

STOVE AND FIRE
PLACE
CLEARANCE

STOVE CLEARANCES

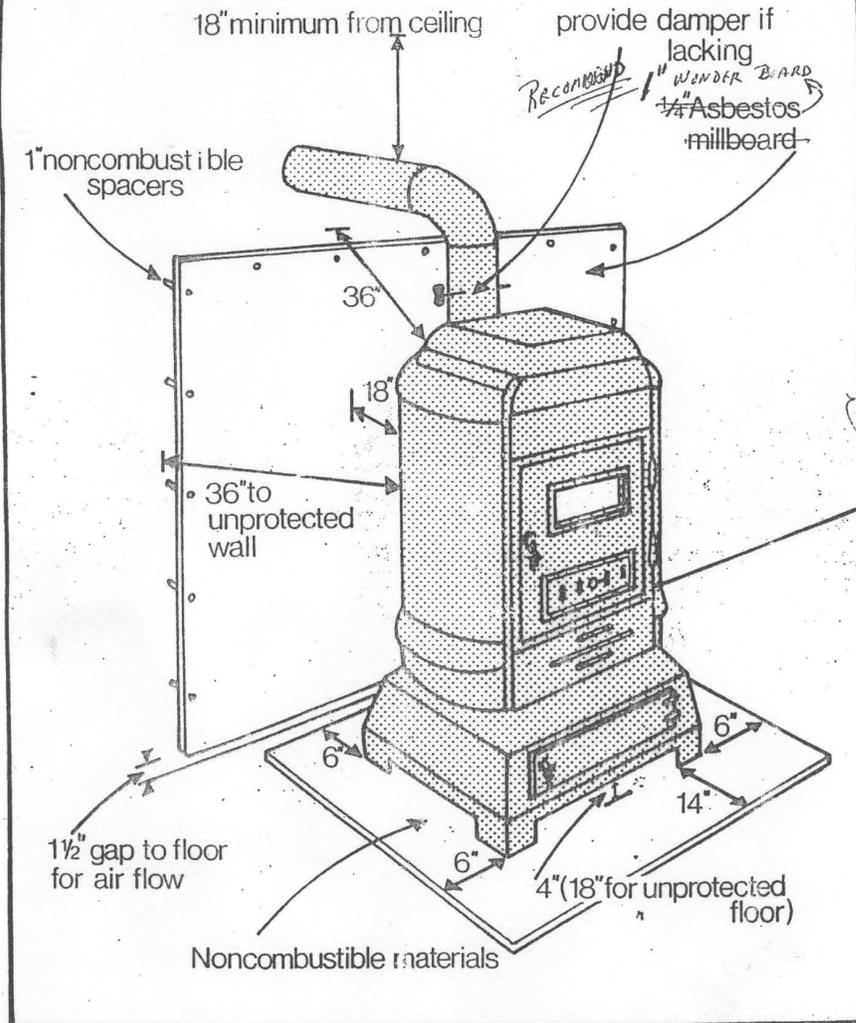
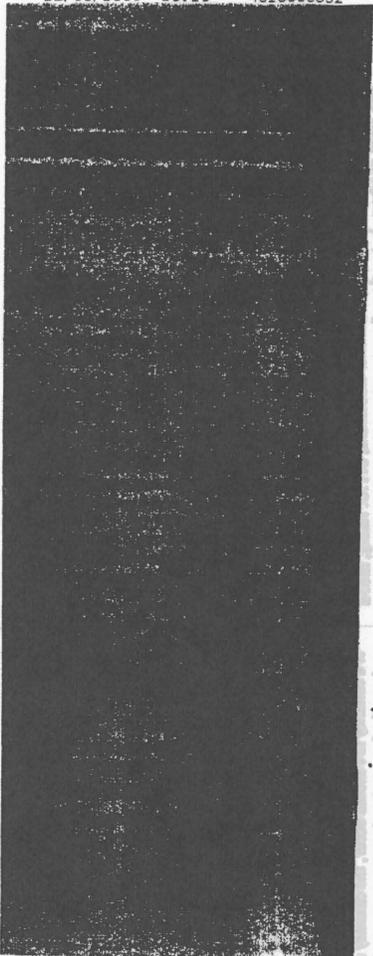


figure 1. Note 1 : See Table 1 for additional information on ceiling and wall clearances with specified forms of protection.
Note 2 : See figures 3, 4, and 5 for connector thru-wall details.



The information contained within this pamphlet was obtained from BO BASIC BUILDING CODE, BOCA MECHANICAL CODE and the O AND TWO FAMILY DWELLING CODE,

SECTION 1.
GENERAL SAFETY INFORMATION FOR THE HOMEOWNER ON SELECTION, INSTALLATION, OPERATION AND MAINTENANCE OF COAL AND WOOD BURNING STOVES AND CHIMNEYS

SECTION 2.
CONSTRUCTION REQUIREMENTS FOR CHIMNEYS AND FIREPLACES EXCEPTED FROM THE "ONE AND TWO FAMILY DWELLING CODE"

SECTION 3.
WOODBURNING STOVES SAFETY PRECAUTION CHECKLIST

Since the fuel crisis includes a shortage of gas, fuel oil and kerosene, many people are turning to coal and wood burning stoves as alternate sources of heat. In many cases their purpose is twofold: to provide supplementary heat to offset the scarcity and cost of the fuel they normally use, and to provide standby heat during an emergency, such as a power outage in an ice storm.

A building permit is required to install any heating equipment and you have any questions at all, please feel free to call us or discuss it at the time you obtain your permit.

NOTE: This pamphlet DOES NOT pertain to installation in mobile homes as the requirements are different. Please contact this department for further information.

