

**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 DOUBLE WALL CHIMNEY CONNECTOR BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.**

If connector is not installed and maintained in accordance with these instructions the warranty will be void and this may affect the connector'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 connector 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<sup>®</sup> accepts no liability for any damage, injury or loss of life resulting from incorrect installation, alteration or substitute materials. Contact Z-Flex<sup>®</sup> 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.

Z-Flex<sup>®</sup> double wall connector pipe can not be cut. Z-Flex<sup>®</sup> double wall connector pipe is available in different fixed, slip or adjustable lengths.

## Table of Contents

- Definitions
- Listing
- Permits
- Clearance to Combustibles
- Use
- Damper
- Installation
- Joints
- Combustible Wall
- Chimney Connection
- Maintenance
- Typical Installations
- Z-Flex Warranty

## Definitions

### **BEST PRACTICE**

Indicates recommendations made by Z-Flex<sup>®</sup> for installers which will help ensure optimum operation and longevity of the connector.

### **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.

## Listing

Z-Flex<sup>®</sup> Double Wall Connectors are UL listed to CAN/ULC 641 Standard for Factory-Built Chimney Connectors and Wall Pass-Through Assemblies under UL file number MH13681.

Tested in accordance with CAN/ULC 641 requirements:

Continuous @ Flue Gas Temperature	1200°F	650°C
30 Minute @ Flue Gas Temperature	1700°F	925°C
3 x 10 Minute @ Flue Gas Temperature	2100°F	1150°Ct

## Permits

Contact local Building or Fire Officials about permits, restrictions and installation inspection in your area.

## Clearance to Combustibles

Z-Flex<sup>®</sup> double wall chimney connector has a **MINIMUM** clearance of 12 inches to combustibles (wall or ceiling).

Section 4.7 of 2024 Edition of NFPA 211 Standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances defines noncombustible material.

A material that complies with any one of the following shall be considered a noncombustible material:

- (1) The material, in the form in which it is used, and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subject to fire or heat.
- (2) The material is reported as passing ASTM E136.
- (3) The material is reported as complying with pass/fail criteria of ASTM E136 when tested in accordance with the test method and procedure in ASTM E2652.

## WARNING

Read and **ALWAYS FOLLOW** appliance manufacturer's installation instructions especially wood burning stove concerning connector clearances as some appliances and applications may require clearances **LARGER** than 12 inches to combustibles (wall or ceiling), such as mobile homes or close clearance stove installations where stove alone produces a lot of heat - use larger clearance.

**DO NOT USE** Z-Flex<sup>®</sup> double wall chimney connector on stove in a mobile home if stove is not listed for use in a mobile home or not installed in accordance with stove manufacturer's installation instructions.

**DO NOT** place any type of insulation in the required clearances to combustibles surrounding connector.

## Use

Z-Flex<sup>®</sup> double wall chimney connector is designed to be used to connect third party listed (CSA, Intertek, UL, etc.) residential heating oil or gas (natural or LP) fired low-heat appliance (stove, residential freestanding fireplace, furnace or boiler) normally producing flue gas temperature of 1200°F (650°C) or less to a masonry chimney or factory-built chimney listed to UL103HT. Z-Flex<sup>®</sup> double wall chimney connector can be used anywhere single wall stove pipe is allowed.

## BEST PRACTICE

Maintain flue gases between 300°F to 450°F to minimize condensation and creosote formation while maximizing efficiency.

## Damper

Damper (2SPD\_D) adjusts combustion gas flow in chimney and affects stove's combustion; closing handle reduces combustion, while opening handle increases combustion. When handle is horizontal, the damper is closed (still 20% open to avoid complete chimney blockage). When handle is vertical, the damper is fully open.

## WARNING

Do not install damper in a horizontal run.

## Installation

See Figures 1 through 4 for typical installations.

Size connector and chimney in accordance with the appliance manufacturer's installation instructions.

Total connector length must not exceed NFPA 211 or CAN/CSA-B365 limitations. Ensure all connector parts are securely fastened together (see Joints) and supported as required. Support horizontal runs from structure using non-combustible supports (2SPD\_SH) at intervals not exceeding 4ft (1.2m).

## BEST PRACTICE

Install connector runs short, straight and vertical as possible with access for inspection/cleaning. We recommend 20 feet maximum total length of connector. Subtract 2 feet for every 90° elbow and 1 foot for every 45° elbow from 20 feet maximum.

Properly cap chimney to avoid nesting materials in flue which can cause a blockage, dirty flue and lead to a fire.

