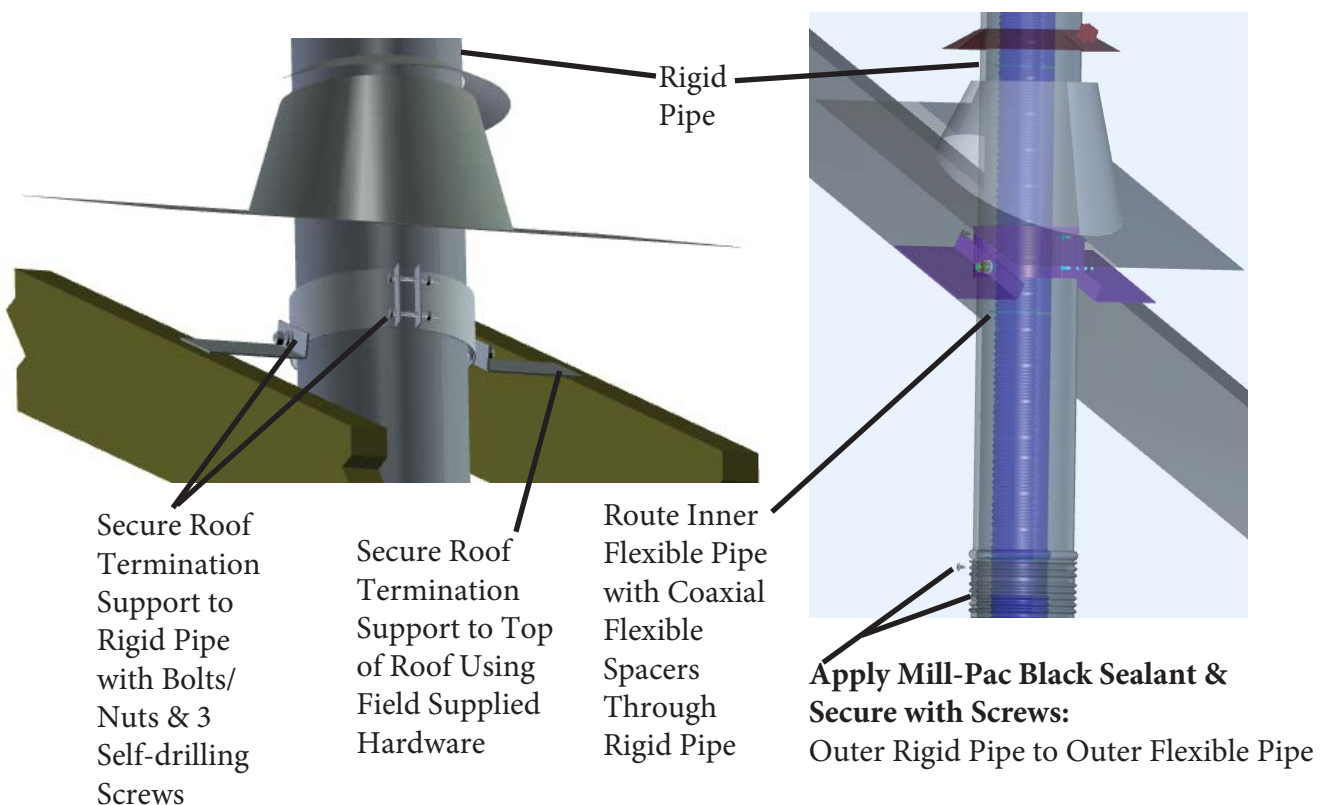


Fig. 11 Roof Termination Support Installation

ROOF FLASHING

- a. The roof flashing provided in vertical kit is for roofs with pitch of 0 to 30 degrees (0/12 to 7/12 pitch).
- b. Optional flashings; part numbers: 2DVK(05,06,07,08,11)F are available for roofs with larger pitch of 30 to 45 degrees (7/12 to 12/12 pitch) and are sold separately.
- c. Check roof pitch and ensure proper flashing is installed.
- d. On top of roof, slide flashing with appropriate pitch over rigid pipe.
- e. Slip upper half of roof flashing plate under roof shingles while lower half of flashing plate rests on top of roof shingles.
- f. Seal roof flashing to roof with a suitable field supplied waterproof mastic.
- g. Secure roof flashing to roof using field supplied roofing nails and neoprene washers or suitable waterproof mastic to cover nail heads.