SECTION 1.

GENERAL SAFETY INFORMATION FOR THE HOMEOWNER ON SELECTION, INSTALLATION, OPERATION AND MAINTENANCE OF COAL AND WOOD BURNING STOVES AND CHIMNEYS

These instructions relate to free standing wood and coal burning stoves only and are not to be construed as instructions for fireplaces. (See section 2 for fireplaces.)

Solid fuel burning appliances as described in these requirements shall not be installed in bedrooms, bathrooms, toilet rooms or rooms used for sleeping purposes. Every fuel burning comfort heating appliance shall bear a permanent and legible factory-applied nameplate on which shall appear the following: the manufacturer's name or trademark, B.T.U. rating, model and serial numbers, instructions for operation, type of fuel approved for use and seal of approval of testing company.

Stoves must be set up and used with great care to avoid serious fire hazards. Safe chimneys are absolutely essential. Flue walls must be sound as occasional chimney fires are almost inevitable when burning wood or soft coal. Safe placement of stoves and proper vent connections is also essential.

Fireplaces and stoves, when fired vigorously from day to day, were usually not as hazardous as the controlled-burning stoves common today. Soot and creosote did not build up as small accumulations may have been ignited and burned safely more or less continuously. Heavy chimney deposits, once ignited, burn intensely at dangerously high temperatures up to 2000°F.

All wood-burning stoves can cause the build-up of dangerous flue and chimney deposits. Unfortunately, tight, well-controlled stoves are more of a problem than the old free-burning styles. Yet controlled burning conserves wood and provides more uniform heat at levels suited to well-insulated houses.

Creosote-like deposits of tarry liquids that solidify along with soot accumulations are caused by condensation of gases and the release of particles due to incomplete combustion. Insufficient air to the fire, poor draft conditions, cold flues and chimneys and green or high-moisture wood all aggravate the problem.

Unlined, single brick chimneys found in many older homes are especially hazardous; this type of chimney often was not very safe when it was built and certainly should be suspected now. Mortar in the

joints probably has deteriorated and some bricks may be cracked. The combined action of weather and hot gases causes these conditions most often near the chimney top; however, cracks and openings commonly develop well below the roof in tinder-dry attics. Never use an unlined chimney.

Cracks in chimneys can be located by building a smudge fire in the bottom, then covering the top with a board or wet sack. Escaping smoke should readily reveal the chimney's condition. All defects should be repaired before use, even if it becomes necessary to rebuild the whole chimney. Woodwork should not be in direct contact with the masonry of any chimney. This condition was also quite common in old construction.

Chimney fires are possible in all but the cleanest chimneys. Sparks and/or burning particles can be drawn out of the chimney top and onto the roof or any surrounding combustibles resulting in a possible fire. Once a chimney fire is suspected or started, call your Fire Department immediately. If a chimney fire should occur, the chimney should be inspected for damage and repaired or replaced as necessary. This is especially important with factory built metal chimneys.

Chimney cleaning is not a job for every do-it-yourselfer; it can be hazardous on steep-pitch roofs and high chimneys. If you can't do it properly and safely, leave it to the professional. All openings into the chimney must be closed tightly to keep soot out of the house. Chimneys can usually be cleaned satisfactorily from the top by lowering weighted and/or other devices that will brush or scrape soot accumulations from the sides. Care should be taken not to damage the chimney. Loosened deposits should be removed through the required clean-out door.

Another major factor of fires caused by wood stoves is the improper kindling of wood fires. Flammable liquids such as lighter fluid, charcoal lighter fluid, kerosene, and gasoline used to ignite the wood have caused many deaths and very serious injuries. The proper method is simply to put a small amount of newspaper on the bottom of the fire box, some dry kindling wood and some small logs, and add larger logs as needed. The damper must be in the open position to allow proper venting during the kindling of the fire.

Stoves, flues and chimneys must be kept clean. Before fires are started every fall, disassemble and thoroughly clean all stoves and stove pipe connectors, replacing or repairing pipes and stove parts, as needed. Have your chimney cleaned periodically. Soot build-up on weather caps of some types of factory built chimneys are the first signs of the stove not operating properly.

coals which appear to be dead. Make sure all ashes are put into a metal container and carried outside. Careless spreading of ashes in dry grass or litter should be avoided. Be sure ashes are completely safe before they are thrown out and left unattended. Remember that there can be hot coals in the ashes even 24 hours after you have had a fire in your fireplace or wood stove. Be very careful with the poker or tongs as fires are caused by hot coals sticking to the end of the tools and then the tool is placed on a combustible surface outside the stove.

Present-day building codes and insurance underwriters encourage safe chimney design. Masonry flues must be lined with fire-clay at least 5/8 inch thick or some other approved material. All wood beams, joists and studs must be kept at least 2 inches away from masonry enclosing a flue. Approved type factory-built chimneys, when correctly installed, are also acceptable.

It is not permitted to use the same chimney for two different type appliances, (i.e. oil burner and wood stove), unless the chimney has been specifically designed by an engineer for more than one appliance. Two wood burning stoves can be connected to a single chimney flue when the area of the combined connector sizes are equal to or smaller than the flue size. Connectors shall not enter the flue at the same level. If a wood stove is to be connected to an existing fireplace see SECTION 2, (sec. R-925).

When providing for solid fuel burning stoves in new home construction, all required clearances from combustible materials should be met. Reduced clearances with appropriate protection from combustible materials may be installed in existing houses.

If there are any questions regarding the safety of your stove or chimney, have it inspected by a competent person.

