



CITY OF NORTH MANKATO

This handout serves a brief overview on gas, wood, and pellet fireplaces, inserts, and stoves only and is not intended as a complete list of requirements.

- ❖ Building permits are required for the installation of all gas, oil, and solid fuel burning fireplaces.
- ❖ ***If a registered contractor is hired to complete the project, have them take out any and all required permits!***
- ❖ A completed Building Permit Application shall be submitted prior to commencing with the installation of any type of fireplace.
- ❖ Every fuel-burning appliance shall discharge the products of combustion to a vent, factory-built chimney or masonry chimney. The chimney or vent shall be designed for the type of appliance being vented.

WOOD BURNING FIREPLACES

- **Chimneys:**

Chimneys shall be constructed of masonry in accordance with the Minnesota State Residential Building Code requirements or shall be approved factory built assemblies “listed” or “approved” by Underwriters Laboratories, International Code Council, or other recognized agencies for use with wood burning appliances. The “listed” or “approved” chimney assemblies shall be installed in accordance with their listings. The required clearance from the chimney to combustibles will be indicated on each section of chimney. The minimum clearance for a masonry chimney is 2” from the front faces and sides and 4” from the back faces.

Note: Metal liners installed in masonry chimneys or relined chimneys shall be of approved “listed” and “labeled” materials and installed in accordance with the listing.

Chimney height termination & caps: The chimney shall terminate at a point not less than 2 feet above any portion of a structure within 10 feet of the chimney. Chimneys shall terminate not less than 3 feet above the highest point where the chimney passes through the roof.

Masonry chimneys shall have a concrete, metal or stone cap, sloped to shed water, a drip edge and a caulked bond break around any flue liners in accordance with ASTM C 1283

Where a masonry or metal rain cap is installed on a masonry chimney, the net free area under the cap shall not be less than four times the net free area of the outlet of the chimney flue it serves.

- **Hearth and Floor Coverings**

Masonry fireplace hearths and hearth extensions shall be constructed of concrete or masonry, supported by noncombustible materials, and reinforced to carry their own weight and all imposed loads.

Hearth extensions shall extend at least 16” in front of and 8” beyond each side of the fireplace opening.

Where the fireplace opening is 6 square feet or larger, the hearth extension shall extend at least 20 inches in front of and at least 12 inches beyond each side of the fireplace opening.