## WARNING

Z-Flex<sup>®</sup> Double Wall Chimney Connector is not a chimney and must not pass through an attic, closet, concealed space, floor, ceiling, or roof.

Do not enclose Z-Flex<sup>®</sup> Double Wall Chimney Connector. Passage through walls is not permitted except as detailed in these Installation Instructions.

Do not slope horizontal runs downward toward termination which can lead to poor draft and excessive temperatures.

## Joints

Male end of inner pipe or female larger end of outer pipe goes toward appliance while expanded female end of inner pipe or reduced male end of outer pipe goes toward the chimney. Insert male end of inner pipe into inner expanded female end of mating part until parts come to a stop. Then secure overlapping mating parts by installing #8 x 3/8" long screws (provided) through three evenly spaced holes (~120° apart) in female larger end of outer pipe. When properly joined, inner joint should have 1.75" of overlap and 1.5" of overlap for outer pipe. Use #8 x 3/4" long black screws to secure connector to an insulated chimney. Use #8 x 1/2" long black screws to secure connector to appliance adaptor.

Available Connector Parts:	
Part ID	Description
2SPD(5,6,7,8)L(.5,1,1.5,2,3)	Pipe
2SPD(5,6,7,8)L(2-5,2-11,2-17)	Pipe Slip
2SPD(5,6,7,8)L(29-46,40-68)	Pipe Adjustable
2SPD(5,6,7,8)T	Tee w/Cap
2SPD(5,6,7,8)E(15,30,45,90)	Elbow
2SPD(6,7,8)R(5,6,7)	Reducer Concentric
2SPD(5,6,7)I(6,7,8)	Increaser Concentric
2SPD(5,6,7,8)AR	Stove Adapter
2SPD(5,6,7,8)AT	SF/ZR Tee Adapter
2SPD(5,6,7,8)AB	Barometric Damper Adapter
2SPD(5,6,7,8)AM	Masonry Adapter
2SPD(5,6,7,8)AMT	Masonry Thimble Adapter
2SPD(5,6,7,8)D	Damper Section
2SPD(5,6,7,8)AZR	Adapter ZR
2SPD(8)O(8,6)R	Oval to Round
2SPD(5,6,7,8)TC	Trim Collar
2SPD(5,6,7,8)SH	Support Horizontal

## Combustible Wall

Z-Flex<sup>®</sup>'s double wall chimney connector must not pass through a combustible wall. Use an insulated chimney wall thimble and pipe listed to UL103HT when chimney must pass through a combustible exterior side wall. Follow instructions provided with insulated chimney's wall thimble and pipe.

## Chimney Connection

Before installing appliance and connector to chimney, chimney should be inspected, properly supported and clean/repared if necessary by a qualified chimney sweep. For UL103HT listed factory-built (insulated) chimney, ensure installation complies with chimney manufacturer's instructions. See Figures 2 through 4.

## Maintenance

### 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 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 creosote makes an extremely hot fire.

Creosote residue is black or brown in color and at first crusty/flaky but with each fire becomes tar-like, drippy/sticky or shiny and hard.

# Model SPD Double Wall Chimney Connector Installation and Maintenance Instructions



## Coal Ash & Sulphur – Deposit and Need for Removal

When coal is burned, coal ash and Sulphur are deposited in the connector and chimney, when combine with moisture form Sulphuric Acid which is highly corrosive.

### **WARNING**

System (appliance/connector/chimney) should be inspected before first use and at least yearly thereafter, before the heating season by a qualified professional. Ensure area around appliance and venting system (connector/chimney) do not contain combustible materials, gasoline or other flammable vapors or liquids and meet clearances to combustibles. Ensure system is; clean of any coal ash, Sulphur, soot or creosote, unobstructed, undamaged, and properly assembled. If creosote or soot has accumulated (1/8" maximum), it should be removed to reduce the risk of chimney fire. If coal ash or Sulphur has accumulated, it should be removed to reduce the risk of corrosion. Some wood stoves create enough creosote within two weeks to lead to a chimney fire. A wood or coal stove and vent should be inspected weekly during heating season until proper cleaning frequency can be established. A coal stove's connector and chimney must be cleaned within 48 hours of shutting down at the end of the heating season. Regularly check coal system for any acid corrosion and repair if necessary.

Do not over-fire wood stove by loading too much wood or allowing an excessive amount of air flow as it can ignite creosote buildup causing a fire hazard. While operating stove, blackened glass, high room temperature and red-hot stove or vent sections are signs of over-fire. When stove is cool, warped or bent stove baffle/exterior or cracks in firebrick or mortar are signs of over-fire. To cool fire, reduce air flow by partially closing air vent, patiently monitor/adjust air vent opening until fire is optimized.