CLEARANCES

A wood or coal stove must be placed a minimum of 36 inches from combustible walls or wood work unless specified differently by the manufacturers instructions of a tested and listed appliance. A stove connector not closer than 18 inches to combustible surfaces. Even though very high temperatures are needed to ignite most combustible wall materials, which have an ignition temperature of between 500°-700° F. Over a period of time, high temperatures can change the composition of the materials by slowly darkening it so that it accepts more and more radiant heat. Finally it may begin to smolder and ignite at temperatures as low as 200°-250° F. These temperatures are easily reached by an unprotected wall

exposed to a stove without adequate clearance; therefore strict adherence to the clearance standards is required.

A stove may be positioned closer than 36 inches if an approved non-combustible material is spaced at least one inch away from the wall, to allow air to circulate behind the material to carry heat away. Placing a non-combustible material directly on the wall has no real protective value; the material will easily conduct heat to the wall behind it, creating dangerous conditions.

See reduced clearance table for proper protection.

CHECK PAGES 7 through 11 FOR CORRESPONDING NUMBERS:

- ① **Chimney Connector:**
A connector 10 inches or less in diameter must be 24 gauged steel. It must be at least as large in diameter as the collar on the appliance with no portion reduced. The connector should be as straight as possible, avoiding unnecessary bends. It should never pass through walls or ceilings into adjoining rooms and must be visible from the appliance for its entire length to the chimney. The horizontal run of an uninsulated connector shall not be more than 75% of the height of the vertical portion of the chimney above the connector, unless part of an engineered venting system.
- ② The minimum clearance from connector to combustible material is 18" unless protected. Sometimes this clearance cannot be met. See Page 6, reduced clearances table, Column 2. Select the clearance that can be met then see type of protection required.
- ③ This area is a wall spacer (Figure 1) and is the only area allowed to be at less clearance. Between the thimble (dark ring) and combustible material is 8" masonry adequately supported. All exterior and interior wall sheathing must be cut away and the masonry is to butt against the chimney.

SEE PAGES 6 through 12 FOR CORRESPONDING NUMBERS:

Chimneys may be masonry or factory built. Factory built chimneys must be installed according to the manufacturers instructions. All chimneys whether masonry or factory built shall have the following:

- ④ **Clean-out:** In masonry chimneys a clean-out with metal door 12" below the appliance connector is required. In factory built chimneys a clean-out "T" is required, (Figures 6 & 7).
- ⑤ **Height:** Chimneys must extend 2 feet higher than the ridge of a peaked roof or 2 feet higher than a 10' measurement horizontally to the roof or obstacles. It should extend 3 feet higher than a flat roof with a pitch less than 2 in 12. (See Figure 8). If under a tree, all limbs shall be trimmed providing sufficient clearance to safeguard against fire and to allow for proper draft.

- (6) Flue Sizes: A 4, 5, 6 or 7 inch stove connector requires an 8 1/2" x 8 1/2" chimney flue liner. A 8 or 10 inch stove connector requires an 8 1/2" x 13" chimney flue liner and must enter the flue at the 13" side. Factory built chimneys are usually circular and must not be smaller than the connector size.
- (7) Thinable: To be approved, metal or fireclay and to be continuous from flush with inside of flue liner to finished wall.

YOU CAN'T MEET STOVE CLEARANCES?

See Table Below:

- (8) Example: There is only 18" of space behind the stove. The required clearance is 36". (See Figure 1, page 7). Now see the Reduced Clearance Table, page 6. In the 36" column (Column 1) see the Sides and Rear. Example (a) will solve this problem. 1/2" asbestos millboard spaced out 1". Millboard is in bold because it is not the same as cementboard, or asbestos board. Note the spacers are to be noncombustible; i.e.: short pieces of metal pipe, etc. (See Figure 2, page 8).

REDUCED CLEARANCES TABLE

REDUCED CLEARANCES, INCHES WITH SPECIFIC FORMS OF PROTECTION ^a		ROUND CONNECTORS	
Type of protection	When the required clearance without protection is	Col. 1	Col. 2
Applied to the combustible material and covering all surfaces within the distance specified in the required clearance without protection. Thickness as minimum.	24 inches	14 inches	14 inches
(a) 1/2" asbestos millboard spaced out 1".....	18"	12"	18"
(b) No. 20 Manufacturer's Standard Gage (0.015") sheet metal spaced out 1".....	18"	12"	18"
(c) No. 20 Manufacturer's Standard Gage (0.015") sheet metal on 1/2" asbestos millboard spaced out 1".....	12"	9"	12"
(d) 1/2" asbestos millboard on 1/2" asbestos millboard spaced out 1".....	12"	9"	12"
(e) No. 21 Manufacturer's Standard Gage (0.010") sheet metal on 1/2" asbestos millboard spaced out 1".....	12"	9"	12"
(f) 1/2" brick, spaced out 1/2".....	18"	12"	18"
(g) 1/2" asbestos millboard on air space.....	24"	18"	24"
(h) 1/2" asbestos millboard on air space.....	24"	18"	24"
(i) 1/2" brick or similar on air space.....	24"	18"	24"

FLUE SIZES	
Est. Dia.	LD. Sq. Inches
8 1/2" x 8 1/2"	51
8 1/2" x 13"	79
8 1/2" x 18"	108
13" x 13"	125
13" x 18"	168

Note a. All clearances shall be measured from the outer surface of the connector to the combustible material, disregarding any intervening protection applied to the combustible material, but the clearance shall not be such as to interfere with the requirements for accessibility.

Note b. Spacers shall be noncombustible material.

Note c. Bricks and similar materials with no air space does not reduce clearance.