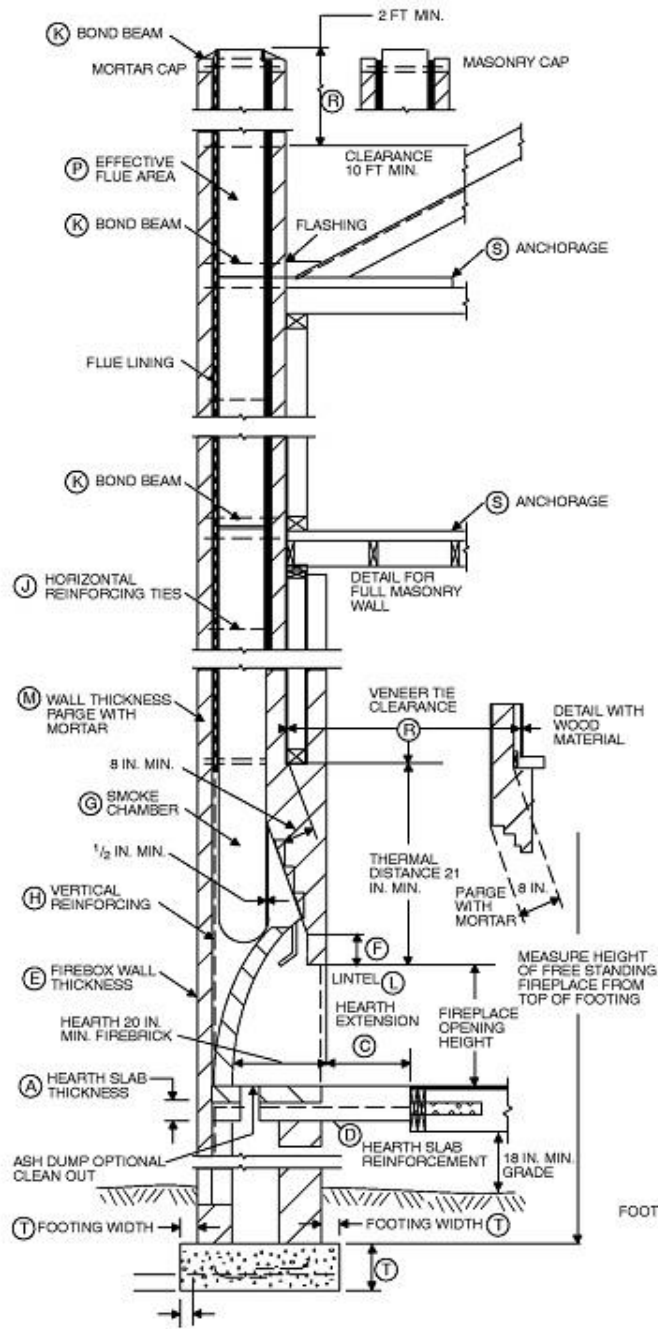
TABLE R1001.1
SUMMARY OF REQUIREMENTS FOR MASONRY FIREPLACES AND CHIMNEYS

ITEM	LETTER ^a	REQUIREMENTS
Hearth slab thickness	A	4"
Hearth extension (each side of opening)	B	8" fireplace opening < 6 square foot. 12" fireplace opening ≥ 6 square foot.
Hearth extension (front of opening)	C	16" fireplace opening < 6 square foot. 20" fireplace opening ≥ 6 square foot.
Hearth slab reinforcing	D	Reinforced to carry its own weight and all imposed loads.
Thickness of walls of firebox	E	10" solid brick or 8" where a firebrick lining is used. Joints in firebrick 1/4" maximum.
Distance from top of opening to throat	F	8"
Smoke chamber walls thickness Unlined walls	G	6" 8"
Chimney Vertical reinforcing ^b	H	Four No. 4 full-length bars for chimney up to 40" wide. Add two No. 4 bars for each additional 40" or fraction of width or each additional flue.
Horizontal reinforcing	J	1/4" ties at 18" and two ties at each bend in vertical steel.
Bond beams	K	No specified requirements.
Fireplace lintel	L	Noncombustible material.
Chimney walls with flue lining	M	Solid masonry units or hollow masonry units grouted solid with at least 4-inch nominal thickness.
Distances between adjacent flues	—	See Section R1003.13.
Effective flue area (based on area of fireplace opening)	P	See Section R1003.15.
Clearances Combustible material Mantel and trim Above roof	R	See Sections R1001.11 and R1003.18. See Section R1001.11, Exception 4. 3' at roofline and 2' at 10'.
Anchoring ^b Strap Number Embedment into chimney Fasten to Bolts	S	3/16" × 1" Two 12" hooked around outer bar with 6" extension. 4 joists Two 1/2" diameter.
Footings Thickness Width	T	12" min. 6" each side of fireplace wall.

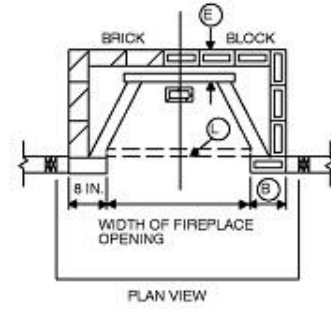
Note: This table provides a summary of major requirements for the construction of masonry chimneys and fireplaces. Letter references are to Figure R1001.1, which shows examples of typical construction. This table does not cover all requirements, nor does it cover all aspects of the indicated requirements. For the actual mandatory requirements of the code, see the indicated section of text.

a. The letters refer to Figure R1001.1.

