

TYPICAL HOUSE MECHANICAL REQUIREMENTS

- 1) **A combustion air intake is required** for any furnace or water heater that is **NOT** a sealed combustion type appliance. (Typically 4" minimum per appliance). Combustion air must come directly from the outside. The U.M.C. does permit combustion air from the attic, **but the State does not**. Insulated flex duct is approved. U.M.C. 603, and 604 (with State amendments)
- 2) **Remodeling of existing homes** – Any remodeling project that will cause a home to become more air-tight by installing new windows, siding or insulation to an existing home, installing a combustion air intake is required. Typically a 4" round duct is required for "one" gravity vented appliance, and a 6" round duct is required for "two" gravity vented appliances. This combustion air supply must be installed within the mechanical room where the appliances are located.
- 3) **Class "B" chimneys require 1" clearance to combustibles.** Class "C" (single wall) chimneys require 6" clearance to combustibles. Fiberglass insulation and sheet rock are considered as combustible. Provide a non-combustible sleeve around the chimney in the attic to keep the insulation 1" away. No single wall piping can be concealed. U.M.C. 914-a-6
- 4) **Chimney caps must be U.L. approved.** Drip Tees are required on all combustion chimneys to dissipate condensation. Install as per manufacturer's instructions.
- 5) **All supply branch air ducts require volume control dampers.** If the damper is to be concealed, locate damper in register boot. Removing the register will allow access to damper. State amendments to U.M.C.1346.1002 (G)
- 6) **Approved duct tape is acceptable for fastening ductwork,** provided the manufacturer approves such. On 6" round galvanized ducts, use at least 3-sheetmetal screws minimum. U.M.C. 1002 (d)
- 7) **Panning of ceilings is not required for return air if sheetrocked and blocked.** Block all return air wall cavities immediately above the register opening. U.M.C. 1002
- 8) **Clothes dryer and kitchen range ventilation** must be smooth metal and cannot be connected by screws. The maximum permitted length is 14' horizontal and vertical combined, 6' of which can be an approved flexible vent connector, with exception in concealed spaces. U.M.C. 1104 and 1903
- 9) **The condensate discharge A.C. line must be full size - 3/4",** or per manufacturers directions. Verify if a trap is required.
- 10) **Gas fireplaces require a shutoff outside the fireplace.** All fireplaces require intake air. Gas fireplaces shall be installed per manufacturers' instructions. U.M.C. 2213 (L) Typically the fireplace will have its own shutoff valve built into the unit. Location of the required shutoff should be on the branch gas line in the mechanical room and labeled indicating what appliance the shut off is for.
- 11) **All ductwork in attic spaces** and unheated crawl spaces must be wrapped with a minimum of R-8 insulation. After the ducts are insulated, the blown attic insulation may be added over the top of the ducts.

- 12) **Natural gas piping** will remain 7" water column (1/4 lb. pressure). Treaded black or galvanized steel pipe, flexible stainless steel piping, and full weight standard gauge and thickness copper pipe, are approved. No compression-type fittings are allowed. Black steel threaded joints may also be concealed without an access panel provided it is not in a return air plenum U.M.C. 2212 & 2213, MN S.B.C. 1346-2212. Pipe sizing is the contractor's responsibility and must comply with U.M.C.-2219.

Exposed gas piping shall be labeled. The word "gas" shall be written on the exposed pipe every 2'-0" and be visible. This is so the gas line is not confused with water lines.

Contractors using flexible stainless steel natural gas piping must be certified by the manufacture to install that piping system. Contractors may be carded to show proof of certification.

- 13) **An air-to-air exchanger** (mechanical ventilation) is required when constructing new residential homes as per the State Energy Code. Contractor shall complete Energy Code Worksheet and/or the Mncheck Compliance Report to be submitted along with the Building Permit application.
- 14) **When installing transit heat below floor slabs**, drain tile is required under the ductwork. Insulate around pipe to R-5. See MN Energy Code.
- 15) **Garage Heating.** Warm air supply ducts shall not be installed for the purpose of heating attached private garages from any forced air system serving habitable areas. U.M.C. 707(c) with state amendments.

* For specific language reference the following:

M.H.D. = MN Health Dept. - Plumbing Code 1994 w/1998 amendments

Mn.S.B.C. = MN State Building Code 1998

U.M.C. = Uniform Mechanical Code 1991 w/State amendments

I.B.C. = International Building Code 2003