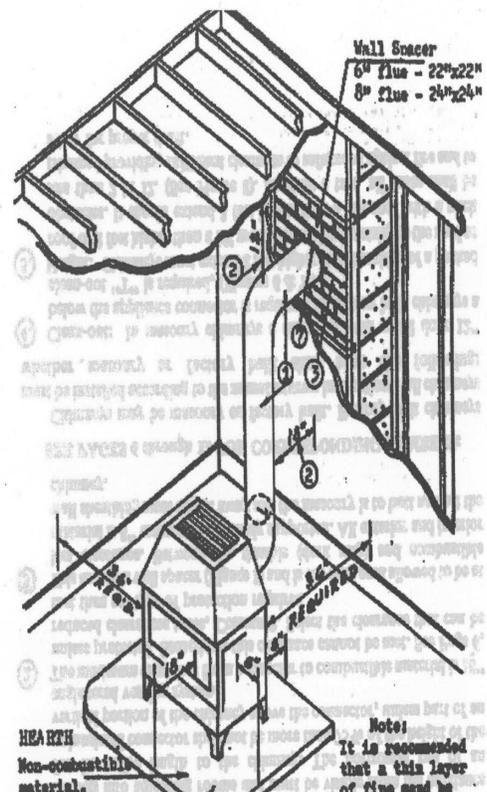


FIGURE 1. HEARTH Non-combustible material. Note: It is recommended that a thin layer of fine sand be spread evenly over the bottom of stove. STOVES WITH LINER: 18" high - 1/2" asbestos; 8" high - 3/8" asbestos w/24 ga. metal; 4" high - 4" brick or hollow blocks; 0" high - 8" brick or hollow blocks.

TYPICAL STOVE INSTALLATION

Masonry chimneys with required clearances to combustible materials

Note: If this area is to be recovered, combustibles such as sheet rock or paneling shall not be used.

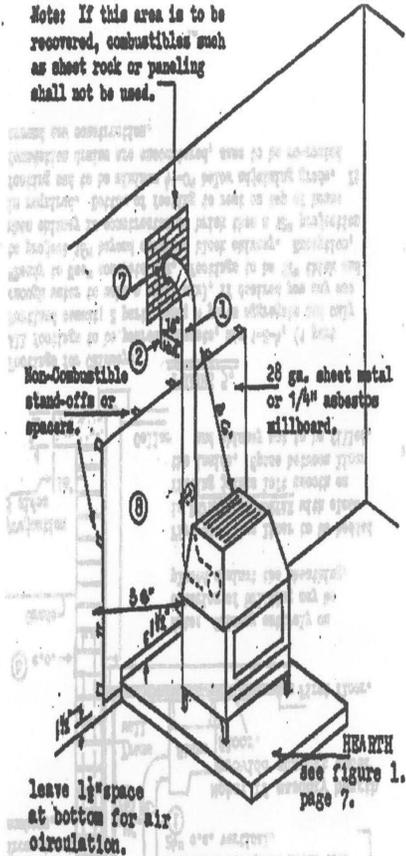


FIGURE 2.

Note: The required protection should be large enough so that no portion of the stove is within 36" of combustible walls or trim. See illustrations, FIGURES 3 & 4.

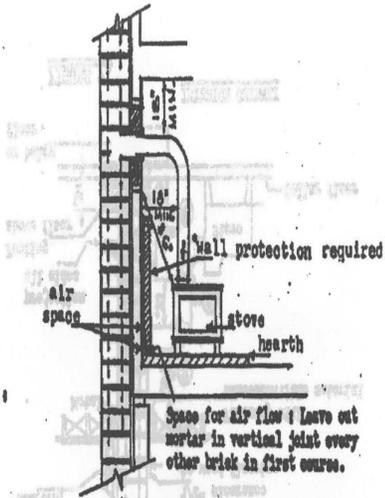


FIGURE 3.

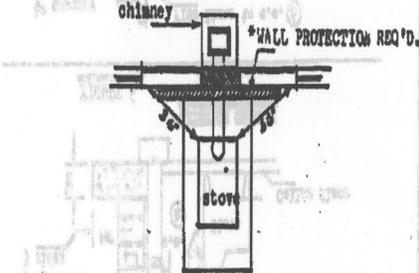
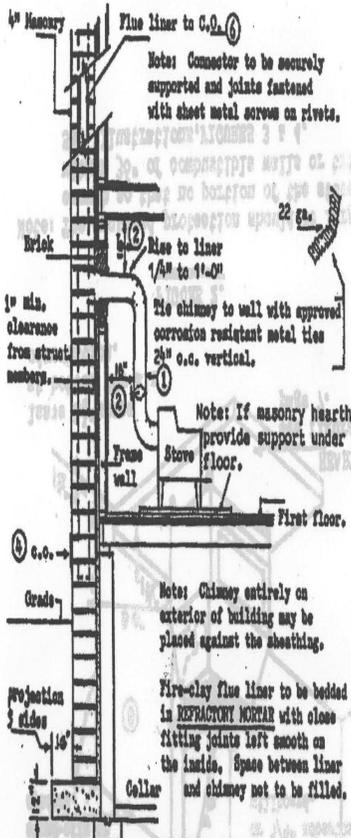


FIGURE 4.

*See reduced clearances table page 6.

The required clearances from sides, rear and top of stove is 36 inches to combustible materials, if these can not be met, the above details illustrate method of measuring when providing wall protection.