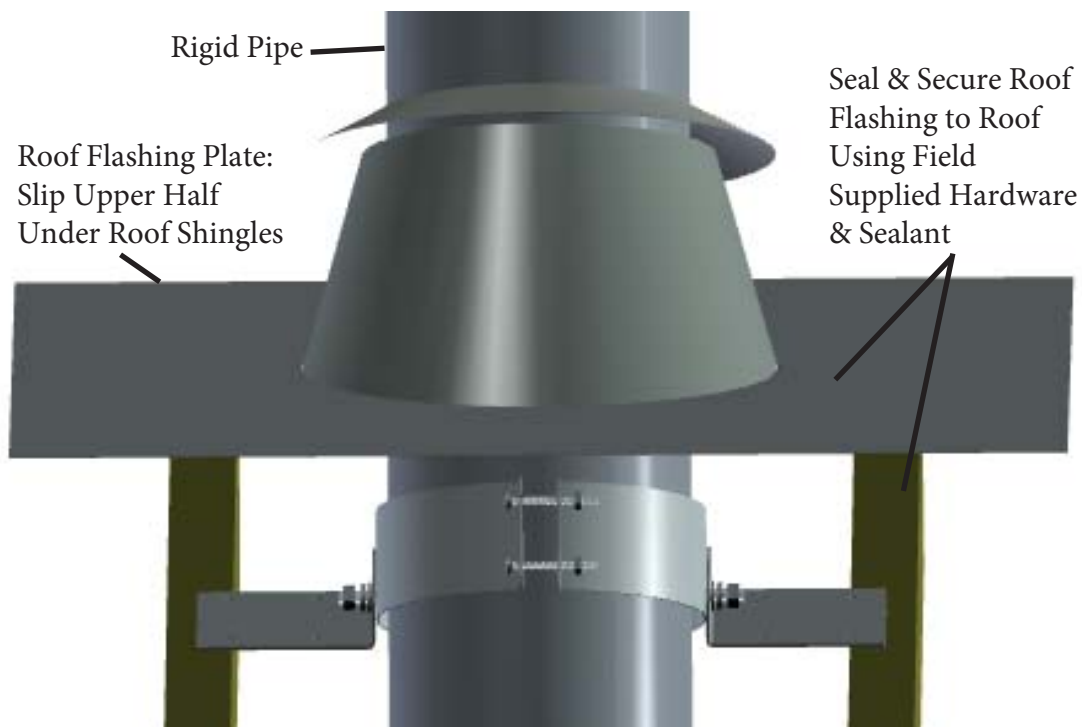


Fig. 12 Roof Flashing Installation

19. Review appliance manufacturer's installation instructions and local codes to determine required installation height of termination above highest point of roof.
20. Add rigid extension pipe to top of rigid pipe protruding through roof as necessary to meet required installation height of termination above roof.

RIGID EXTENSION PIPE - For Extending Height of Vertical Termination

- a. A 30 Inch long rigid extension pipe with flexible inner pipe, flexible spacers, male connector and guy band support; part numbers: 2DVKRE(35,46,47,58,811) are sold separately.
- b. Cut top of flexible inner pipe just above 42" long rigid pipe as necessary to facilitate the joint.
- c. Apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from bottom male connector end of rigid extension pipe inner collar outside edge and slip flexible pipe over collar with as much overlap as possible. Secure inner pipe to collar with four self-drilling screws evenly spaced 90 degrees apart.
- d. Slip rigid extension pipe over rigid pipe with as much overlap as possible. Secure rigid extension pipe to rigid pipe with four self-drilling screws evenly spaced 90 degrees apart.
- e. Slide guy band support down rigid extension pipe to within 1 foot of vent termination and secure with #10-24 bolt and nut provided with guy band support.
- f. Attached field supplied stainless steel or galvanized cable with a minimum rated capacity of 500lbs. to each of the four anchor holes.
- g. Anchor cables to a rigid building member using an appropriate field supplied fastening method.

