

## **SPECIAL SPECIFICATION**

### **SECTION 15550S**

#### **CHIMNEYS AND STACKS**

##### **PART 1 - GENERAL**

###### **1.01 SECTION INCLUDES**

- A. Chimneys for gas/oil fired equipment, including manufactured double-wall chimneys for fuel fired equipment.

###### **1.02 RELATED SECTIONS**

- A. Section 13085S – Seismic Protection
- B. Section 15510S - Heating Boilers and Accessories.

###### **1.03 REFERENCES**

- A. ASHRAE Handbook - HVAC Systems and Equipment.
- B. ASTM A 167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- C. NFPA 31 - Installation of Oil Burning Equipment.
- D. NFPA 54 - National Fuel Gas Code.
- E. NFPA 82 - Incinerators, Waste and Linen Handling Systems and Equipment.
- F. NFPA 211 - Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances.
- G. UL 103 -Factory-built Chimneys for Residential Type and Building Heating Appliances.
- H. UL 441 - Gas Vents.

###### **1.04 DEFINITIONS**

- A. Breeching: Vent connector.

- B. Chimney: Primarily vertical shaft enclosing at least one vent for conducting flue gases outdoors.
- C. Smoke Pipe: Round, single wall vent connector.
- D. Vent: That portion of a venting system designed to convey flue gases directly outdoors from a vent connector or from an appliance when a vent connector is not used.
- E. Vent Connector: That part of a venting system that conducts the flue gases from the flue collar of an appliance to a chimney or vent, and may include a draft control device.

#### 1.05 DESIGN REQUIREMENTS

- A. Comply with NFPA 211 and provide UL listing label for factory built vents and chimneys used for venting natural draft appliances.

#### 1.06 SUBMITTALS

- A. Include product data and shop drawings indicating size, required clearances, construction details and required supports.

#### 1.07 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacture of products specified in this Section with minimum ten years documented experience.
- B. Regulatory Requirements:
  - 1. Conform to NFPA 54 code for installation of natural gas burning appliances and equipment.
  - 2. Conform to NFPA 31 code for installation of oil burning appliances and equipment.

### PART 2 - PART 2 - PRODUCTS

#### 2.01 MANUFACTURER

- A. Metalbestos.

#### 2.02 DOUBLE WALL METAL STACKS

- A. Provide double wall metal stacks, tested to UL 103 for use with building heating equipment, in compliance with NFPA 211.

- B. Fabricate with 1 inch minimum air space between walls. Construct inner jacket of 20 gage ASTM A 167 Type 316 stainless steel. Construct outer jacket of Type 316 stainless steel 24 gage for sizes 10 inches to 24 inches and 20 gage for sizes 28 inches to 48 inches.
- C. Provide accessories each bearing factory applied UL label.
  - 1. Ventilated Roof Thimble: Consists of roof penetration, vent flashing with spacers and storm collar.
  - 2. Exit Cone: Consists of inner cone, and outer jacket, to increase stack exit velocity 1.5 times.
  - 3. Stack Cap: Consists of conical rainshield with inverted cone for partial rain protection with low flow resistance.

### 2.03 DOUBLE WALL GAS VENTS 6 INCHES AND SMALLER

- A. Fabricate inner pipe of sheet aluminum and outer pipe of galvanized sheet steel, tested in compliance with UL 441.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install in accordance with ASHRAE Handbook - HVAC Systems and Equipment and NFPA 54.
- C. Install concrete inserts for support of chimneys and stacks in coordination with formwork.
- D. For Type B double wall gas vents, maintain UL listed minimum clearances from combustibles. Assemble pipe and accessories as required for complete installation.
- E. Assemble and install stack sections in accordance with NFPA 82, industry practices, and in compliance with UL listing. Join sections with acid-resistant joint cement. Connect base section to foundation using anchor lugs.
- F. Level and plumb chimney and stacks. Provide guys and anchor as required.
- G. Clean chimneys and stacks during installation, removing dust and debris.
- H. At appliances, provide slip joints permitting removal of appliances without removal or dismantling of chimneys or stacks.

- I. Provide sampling connection for chimneys and stacks in accordance with State Air Control Board procedures.

END OF SECTION