

SECTION 23 51 00  
BREECHINGS, CHIMNEYS, AND STACKS FOR GAS BURNING APPLIANCES

GENERAL

Manufactured chimneys for category II, III, & IV applications where the appliance is natural gas or propane fired, flue temperatures are 550° F or less, and the vent pressure will not exceed 40 inches of water column

RELATED

Water Heating Equipment, Boilers/Hot Water Heaters, and Custom Air handlers

REFERENCE STANDARDS

1. UL 1738/ ULC S636-95 – Standard for Venting Systems for Gas-Burning Appliances Categories II, III, and IV
2. ANSI Z228.1 (NFPA 54) – The National Fuel Gas Code
3. ASHRAE – Handbook, Equipment Volume, Chapter “Chimney, Gas, Vent, and Fireplace Systems”
4. NFPA 211 – Standard for Chimneys, Fireplace, Vents, and Solid Fuel – Burning Appliances
5. SMACNA – HVAC Duct Construction Standards – Metal and Flexible

PRODUCTS

- A. Provide double wall metal vents, tested to UL 1738 and UL listed for use with category II, III, and IV gas fired appliances.
- B. Vent shall be rated for up to 550° F continuous fire and 40” water column positive pressure.
- C. Fabricate with **(1-4)**-inch minimum **(air space) (mineral wool insulation)** between walls.
- D. Construct inner liner of 24 gauge minimum corrosion resistant **(VP1738 stainless steel) (VP1738A stainless steel) (AL29-4C stainless steel)** in accordance with UL listing.
  - a. 24 gauge for liners from 4” to 24” ID.
  - b. 20 gauge for liners from 26” to 36” ID.
  - c. 18 gauge for liners from 38” to 48” ID.
- E. Construct outer shell of 24 gauge minimum **(aluminized steel) (type 430 stainless steel) (type 304 stainless steel) (type 316 stainless steel)**.
  - a. 24 gauge for shells from 6” to 26” OD.
  - b. 20 gauge for shells from 28” to 50” OD.
- F. Vent shall be listed for 2” clearance to combustibles and 0” clearance to non-combustibles.
- G. Provide all required accessories for a complete system each bearing factory applied UL Label, including but not limited to supports, appliance connectors, drain fittings, and terminations.

## INSTALLATION

- A. Install in accordance with the manufacturer's instructions.
- B. Install in accordance with recommendations of ASHRAE – Handbook, Equipment Volume, Chapter “Chimney, Gas, Vent, and Fireplace Systems and ANZI Z223.1, (NFPA 54).
- C. Install breechings with a minimum of joints. Align accurately at connections with internal surfaces smooth.
- D. Support breechings from building structure, rigidly with suitable ties, braces, hangers, and anchors to hold to shape and prevent buckling. Support vertical vent as required to adjacent structural surfaces. Refer to SMACNA HVAC Duct Construction Standards – Metal and Flexible for equivalent duct support configuration and size.
- E. Install concrete inserts for supporting vent in coordination with formwork.
- F. Pitch breechings (1/4” per linier foot) with positive slope up from equipment to chimney or stack.
- G. Maintain UL listed minimum clearances from combustibles.
- H. Inner liner joints shall be sealed by use of Vee Bands and Silicone Sealant.
- I. Assemble parts and accessories as required for complete installation.
- J. Chimneys extending above roof surfaces must terminate as required by local code, or as required in NFPA 211.
- K. Level and plumb the vertical stack.
- L. Clean breeching and chimney during installation, removing dust and debris.
- M. At appliances, provide slip joints permitting removal of appliances without removal or dismantling of breechings or chimneys.
- N. All parts exposed to the outside air that are fabricated from aluminized steel shall be protected by a minimum of one base coat and one finish coat of paint, such as Rust-O-Leum, clean metal primer and appropriate top coat, or equivalent. Paint to be supplied and applied by installing contractor.