

Floor protection for listed appliances shall be installed in accordance with the terms of the listing.

A manufactured floor protector or hearth extension product which has been tested and listed for the type of installation desired shall be installed in accordance with the terms of the listing.

Floor protection for unlisted appliances shall be provided by one of the following methods:

1. If there is 6" or more clearance between the bottom of the appliance and the floor protection, the floor shall be protected by at least a sheet of 1/4" asbestos mill-board or 1/2" cement asbestos board or equivalent, covered with a continuous sheet of 24 gage sheet metal.
2. Where there is less than 6" of clearance between the bottom of the appliance and the floor protection, the floor shall be protected with 4"-thick hollow masonry units arranged with the holes aligned to allow free air circulation through the floor protector. The hollow masonry shall be covered with 24 gage sheet metal. Unlisted appliances shall have at least 2" of clearance between the bottom of the appliance and the floor protection.

Any of the preceding hearth extension assemblies for protecting the floor may be covered with a noncombustible tile, slate, masonry product, or other noncombustible material for a decorative appearance.

The minimum dimensions of the floor protection are:

- 18" beyond a door or opening
- 12" beyond the rear
- 12" beyond the sides

If a reduced clearance to the wall is used, extend the hearth assembly all the way back to the wall.

When installing a zero clearance fireplace, a 4"-wide piece of 26 gage metal shall be centered under the joint between the hearth extension and the front of the firebox.

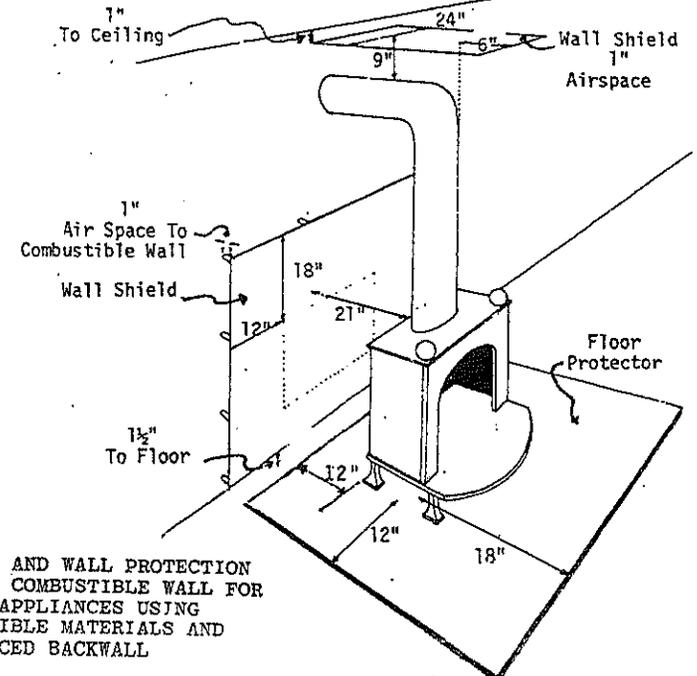
Wall Protection - Reduced Clearance

In most cases, the walls of your home are constructed of combustible material. Wood studs covered with plasterboard is considered a combustible assembly. It is only a matter of time in proportion to the amount of heat applied before pyrolysis occurs in the wood framing. This can often result in spontaneous combustion if oxygen is present. It should be obvious, then, that the clearances specified in the terms of the listing, in the case of listed appliances, and the 42" specified for unlisted radiant wood heating appliances, are extremely important. Air spaces and air circulation are the best protection available. For this reason, it should also be obvious that applying brick, tile, cement asbestos board, or other noncombustible materials directly to the surface of a combustible wall will not provide adequate protection. The dense, noncombustible material will conduct the heat right through to the wall. Pyrolysis can still occur.

Where it is desirable to reduce the distance (clearance) from the appliance to a combustible wall, one of the following methods of protection must be employed:

1. A listed wall shield may be installed in accordance with the terms of the listing. This will normally include an air space between the wall and the shield.

2. Listed appliances shall be installed with the clearances specified in the terms of the listing. If a reduced clearance provision using a protective shield is not specified in the terms of the listing, Table B (page 10) shall be used, starting with the listed clearance. If the listed clearance is not found in Table B, then start with the next clearance that is more restrictive.
3. A wall shield may be constructed of masonry units provided it is spaced out from the existing wall at least 1" and the framing below is adequate to carry the added weight. Wall ties must be used to hold the masonry wall in place. Leave each vertical joint open at the top and bottom for air circulation.
4. A wall shield may be constructed using the clearances and materials specified in Table B. A minimum air space of 1" is required, regardless of the material used. Final clearances are measured from the outer surface of the appliance to the original wall surface. Again, provide openings at the top and bottom for air circulation.
5. A wall shield may be approved by the Building Official when constructed of materials other than those found in Table B, provided the material is noncombustible and equal in strength, heat transmission and durability to the materials specified in Table B. A minimum air space of 1" is required, regardless of the material used. Maintain the 1" openings at the top and bottom and terminate the shield 1 1/2" from the floor or ceiling.