Burn only dry seasoned wood with a moisture content of 15 to 20% and avoid slow burning fires to prevent the buildup of creosote.

Do not burn treated lumber or sea driftwood as both are highly corrosive.

Burn **ONLY LOW** Sulphur coal with 1% maximum Sulphur content.

### **CAUTION**

Do not use chemical chimney cleaners as they may be corrosive and still require sweeping of connector and chimney.

Connector and chimney should be cleaned with a properly sized nylon or flexible steel brush. It's recommended to use a professional chimney sweep to clean connector and chimney.

If fire occurs in connector or chimney or if any part of system (appliance/connector/chimney) is glowing red:

### **BEST PRACTICE**

Store proper fire extinguisher (at least 5 lbs. UL rated 3-A:40B:C) and chimney fire extinguishment products such as Orin Safety Products' Chimfex or Kidde's FireEx in same room as appliance. Read and understand product information.

- Close appliance opening(s), air intake and flue damper to reduce fire's oxygen supply.
- Alert anyone in building of this danger.
- Call your Fire Department.
- If possible, use dry chemical fire extinguisher, baking soda or sand to control fire.
  - **DO NOT USE WATER** as it may lead to a steam explosion especially on a stove.
  - **DO NOT USE SALT** as it can create corrosive and toxic chlorine gas.
- Ensure fire does not spread to combustibles near appliance, connector and chimney.
  - Move any flammable materials away from appliance, connector and chimney.
- Ensure fire does not spread to roof through hot embers exiting chimney.
  - Use hose to wet down roof near chimney. **DO NOT WET CHIMNEY.**
- **DO NOT USE** appliance, connector and chimney UNTIL it has been inspected/repared by a professional chimney sweep or Fire Department Inspector.

## Typical Installations

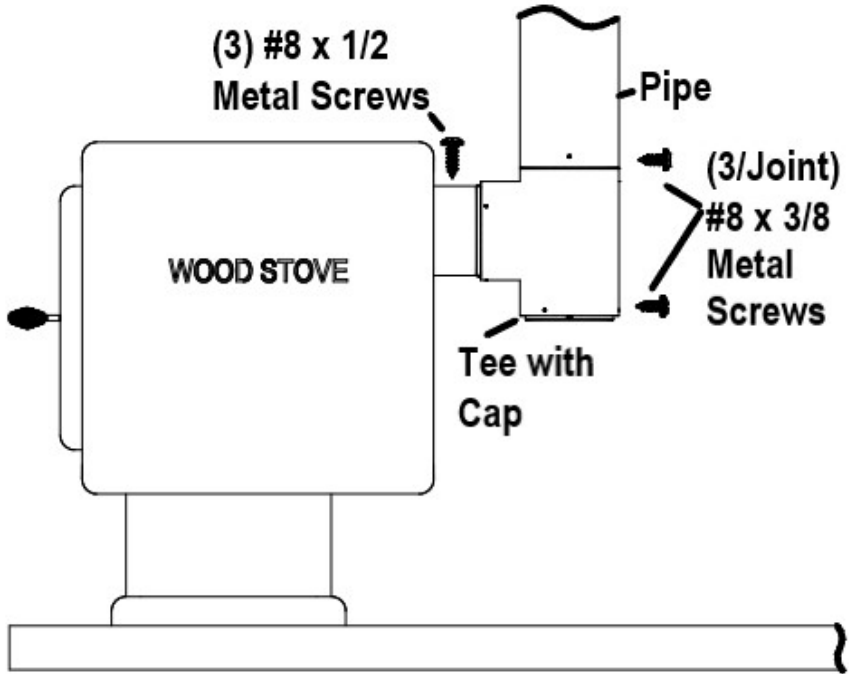
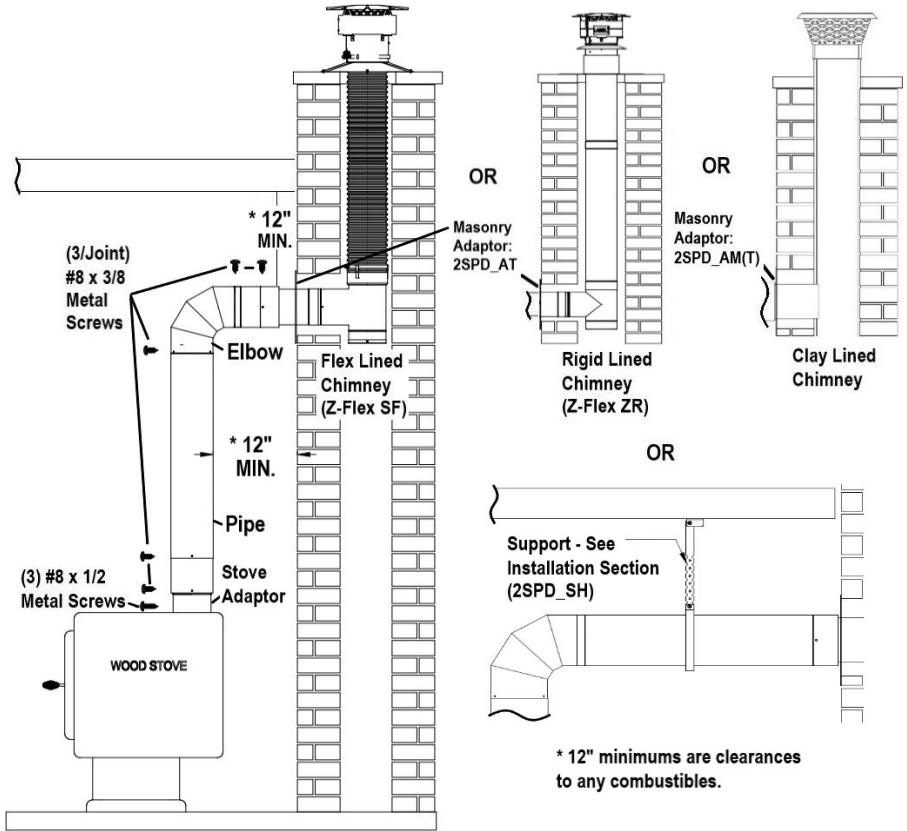