EXTERIOR CHIMNEY



Footings for Chimneys:
 All footings to be poured concrete, mix 1-2-4, (1 part Portland cement; 2 parts sand; 4 parts aggregate and only enough water to make a stiff mix), if desired you may use "Ready to Use" concrete mix. Footings to be 12" thick and to project 16" beyond concrete block chimney. Exception, when chimney is constructed of brick then a 12" projection is required. Bottom of footing to rest on top of house footing and to be minimum 4'-0" below adjoining grade. If foundation drains are encountered, same to be re-routed around new construction.

FIGURE 5.

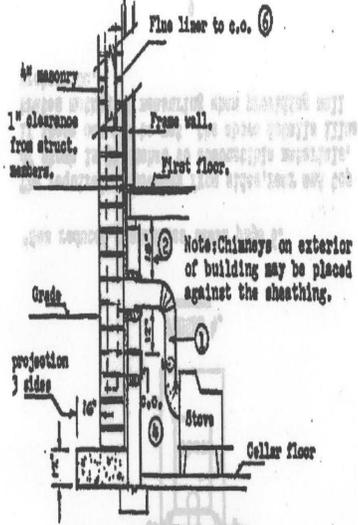


FIGURE 6.

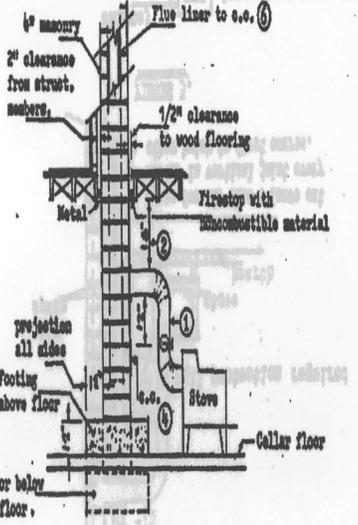
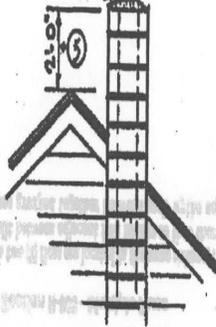


FIGURE 7.

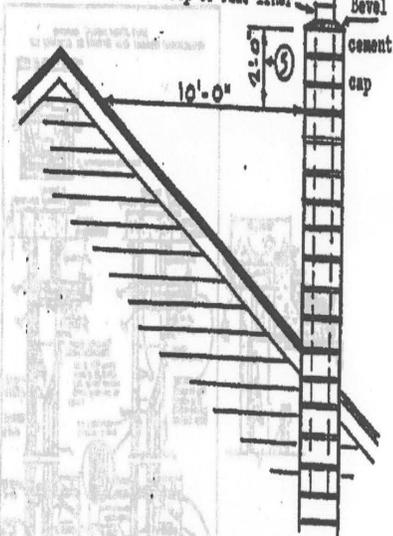
12/03/1999 10:15 401868652

Bevel cement cap Top of flue liner



SECTION 1102
 1102.01
 1102.02
 1102.03
 1102.04
 1102.05
 1102.06
 1102.07
 1102.08
 1102.09
 1102.10
 1102.11
 1102.12
 1102.13
 1102.14
 1102.15
 1102.16
 1102.17
 1102.18
 1102.19
 1102.20
 1102.21
 1102.22
 1102.23
 1102.24
 1102.25
 1102.26
 1102.27
 1102.28
 1102.29
 1102.30
 1102.31
 1102.32
 1102.33
 1102.34
 1102.35
 1102.36
 1102.37
 1102.38
 1102.39
 1102.40
 1102.41
 1102.42
 1102.43
 1102.44
 1102.45
 1102.46
 1102.47
 1102.48
 1102.49
 1102.50

Top of flue liner Bevel cement cap



CHIMNEY HEIGHTS

Minimum chimney heights above roof

FIGURE 8.

SECTION 2.

EXCERPTED FROM THE
 "ONE AND TWO FAMILY DWELLING CODE"

CHAPTER 9

CHIMNEYS AND FIREPLACES

Section R-901 - General

Conformity with applicable material, test and application standards specified in section R-901 shall be evidence that chimneys and fireplaces constructed in accordance with the provisions of this Chapter are reasonably safe to persons and property.

Section R-902 - Support

Masonry chimneys shall be constructed in accordance with Figure No. A-9.

Section R-903 - Additional Load

Chimneys shall not support loads other than their own weight unless they are designed and constructed to support the additional load.

Section R-904 - Termination

Chimneys shall extend at least two (2) feet above the highest point where they pass the roof of a building and at least two (2) feet higher than any portion of the building within ten (10) feet.

Section R-905 - Wall Thickness

Masonry chimneys shall be constructed of solid masonry units or reinforced concrete with walls not less than four (4) inches in thickness.

Section R-906 - Flue Lining (Material)

Masonry chimneys shall be lined with fireclay gas liners not less than five-eighths (5/8) of an inch in thickness or with other approved liner of material that will resist, without cracking or softening, a temperature of eighteen hundred (1800) degrees.

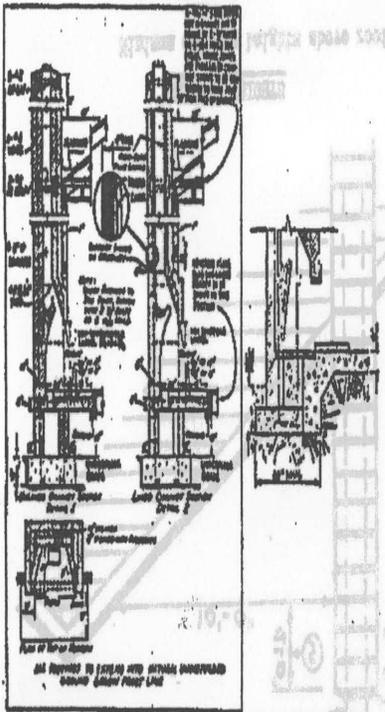
Exception: Masonry chimneys may be constructed without flue liners when walls are at least eight (8) inches in thickness.