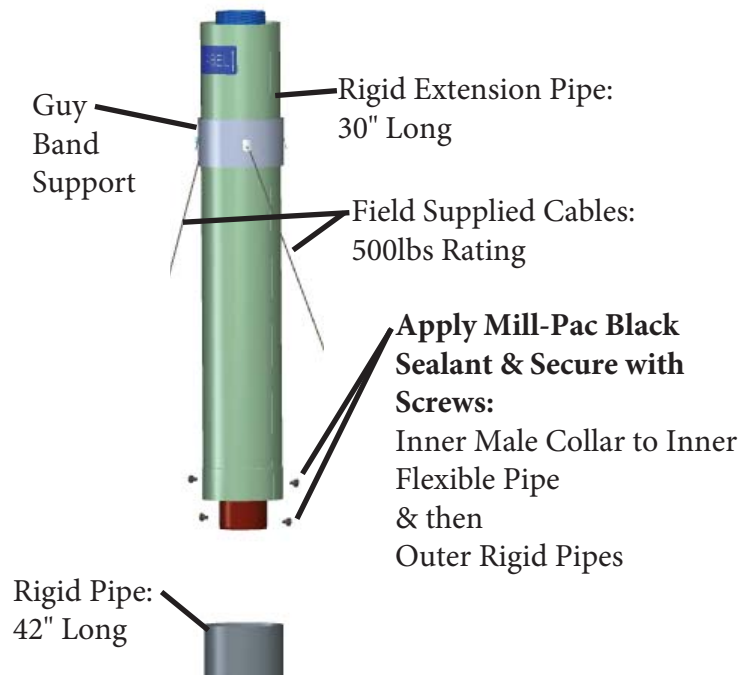


Fig. 13 Rigid Extension Pipe Installation

WARNING ⚠️ **Risk of Fire! Risk of Explosion! Risk of Asphyxiation!**
High wind conditions, nearby big trees, adjoining roof lines, steep pitched roofs may cause poor draft or down drafting. In these cases increasing the installation height of termination above highest point of roof may solve drafting problem. Review appliance manufacturer's instructions to ensure maximum installed lengths (vertical and horizontal) are not exceeded.

STORM COLLAR/SUPPORT

- Slide storm collar/support with flared end down, over and down rigid pipe(s) until it is just above top of roof flashing.
- Seal/waterproof between inside diameter of storm collar/support and outside diameter of rigid pipe with high temperature Mill-Pac Black sealant.
- Secure storm collar/support to rigid pipe with bolt and nut.