Figure 1: Rear Outlet Appliance to DW Chimney Connector Installation





**2: DW Chimney Connector to Lined Chimney Installation**

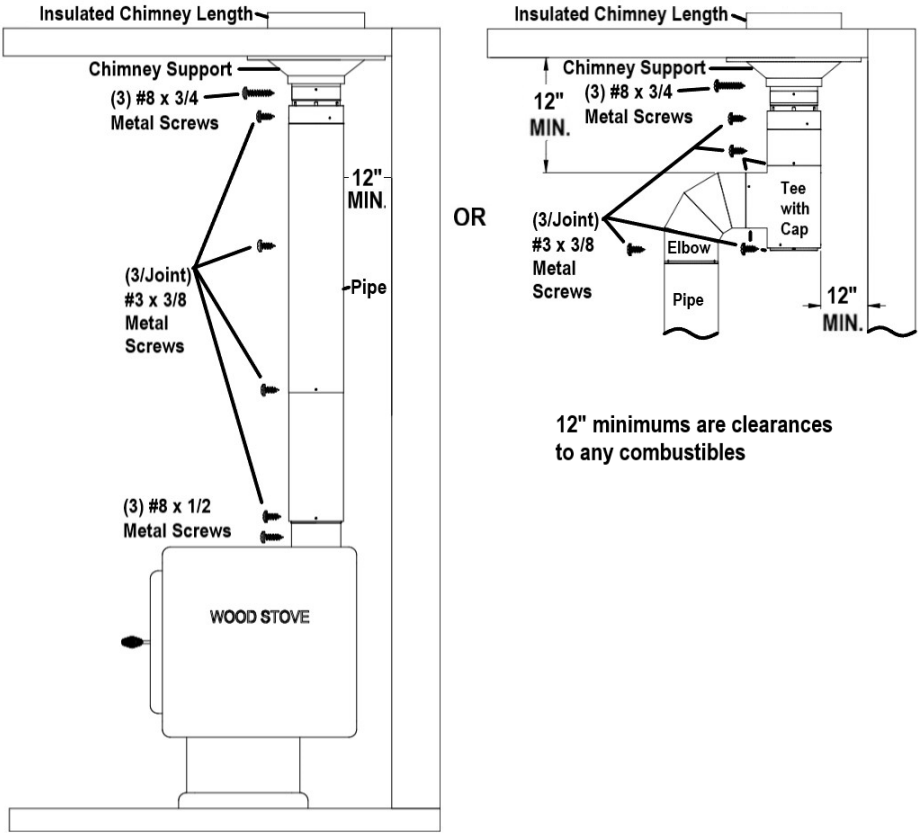


Figure 3: DW Chimney Connector to Vertical Insulated Chimney Installation

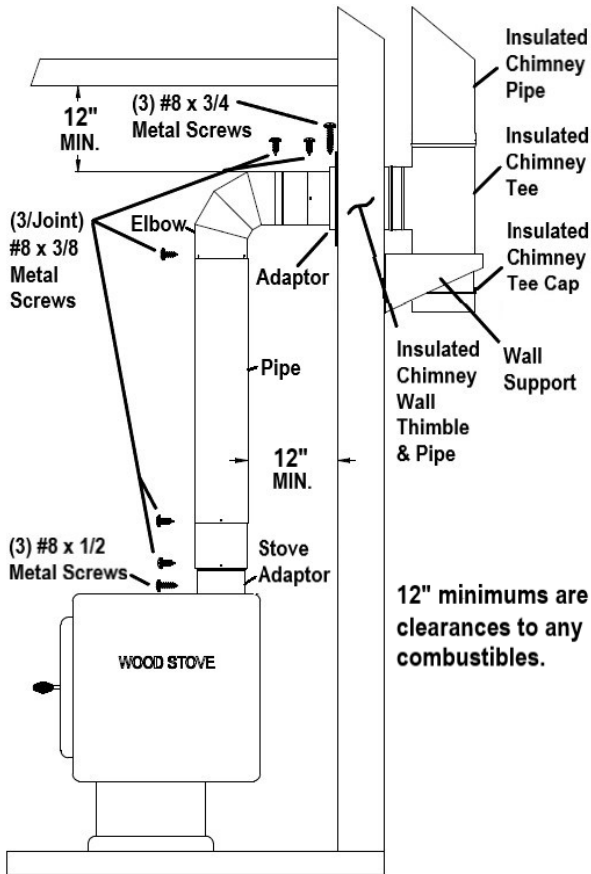


Figure 4: DW Chimney Connector to Side Wall Insulated Chimney Installation

## Z-Flex® Warranty

Z-Flex®, Inc. ("Z-Flex®") provides a limited warranty for its Double Wall Stove Pipe to the original purchaser or if purchased by a contractor, to the original end user. Except as otherwise set forth herein, this warranty is non-transferrable. This warranty is valid for so long as the original purchaser or original end user, as applicable, owns the property in which the stove pipe is installed, provided it is installed according to Underwriters Laboratories installation instructions. Deviating from the installation and use instructions with the stove pipe will void the warranty.

Z-Flex® warrants that at the time of shipping the Double Wall Stove Pipe, it will be free of substantial defects in material and/or workmanship if properly installed, maintained and used. This warranty does not cover normal wear and tear, smoke damage or damage caused by chimney fires, acts of God, or any Double Wall Stove Pipe that was (i) purchased other than from an authorized dealer, retailer or distributor, (ii) modified or altered; (iii) improperly serviced, inspected or cleaned; or (iv) subject to negligence or any use not in accordance with the printed materials provided with the Double Wall Stove Pipe as determined by Z-Flex®.

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