Section R-907 - Flue Lining (Installation)

Flue liners shall extend from a point not less than eight (8) inches below the lowest inlet, or in the case of fireplaces, from the top of the smoke chamber, to a point above the enclosing walls.

Fireclay flue liners shall be laid with tight mortar joints left smooth on the inside.

Figure No. A-9
FIREPLACE FOUNDATION DETAILS



NOTES:

1. Where plates are not anchored to chimney by 3/16-inch x 1-inch steel strips bolted into chimney and attached to plates by 3/32-inch x 3-inch by screws, 3/16-inch bolts or 6-10d nails.
2. Reinforcement and anchorage shown above is required in Section Code No. 3.
3. Damper shall be not less than No. 12 gauge metal and when fully open, the damper opening shall be not less than 85% of the required flue area.
4. The fluepass outlet and element shown is optional.

Section R-908 - Multiple Flues

Where more than two (2) flues are located in the same chimney, masonry wythes shall be built between adjacent flue linings so that there are not more than two flues grouped together between such wythe separation.

The masonry wythes shall be at least four (4) inches thick and bonded into the walls of the chimney. Where two (2) flues adjoin each other in the same chimney with only flue lining separation between them, the joints of the adjacent flue linings shall be staggered at least seven (7) inches.

Section R-909 - Flue Area (Appliance)

Chimney flues shall not be smaller in area than that of the area of the connector from the appliance.

Section R-910 - Flue Area (Fireplace)

Chimney flues for fireplaces shall not be smaller in area than the values set forth in Table No. 9-A.

Table No. 9-A
MINIMUM FLUE AREA
FOR MASONRY CHIMNEYS
CONNECTED TO FIREPLACES

TYPE OF FLUE		
Round Lined	Square or Rectangle Lined	Lined with Fire-brick or Unlined
1/12 of fireplace opening area but not less than 50 square inches	1/10 of fireplace opening area but not less than 64 square inches	1/8 of fireplace opening area but not less than 100 square inches

Section R-911 - Inlet

Inlets to masonry chimneys shall enter from the side. All inlets shall have a thickness of fireclay, rigid refractory material, metal, or other arrangement that will prevent the connector from pulling out of the inlet or from extending beyond the wall of the liner.

Section R-912 - Cleanout Opening

Cleanout openings are optional and may be provided in masonry chimneys in accordance with Figure No. A-9. When provided, they shall be equipped with ferrous metal doors and frames arranged to remain tightly closed when not in use. Cleanout openings shall be located not less than two (2) feet below the lowest inlet to the flue.

12/03/1999 10:19 401886852

EG PUBLIC WORKS

PAGE 89

CHAPTER 9

ONE AND TWO FAMILY DWELLING CODE
EXCEPT AS NOTED

Section R-913 - Chimney Clearance

Wood beams, joists, headers and studs shall not be placed within two (2) inches from the outside face of a masonry chimney built partially or entirely within the dwelling. Masonry chimneys built entirely outside the dwelling may be placed one (1) inch minimum from combustible material.

Section R-914 - Chimney Firestopping

All spaces between masonry chimneys and wood beams, joists, or headers shall be firestopped by placing noncombustible material to a depth of one (1) inch at the bottom of such spaces.

Section R-915 - Factory-Built Chimneys

Factory-built chimneys shall conform to section M-1617.

Section R-916 - Fireplace Walls

Masonry fireplaces shall be constructed of solid masonry units, stone, or reinforced concrete in accordance with Figure No. A-9. Where a lining of firebrick at least two (2) inches in thickness or other approved lining is provided, the total thickness of back and sides, including the lining, shall be not less than eight (8) inches. Where no lining is provided, the thickness of back and sides shall be not less than ten (10) inches.

Section R-917 - Steel Fireplace Units

Steel fireplace units incorporating a firebox liner of not less than one-fourth (1/4) inch in thickness and an air chamber may be installed with masonry to provide a total thickness at the back and sides of not less than eight (8) inches, of which not less than four (4) inches shall be of solid masonry. Warm air ducts employed with steel fireplace units of the circulating air type shall be constructed of metal or masonry.

Section R-918 - Lintels

Masonry over a fireplace opening shall be supported by a lintel of non-combustible material.

Section R-919 - Hearth Extension (Material)

Masonry fireplaces at or near the floor level shall have hearth extensions

of brick, concrete, stone, tile or other approved noncombustible material properly supported or reinforced to carry its own weight and all imposed loads. Combustible forms and centers used during the construction of hearth and hearth extension shall be removed after the construction is completed.

Section R-920 - Hearth Extension

Hearth extensions shall extend at least sixteen (16) inches in front of, and at least eight (8) inches beyond each side of fireplace opening. Where the fireplace opening is six (6) square feet or larger, the hearth extension shall extend at least twenty (20) inches in front of, and at least twelve (12) inches beyond each side of the fireplace opening.

Section R-921 - Fireplace Clearance

Wood or combustible framing shall not be placed within two (2) inches of outside face of masonry fireplace and not less than six (6) inches from inside surface of nearest fire lining. Wood framing and other combustible material shall not be placed within two (2) inches of the back surface of a masonry fireplace.

Section R-922 - Fireplace Firestopping

All spaces between masonry fireplaces and wood beams, joists or trimmers shall be firestopped by placing noncombustible material to a depth of one (1) inch at the bottom of such spaces.