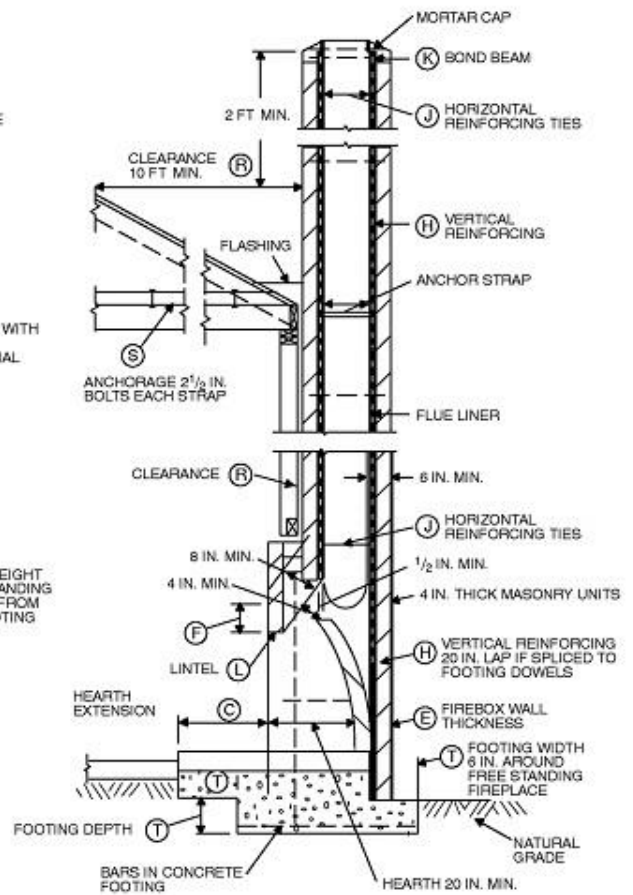
b. Not required in Seismic Design Category A, B or C.