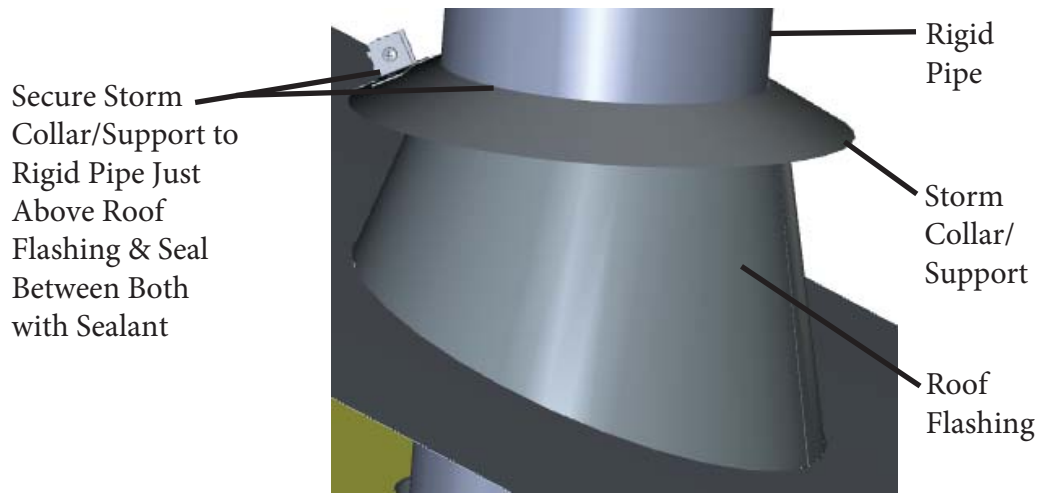


Fig. 14 Storm Collar/Support Installation

COAXIAL VERTICAL EXTREME WEATHER TERMINATION

- a. Apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from bottom end of vertical termination inner collar outside edge and slip flexible pipe over inner collar with as much overlap as possible. Secure flexible pipe to inner collar with four self-drilling screws evenly spaced 90 degrees apart.
- b. Slip vertical termination outer collar over rigid pipe or rigid pipe extension with as much overlap as possible. Secure outer collar to rigid pipe with four self-drilling screws evenly spaced 90 degrees apart.
- c. Seal all external joints of rigid pipe and termination with silicone sealant.
- d. Apply a heavy bead approximately 1/4" wide of high temperature Mill-Pac Black sealant to approximately 3/4" from bottom end of rigid pipe outside edge located below roof and slip outer flexible pipe over rigid pipe with as much overlap as possible. Secure flexible pipe to rigid pipe with four self-drilling screws evenly spaced 90 degrees apart.

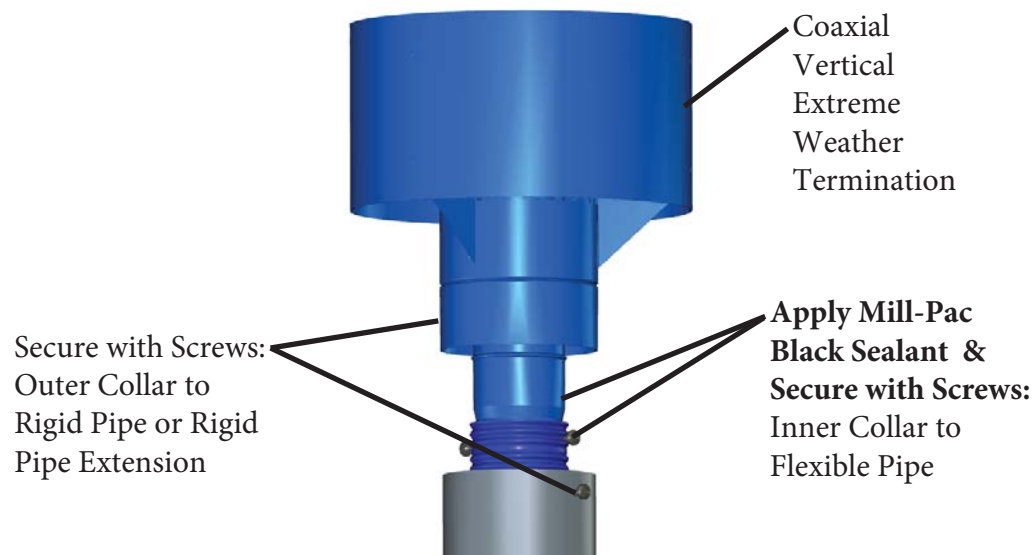


Fig. 15 Vertical Termination Installation

BEST PRACTICE

It is recommended to spray paint flashing, rigid coaxial pipe and termination to match color of roof shingles to extend life and improve appearance of assembly. Clean, prime and paint with appropriate materials.