PROPER FLOOR AND WALL PROTECTION CLEARANCES TO COMBUSTIBLE WALL FOR UNLISTED APPLIANCES USING NONCOMBUSTIBLE MATERIALS AND AIRSPACED BACKWALL

REQUIRED CLEARANCE WITH NO PROTECTION
FOR UNLISTED APPLIANCES (inches)

TABLE A

APPLIANCE	Above Top (Ceiling)	From Front (Wall)*	From Back (Wall)	From Sides (Wall)	Closest Point 45° Angle**
Room Heater, Circulating	42	30	21	21	21
Room Heater, Radiant	42	42	42	42	36
Cook Stove	42	42	42	Firebox Side 42 Opposite Side 24	N/A
Chimney Connector (Stovepipe)	18" minimum or 3 times the diameter of the chimney connector (stovepipe).				

* Side with fuel-loading or ash removal door.
 ** See discussion and drawing - Corner Installation, page 17
 NOTE: When installing an appliance adjacent to a noncombustible wall, maintain at least 4" clearance for proper operation of the appliance.

TABLE B

REDUCED CLEARANCE WITH WALL SHIELDS*

WHERE REQUIRED CLEARANCE** WITH NO PROTECTION IS:									
42 inches	36 inches	30 inches	24 inches	18 inches	12 inches	9 inches	9 inches	9 inches	9 inches
From Wall Ceiling	From Wall Ceiling	From Wall Ceiling	From Wall Ceiling	From Wall Ceiling	From Wall Ceiling	From Wall Ceiling	From Wall Ceiling	From Wall Ceiling	From Wall Ceiling
21	18	18	15	15	12	12	9	9	9

*Does not apply to side with fuel-loading or ash removal door

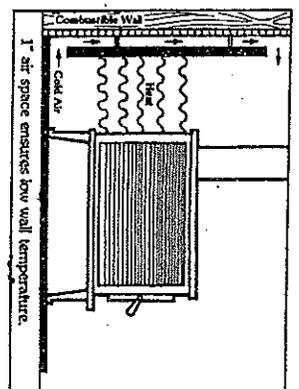
**Clearance from appliance or chimney connector (stovepipe)

UNLISTED WALL SHIELDS:

- (a) 4" of solid masonry spaced out 1" from the combustible wall surface. Joints struct flush on the back surface
- (b) 7/8" portland cement plaster on expanded metal lath and metal studs spaced out 1" from the combustible wall surface
- (c) 1/4" asbestos millboard spaced out 1" from the combustible wall surface
- (d) 1/4" asbestos cement board spaced out 1" from the combustible wall surface
- (e) No. 28 standard gage sheet steel spaced out 1" from the combustible wall surface
- (f) Any wall shield accepted by the Building Official in accordance with Item 5, page 9, spaced out 1" from the combustible wall surface

NOTE: In the construction or installation of any of the wall shields discussed above, care should be taken to utilize noncombustible adhesives, fasteners and facing materials.

The dimensions of the wall shield should be extensive enough to stop heat radiated at an angle, as well as directly behind the appliance. The minimum dimensions are as follows: (see sketch on page 9)



- 12" horizontally beyond the side of the appliance.
- 18" vertically above the top of the appliance
- 30" beyond the opening to the fire chamber on an appliance with a side-loading door when the appliance is placed closer than 36" to the shielded wall

It may be necessary to continue the shield further up the wall, as noted in the discussion of chimney connectors.

Chimney Connectors

Chimney connectors, often called stovepipe, are lengths of steel pipe, not less than 24 gage, used to connect the appliance to the chimney. These single-wall pipe connectors can become extremely hot, and are therefore required to have at least 18" clearance to combustibles. NOTE: Because of the high heat factor, galvanized metal and aluminum are prohibited.

Where it is necessary to penetrate a combustible wall to connect to a chimney of any type, a listed wall penetration component shall be used to protect the combustible assembly. The listed wall penetration component shall be installed in accordance with the terms of the listing.

Where it is necessary to reduce the clearance of a chimney connector to combustibles, the installation may be accomplished by using a listed insulated pipe or by using a wall shield similar to that used between the appliance and the wall. The shield must extend the full height of the pipe, even onto the ceiling if the connector turns and runs parallel to the ceiling with less than 18" clearance. The width of the shield shall be at least 3 times the diameter of the connector.

A manufactured wall shield designed to be attached to the chimney connector may be used provided it is constructed of at least 24 gage sheet metal and mechanically attached with noncombustible spacers designed to provide a minimum of 1" free air space between the shield and the connector.

A chimney connector shall be as short and straight as possible, and shall be securely supported. All joints shall be fastened with a minimum of 3 sheet metal screws, rivets, or other approved fasteners, equally spaced around the circumference. The appliance shall be located as close as practicable to the chimney. It is recommended that a slip joint be used in order to make it possible to "shingle" all pipe joints downward on the inside to prevent creosote bleeding along the connector or chimney.

Due to the critical temperature levels that must be maintained in the connector and the chimney in order to properly convey flue gases to the outside and limit creosote build-up, the installation of chimney heat exchangers shall be prohibited in a chimney connector or chimney serving an airtight appliance.