**IMPORTANT:** Excessive creosote accumulation, sulphur residue from burning coal or the use of unapproved chemical cleaners may cause chimney fires that could warp or corrode the stove pipe. Such misuse will void the warranty.

To activate the warranty, the original purchaser or original end user, as applicable, 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® will repair or replace any components, which proves to be substantially defective. Z-Flex® reserves the right to examine or engage others to examine the stove pipe. Such examination must establish reasonable proof of defective material or workmanship justifying replacement.

The sole remedy for breach of any and all warranties and Z-Flex®'s sole 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; damages in excess of the cost of the Double Wall Stove Pipe at issue; or for any claim against the original purchaser or original 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 PURPOSE.** 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.

This warranty may not be extended or modified by our agents or representatives

For further product information or technical support, call or write to:

**In Canada**

Flexmaster Canada Limited<sup>®</sup>  
20 East Pearce Street  
Richmond Hill, Ontario L4B 1B7  
Tel: (905) 731-9411  
Email: [sales@flexmaster.com](mailto:sales@flexmaster.com)  
Web: [www.flexmaster.com](http://www.flexmaster.com)

**In U.S.A.**

Z-Flex<sup>®</sup> U.S. Inc.  
20 Commerce Park North  
Bedford, NH 03110-6911  
Toll Free: 1-800-654-5600 or in NH: (603) 669-5136  
Email: [sales@z-flex.com](mailto:sales@z-flex.com)  
Web: [www.z-flex.com](http://www.z-flex.com)