Section R-923 - Combustible Materials

Woodwork or other combustible materials shall not be placed within six (6) inches of a fireplace opening. Combustible material within twelve (12) inches of the fireplace opening shall not project more than one-eighth (1/8) of an inch for each inch distance from such opening.

Section R-924 - Factory-Built Fireplaces

Factory-built fireplaces that consist of a fire chamber assembly, one (1) or more chimney sections, a roof assembly and other parts so tested and listed as an assembly by a nationally recognized testing laboratory may be installed when complying with all of the following provisions:

1. The fire chamber assembly is installed to provide clearance to combustible materials not less than set forth in the listing.
2. The chimney sections are installed to provide clearance to combustible material not less than specified in the listing and if the fireplace

ONE AND TWO FAMILY DWELLING CODE

chimney extends through floors and ceilings, factory-furnished firestop or firestop-spacers shall be installed. Portions of chimneys which extend through rooms or closets are to be enclosed to avoid personal contact, contact of combustible material, and damage to the chimney.

- Hearth extensions shall be not less than three-eighths (3/8) inch thick asbestos, hollow metal, stone, tile or other approved noncombustible material. Such hearth extensions may be placed on combustible subflooring or finish flooring. The hearth extension shall be readily distinguished from the surrounding floor.
- Hearth extensions shall extend not less than sixteen (16) inches in front of and at least eight (8) inches beyond both sides of the fireplace opening.
- Factory built fireplaces shall be installed according to manufacturers specifications.

Section R-925 - Factory - Built Fireplace Stoves

Factory-built fireplace stoves, consisting of a free-standing fire chamber assembly, that have been tested and are listed by a nationally recognized testing laboratory, may be installed, in accordance with the requirements of said listing.

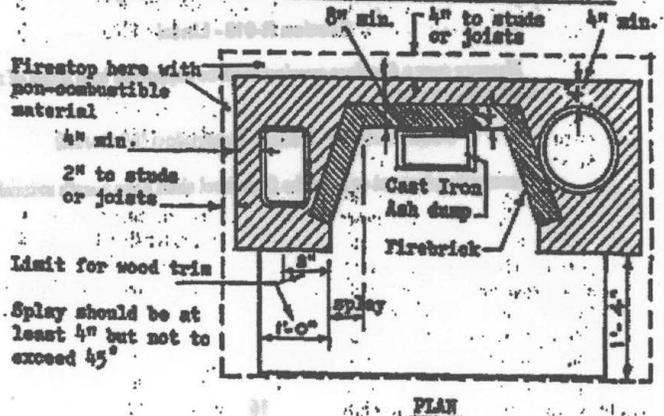
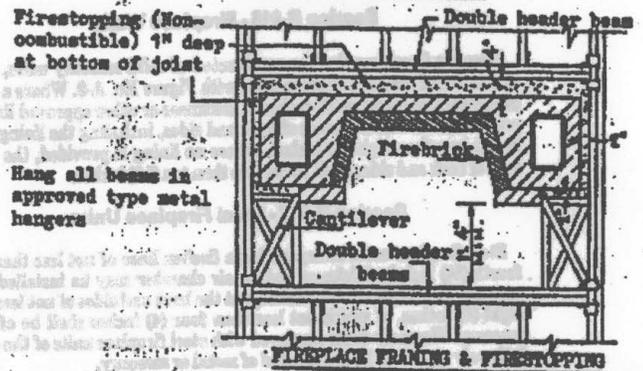
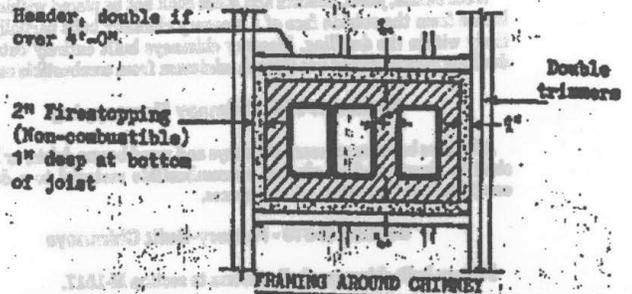
THE FOLLOWING EXCERPTED FROM THE BOCA BASIC MECHANICAL CODE

SECTION M-703.0 MASONRY CHIMNEYS FOR RESIDENTIAL-TYPE APPLIANCES

M-703.2.1 Fire-clay flue liner shall be installed ahead of the construction of the chimney as it is carried up and carefully bedded one on the other in refractory mortar (ASTM C105, medium duty), or the equivalent, with close fitting joints left smooth on the inside.

M-703.2.2 Liners shall be separate from the chimney wall and the space between the liner and masonry shall not be filled; only enough mortar shall be used to make a good joint and hold the liners in position.

FRAMING DETAILS



**TYPICAL FIREPLACE STOVE
COURTESY OF HEARTH MATE**

Refer to: **SECTION 2, CHAPTER 9, (sec. R-925)**

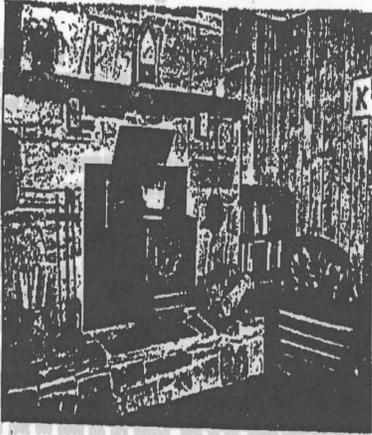


FIGURE 9.

In no case can a stove be connected to a fireplace chimney unless the fireplace opening is securely sealed with metal plate or other approved material. The sealed fireplace must be provided with a close-out door.

