

## Heating, Ventilation & Air Conditioning Requirements

### Reference Minnesota State Building Code

HVAC includes all heating, air conditioning, ventilation and refrigeration equipment, gas piping, gas fireplaces, gas logs, factory-built wood burning fireplaces and wood burning stoves.

### Requirements:

- Provide at least 6” clearance to combustible materials from single wall gas vent. Provide at least 1” clearance to combustible materials from Class B gas vent. Use venting tables to size gas vents and connectors. Common vents must be Class B.
- Copper gas piping must be type K or L, free of defects, and installed without kinks in piping. Sleeves are required when passing through concrete or stucco. Steel and wrought iron piping run outside, exposed above ground, must be galvanized or painted. Mechanical joints cannot be concealed.
- Insulate exhaust ducts in unheated spaces. Insulate exhaust ducts in heated spaces at least 3 feet from the outlets. Supply and return ductwork in attics, garages or under porches must be insulated (R-8 Minimum) and have a vapor barrier.
- Bathrooms require mechanical ventilation of 5 air changes per hour. Generally 0.7 CFM per square foot of floor area. Air-to-air systems may satisfy this requirement.
- Return air ducts in basement or furnace room must have all joints sealed (taped or caulked).
- Joints in ducts in exterior walls must be taped.
- Factory-built chimneys and fireplaces shall be installed in accordance with manufacturer’s instructions and must be inspected prior to covering. Ducted combustion air is required on all units.
- Clothes dryer vents and kitchen range vents require smooth metal ductwork.
- Underground duct must be installed in accordance with manufacturer's instructions and must be inspected prior to covering. A drain tile system must be installed with the top of the drain tile lower than the bottom of the duct.
- Condominiums and townhomes - Exhaust ducts, furnace vents and similar roof openings are not permitted within 5 feet of the occupancy separation walls.

## **REQUIRED INSPECTIONS**

ROUGH-IN INSPECTION: Prior to covering, after framing is complete. Supply and return openings ready, exhaust fan housings installed, exhaust ducts installed and insulated, gas vents and factory-built chimneys installed.

UNDERGROUND DUCT INSPECTION: Prior to covering. All joints sealed per manufacturer's instructions. Rigid insulation (R-5.0 minimum) installed on three sides. Drain tile system complete.

GAS PIPING INSPECTION: Gas line pressure tests are required on all high pressure lines, concealed lines, and threaded piping. This should be included with the rough-in inspection when possible. Air tests shall be at least 25 PSIG for 1 hour. Gauge must be of a range that test pressure will be at midpoint.

FINAL INSPECTION: All mechanical systems are complete and operational. Electric and gas connections must be complete.

FACTORY BUILT FIREPLACES: ROUGH-IN: Unit installed, venting, combustion air, fire-stopping, and framing complete.

FINAL: Unit operational. Wiring, piping, mantle, and hearth complete.