BRICK FIREBOX AND CHIMNEY—
SECTIONAL SIDE VIEW ON WOOD FLOOR

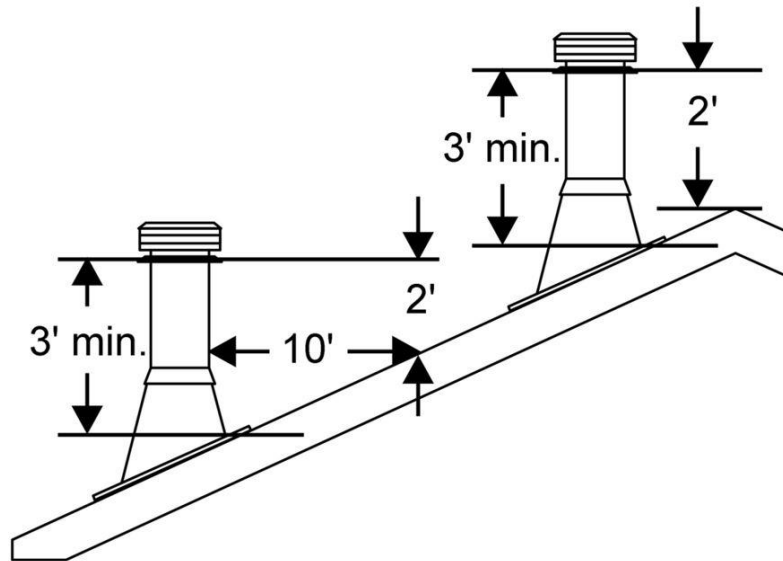


PLAN VIEW



BRICK FIREBOX AND BLOCK CHIMNEY—
SECTIONAL SIDE VIEW ON CONCRETE SLAB

Chimney Termination



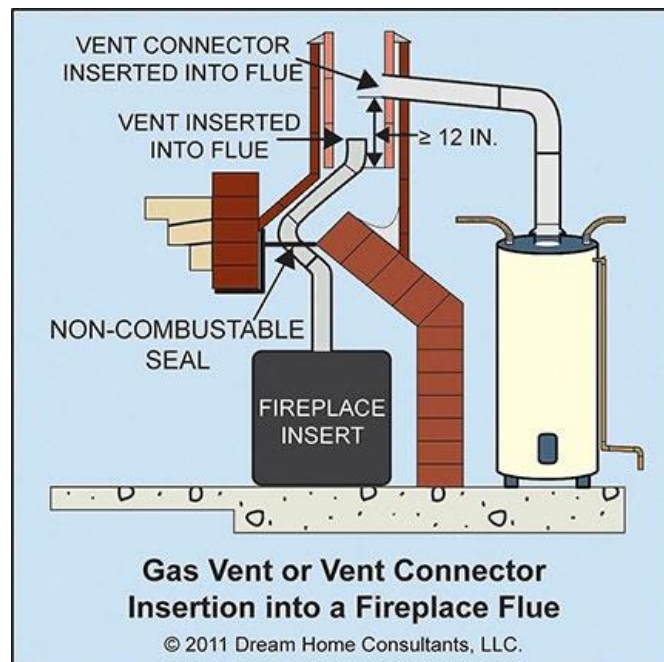
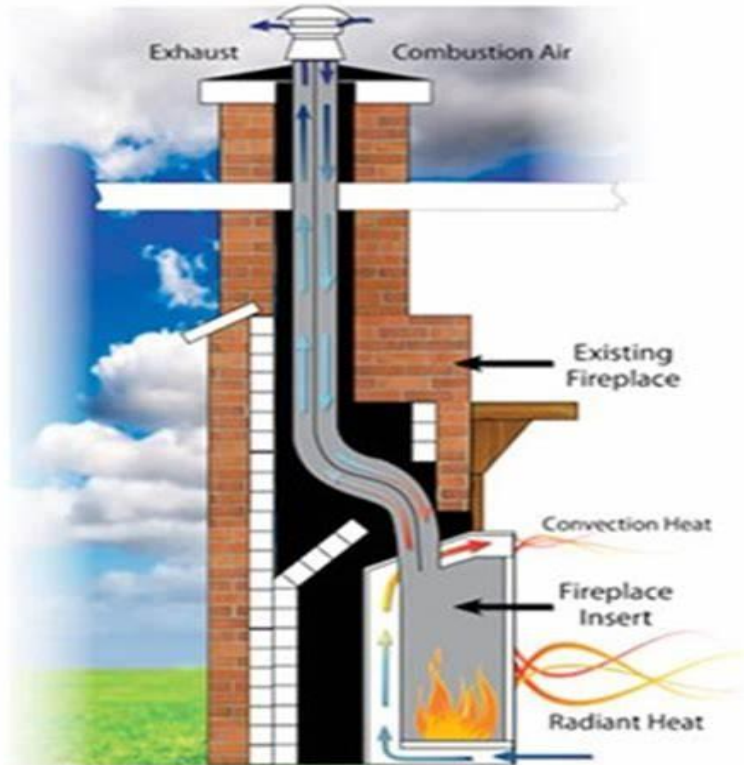
GAS FIREPLACE INSERTS/NEW GAS FIREPLACES

- Fireplace inserts intended for installation in fireplaces shall be listed and labeled in accordance with the requirements of UL 1482 and shall be installed in accordance with the manufacturer's installation instructions.
- Masonry chimneys shall be lined. The lining material shall be appropriate for the type of appliance connected, according to the terms of the appliance listing and manufacturer's instructions.
- Gas line air test is required for all new gas line installations and shall be installed by a bonded mechanical contractor. CSST gas lines shall be bonded to the electrical service grounding electrode system with a bonding jumper not smaller than 6 AWG copper wire or equivalent. The test pressure to be used shall be no less than one and one-half times the proposed maximum working pressure, but not less than 25 psig. The test duration shall be not less than one-half hour.
- If a gas fireplace is vented through the wall, exterior clearances shall be in accordance with the manufacturer's installation requirements. (diagram below is a representation of what a typical diagram would look like in a manufacturer's installation instructions)
- A noncombustible draft stop material shall be installed to fill the annular space around the fireplace insert venting and the existing chimney.

