

## SECTION 23 51 00

### BREECHINGS, CHIMNEYS AND STACKS

#### **PART 1 GENERAL**

##### **1.01 SUBMITTALS**

- A. Product Data:
  - 1. Type B Flue Vents.
  - 2. Positive Pressure Chimney and Manifold System.
  - 3. All Fuel Chimney.
  - 4. Barometric Damper.
  - 5. Special Gas Vent
- B. Quality Assurance Data:
  - 1. Source Limitations: obtain listed system components through one source from a single manufacturer.
- C. Project Record Documents:
  - 1. Shop Drawings:
    - a) For vents, breechings, chimneys, and stacks: include plans, elevations, sections, details, and attachments to other work.
    - b) Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, methods of field assembly, components, hangers and seismic restraints, and location and size of each field connection.
    - c) Welding certificates.
    - d) Warranties: Special warranties specified in this section.
- D. Operation and Maintenance Data:
  - 1. Operating and maintenance procedures.
  - 2. Complete set of manufacturers drawings.
  - 3. Data sheets updated to reflect field installation conditions.

##### **1.02 WARRANTY**

- A. Special Warranty: manufacturer's standard form in which manufacturer agrees to repair or replace components of venting system that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, structural failures caused by expansion and contraction.

#### **PART 2 PRODUCTS**

##### **2.01 TYPE B FLUE VENTS**

- A. Manufacturers:
  - 1. Ameri-Vent, American Metal Products Co.
  - 2. Dura-Vent Corporation.
  - 3. Metal Fab, Inc.
  - 4. Metlvent, Hart and Cooley Division of Clevepak Corporation.
  - 5. Selkirk Metalbestos (No asbestos acceptable)
- B. General: double wall gas vents, U.L.-listed for Type B, consisting of double wall metal construction pipe sections and fittings and accessories required for complete installation.
- C. Termination:

1. Stack cap designed to exclude 90 percent of rainfall.
2. Round chimney top designed to exclude 98 percent of rainfall.
3. Exit cone with drain section incorporated into riser.

## **2.02 POSITIVE PRESSURE CHIMNEY AND MANIFOLD SYSTEM**

### **A. Manufacturers:**

1. Ampco
2. Metal Fab
3. Selkirk Metalbestos Model PS.
4. Van-Packer
5. Venting Systems Inc. Trip-L-Wall.

### **B. General: double wall metal chimney, U.L.-listed for use with building heating equipment burning gas, solid or liquid fuels as described in NFPA (304 stainless steel liner for gas and No. 2 oil).**

### **C. Accessories:**

1. Fittings: tees, elbows, increasers, draft-hood connectors, metal caps with bird barriers, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar or compatible materials and designs.
2. Sealant (for positive-pressure applications): manufacturer's standard high-temperature sealant.
3. Insulating Fill: manufacturer's standard high-temperature insulation fill material in annular space surrounding chimney liner including high-temperature, ceramic-fiber insulation required to seal chimney at top and bottom.

## **2.03 ALL FUEL CHIMNEY**

### **A. Manufacturers:**

1. Ampco.
2. Dura-Vent Corporation Dura-Chimney.
3. Hart and Cooley Metlvent.
4. Selkirk Metalbestos Model SS.
5. Metal Fab.
6. Van-Packer.

### **B. General: stainless steel double-walled, pre-insulated chimney sections, fittings, and accessories required for a complete installation in compliance with UL Standard 103.**

### **C. Accessories: tees, elbows, increasers, draft-hood connectors, terminations, adjustable roof flashings, storm collars, support assemblies, thimbles, firestop spacers, and fasteners; fabricated from similar materials and designs as vent-pipe straight sections; all listed for same assembly.**

## **2.04 SPECIAL GAS VENT**

### **A. Manufactures:**

1. Security Chimney.
2. Metal-Fab Not Allowed.

## **2.05 BAROMETRIC DAMPER**

### **A. Manufacturers: Field Control Division of Conco Engineering Works.**

### **B. Construction: heavy duty design with stainless steel knife-edge bearing and precision balanced gate.**

### **C. Control: adjustable wide range of draft settings from .002 inches to .5 inches.**

## **2.06 GUYING AND BRACING MATERIALS**

- A. Cable: Four galvanized, stranded wires of the following thickness:
  - 1. Minimum size: 1/4 inch in diameter.
  - 2. For ID sizes 4 to 15 inches: 5/16 inch.
  - 3. For ID sizes 18 to 24 inches: 3/8 inch.
  - 4. For ID sizes 27 to 30 inches: 7/16 inch.
  - 5. For ID sizes 33 to 36 inches: 1/2 inch.
  - 6. For ID sizes 39 to 48 inches: 9/16 inch.
  - 7. For ID sizes 51 to 60 inches: 5/8 inch.
- B. Pipe: Galvanized steel, NPS 1-1/4.
- C. Angle Iron: Galvanized steel, 2 by 2 by 0.25 inch.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

- A. Install in accordance with manufacturer's instructions to assure UL compliance.
- B. Locate to comply with minimum clearances from combustibles and minimum termination heights according to product listing or NFPA 211, whichever is most stringent.
- C. Seal between sections of positive-pressure vents according to manufacturer's written installation instructions, using sealants recommended by manufacturer.
- D. Support vents at intervals recommended by manufacturer to support weight of vents and all accessories, without exceeding appliance loading.
- E. For appliances more than 83 percent efficient, slope breechings down in direction of appliance, with condensate drain connection at lowest point piped to nearest drain.

#### **3.02 VENT SCHEDULE**

- A. Listed Chimney Liners: High-efficiency boiler or furnace vents in masonry chimney, dishwasher exhaust, or Type II commercial kitchen hood.
- B. Listed Type B Vents: Vents for certified gas appliances.
- C. Listed Special Gas Vent: Condensing gas appliances.
- D. Listed Building-Heating-Appliance Chimneys: Dual-fuel boilers, oven vents, water heaters, and exhaust for engines. Fireplaces and other solid-fuel-burning appliances.
- E. Listed Grease Ducts: Type I commercial kitchen grease duct.

#### **3.03 INSTALLATION OF LISTED VENTS AND CHIMNEYS**

- A. Locate to comply with minimum clearances from combustibles and minimum termination heights according to product listing or NFPA 211, whichever is most stringent.
- B. Seal between sections of positive-pressure vents and grease exhaust ducts according to manufacturer's written installation instructions, using sealants recommended by manufacturer.
- C. Support vents at intervals recommended by manufacturer to support weight of vents and all accessories, without exceeding appliance loading.
- D. Slope breechings down in direction of appliance, with condensate drain connection at lowest point piped to nearest drain.
- E. Lap joints in direction of flow.
- F. Connect base section to foundation using anchor lugs of size and number recommended by manufacturer.
- G. Join sections with acid-resistant joint cement to provide continuous joint and smooth interior finish.
- H. Erect stacks plumb to finished tolerance of no more than 1 inch out of plumb from top to bottom.

**END OF SECTION 23 51 00**