Maintenance Instructions

Z-FLEX

Maintenance Instructions

The coaxial flexible venting system should be checked prior to first use and at least annually thereafter for any deficiencies including:


- any signs of damage or leakage such as corrosion
- obstructions to flow such as bird nests, leaves, papers, shrubs, fences, decks, sheds, ice or snow improper assembly or support
- improper vent termination clearances
- improper clearance to combustibles
- presence of combustible materials, gasoline or other flammable vapors and liquids

WARNING  Risk of Fire! Risk of Explosion! Risk of Asphyxiation!
HOMEOWNER should contact qualified service technician or agency at once if any of above noted deficiencies are observed for remedial actions.

If venting system is disassembled for any reason, a qualified service technician or agency must follow these or appliance manufacturer's installation instructions for proper reassembly and sealing of vent system.

Additional Mill-Pac Black sealant; part number 2DVKS is sold separately.

Check appliance manufacturer's instructions for any additional maintenance instructions and if any particular precautions should be taken.

CAUTION  Risk of Burns! Risk of Shock!
Before servicing appliance or vent system turn off gas and power and allow to cool.

Save these instruction for future reference.

Typical Installation

Z-FLEX

Models 2DVK-HR

Wall Thimble & Siding Standoff - Not Shown & Sold Separately Consult Appliance Manufacturer's Instructions



Fig. 16 Coaxial Flexible Direct Vent Kit with Horizontal Round Termination

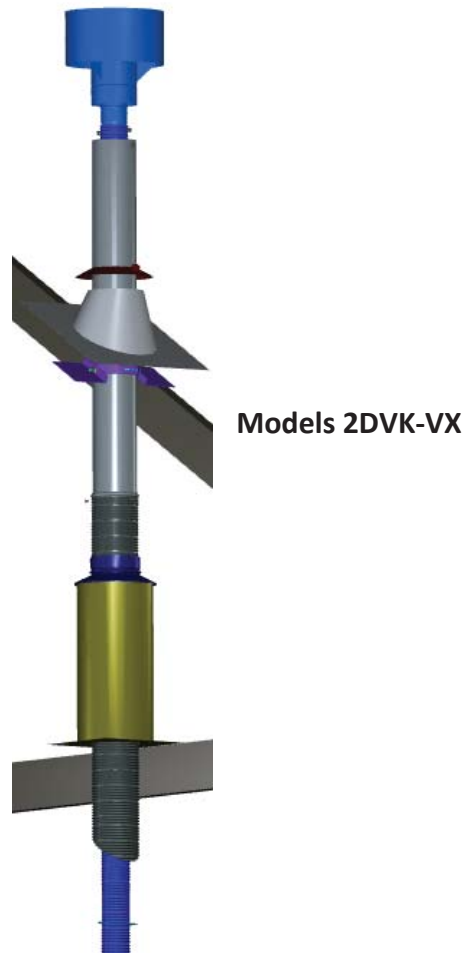


Fig. 17 Coaxial Flexible Direct Vent Kit with Vertical Extreme Weather Termination

Full 25 years liner warranty

Z-Flex® U.S., Inc. ("Z-Flex®") warrants its ALUMINUM LINERS to the original purchaser or if purchased by a contractor, to the end user. The warranty is valid for a period of (25) years, provided it is installed according to UL 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 ALUMINUM LINERS 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® ALUMINUM LINERS are designed to be used with these fuels only: Natural gas and propane gas. Excessive condensation with high chlorine content may have a corrosive effect on aluminum. Where these conditions prevail, we recommend using our AL29-4C® Stainless Steel vent system. Refer to equipment manufacturer's installation instructions for proper liner material.

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:

20 Commerce Park North Bedford, NH 03110-6911 Tel: (603) 669-5136 Toll Free: 1-800-654-5600 452 Attwell Drive Etobicoke, Ontario M9W 5C3 Tel: (416) 879-0045

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: _____

FIREPLACE, STOVE OR FURNACE MODEL: _____

I understand and agree to the warrant as stated: _____

(signature)