FACTORY BUILT METAL CHIMNEYS

See Section 2, (R-915)

These chimneys when tested and listed by Underwriters Laboratories, Inc. for their safety when installed according with the manufacturers installation instruction may be used to vent solid fuel heating appliances (Wood and Coal Stoves).

Some types of factory built chimneys have been tested from 1000°F to 1400°F and as much as 1700°F for only 10 minutes while other types have been tested to 2300°F. It is therefore important to select a chimney type that will give you the most protection.

Should you have a chimney fire, the inside flue gas temperature can go as high as two thousand and more degrees. This is hot enough to cause irreplaceable damage. In the event of a chimney fire, extensive damage can be done to the chimney. It is quite possible for you to have a chimney burn out without realizing it, or without knowing that damage has been done to the chimney. This is why frequent inspections and cleanings are important. A hot chimney fire could result in the chimney being damaged to such an extent that it would have to be completely dismantled and replaced which, needless to say could be expensive. If this is not monitored properly you could be operating an unsafe chimney which transfers heat to adjoining combustible materials setting the house on fire.

WOODBURNING STOVE SAFETY PRECAUTION CHECKLIST

Everyone realizes that woodstoves are designed to radiate intense heat, what they seem to forget is that sometimes this heat can be dangerous. It can possibly start fires if installed to close to walls or furniture, so this checklist of safety tips has been compiled for your convenience.

1. Never start your fire with any type of flammable liquid.
2. Never burn toxic material like vinyl, cloth or plastics or any foreign materials in your stove.
3. You should burn your stove hot for at least 1/4 to 1/2 of an hour each day. This will help limit the buildup of creosote in the stovepipe.
4. Do not burn all green wood. If you have to burn green wood it should be mixed with some dry wood.
5. Before opening the door on your stove be sure the drafts are open, this will help prevent back puffing and gases from entering the room.
6. Keep kindling wood and logs at least 3 feet from the stove.
7. Never stack newspaper in the vicinity of a wood stove.
8. You should not keep more than 10 days of firewood in your home. This will prevent bugs that might emerge when wood thaws to room temperature.
9. Never install your stove closer than 3 feet to any mouldings, doors or windows. If this is not possible, protection is required. Consult this booklet.
10. Keep all furniture, draperies, etc. at least 4 feet from your stove.
11. Always keep clothing like boots, shoes, mittens, hats and coats at least 3 feet from the stove.
12. Never place wet clothing on the stove in order to dry them. They could catch fire in an instant.
13. Do not allow unsupervised children to operate stove.
14. Make sure baby-sitters and non-family members have specific instructions about operation of your stove.
15. In modern air tight houses, wood stoves over a short period of time burn the oxygen and moisture from the house and furnishings. These must be replaced. To replace oxygen, open a door or window occasionally. Moisture can be replaced by keeping a water filled kettle on stove or by using a humidifier.
16. Many stoves have bolted construction and after operation, develop open seams, this can be dangerous especially the smoke chamber area as flue gases can escape into the room. Stoves should be inspected periodically and repaired.
17. It is advisable that a smoke detector be installed in the house.
18. It is advisable also that a fire extinguisher be kept near by.

17. In case of a chimney fire, when you are awakened, make certain the fireman to arrive, you can help by closing the stove draft louvers.

20. Make it a habit, the last thing before going to bed or leaving the house, CHECK YOUR STOVE!!

21. Think safe! Get ahead of the fire, don't let a fire get ahead of you! Fires start in many ways -- NOW is the time to instruct your family members on what to do and how to evacuate the premises in case of a fire. Periodically hold fire drills, make sure all pets are evacuated, instruct all family members in the safe operation of your fire extinguishing equipment. Make sure you have a second means of egress from all rooms or areas, once out of the premises do not go back in for clothing or papers, etc.

WOOD ASHES WHAT TO DO WITH THEM

The chief by-product of heating with wood has many uses. A cord of wood produces about fifty pounds of ashes and an inevitable question: What are we going to do with them?

Though ashes from different types of wood vary slightly in their chemical composition, the ideas described below will work for all kinds. The only way to improve quality is to sift them.

Some stoves produce ashes which contain chunks of charcoal and other debris. These larger bits can be removed with a simple after made of half-inch chicken wire.

1. **FERTILIZER.** Wood ashes are composed of 50 to 75 percent lime, so if you have a large stove and a small garden, you may never need to buy lime again. In addition, ashes contain phosphorus, potash and other trace elements that are good for the garden. Best of all, ashes used for this purpose can be spread in the middle of winter. Just take them to the garden area and sprinkle them as evenly as possible on the snow. Come spring, they'll sink into the soil as the snow melts.
2. **COMPOST HELPER.** Ashes are a good way to neutralize the acidic conditions in the compost heap. Spread a fine layer on top of the compost whenever you turn the pile.
3. **INSECT REPELLENT.** During bug season, ashes can be used to repel insects in the garden. Encircle the tomato plants or spread them in long low mounds beside the row crops. Slugs and snails are especially reluctant to storm these barricades and other insects are discouraged by them.
4. **FIRE EXTINGUISHER.** Ashes, of course, are the residue from a fire and cannot be burned. A large quantity, dumped on a fire that is burning out of control, will smother the fire without damaging the stove. Granted, it's a messy method but it will work in a pinch.

FOR THE EXTENSION SERVICE OF THE UNITED STATES DEPARTMENT OF AGRICULTURE
COOPERATION OF THE NATIONAL EXTENSION SYSTEM
NATIONAL EXTENSION SERVICE

12/83/1999

10:13

401888652

EG-PUBL-IC WORKS

PAGE 13