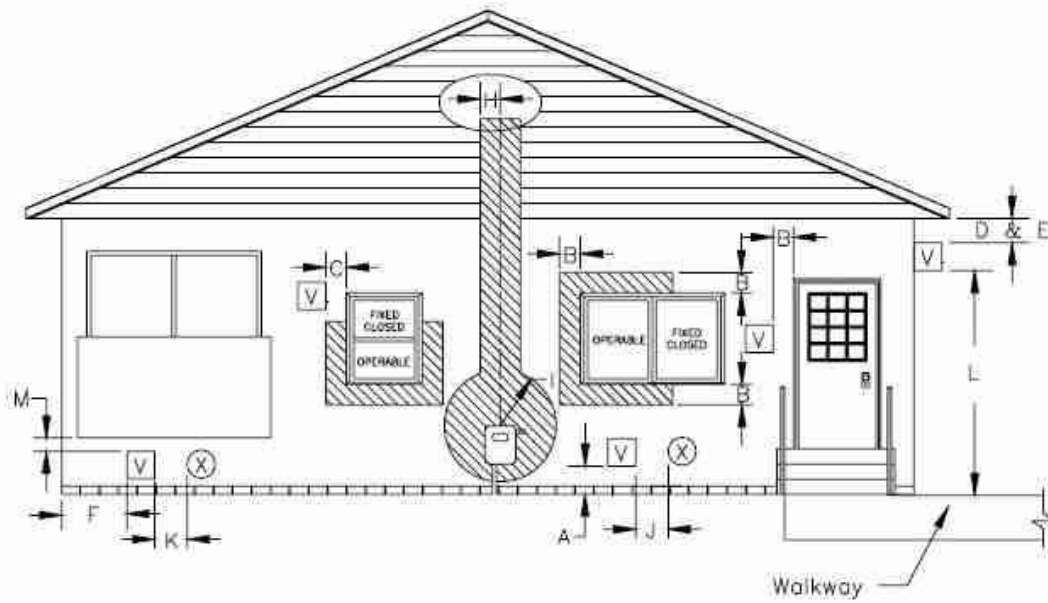
MANUFACTURED (MOBILE) HOME INSTALLATION

Fuel burning appliances to be installed in manufactured homes must be specifically "listed" and "labeled" for that purpose. Do not install unlisted appliances in manufactured homes. Permits are required and shall be obtained from the City of North Mankato prior to installation.

GAS INSERT FIREPLACE TYPICAL VENTING THROUGH EXISTING CHIMNEY



EXTERIOR THROUGH WALL VENTING REQUIRED CLEARANCES TYPICAL DIAGRAM



DEFINITIONS

CHIMNEY. A primary vertical structure containing one or more flues, for the purpose of carrying gaseous products of combustion and air from a fuel-burning appliance to the outside atmosphere.

CHIMNEY CONNECTOR. A pipe that connects a fuel-burning appliance to a chimney.

CHIMNEY TYPES. Residential-type appliance. An approved chimney for removing the products of combustion from fuel-burning, residential-type appliances producing combustion gases not in excess of 1,000°F (538°C) under normal operating conditions, but capable of producing combustion gases of 1,400°F (760°C) during intermittent forces firing for periods up to 1 hour. All temperatures shall be measured at the appliance flue outlet. Residential-type appliance chimneys include masonry and factory-built types.

FACTORY-BUILT CHIMNEY. A listed and labeled chimney composed of factory-made components assembled in the field in accordance with the manufacturer's instructions and the conditions of the listing.

FIREPLACE. An assembly consisting of a hearth and fire chamber of noncombustible material and provided with a chimney, for use with solid fuels.

Factory-built fireplace. A listed and labeled fireplace and chimney system composed of factory-made components, and assembled in the field in accordance with manufacturer's instructions and the conditions of the listing.

Masonry chimney. A field-constructed chimney composed of solid masonry units, bricks, stones or concrete.

Masonry fireplace. A field-constructed fireplace composed of solid masonry units, bricks, stones or concrete.

FIREPLACE STOVE. A free-standing, chimney-connected solid-fuel-burning heater designed to be operated with the fire chamber doors in either the open or closed position.

DEFINITIONS (cont.)

LABELED. *Equipment*, materials or products to which have been affixed a *label*, seal, symbol or other identifying *mark* of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-*labeled* items and whose labeling indicates either that the *equipment*, material or product meets identified standards or has been tested and found suitable for a specified purpose.

LISTED. *Equipment*, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of *listed equipment* or materials or periodic evaluation of services and whose listing states either that the *equipment*, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

MANUFACTURER'S INSTALLATION INSTRUCTIONS. Printed instructions included with *equipment* as part of the conditions of listing and labeling.

PELLET FUEL-BURNING APPLIANCE. A closed combustion, vented *appliance* equipped with a fuel feed mechanism for burning processed pellets of solid fuel of a specified size and composition.

**Please note that while every effort is made to assure the accuracy of the information contained in this handout, it is not warranted for accuracy. This document is not intended to address all aspects or regulatory requirements for a project and should serve as a starting point for you investigation.