

Township Of West Milford

DEPARTMENT
OF BUILDING SAFETY

1480 Union Valley Road • West Milford, NJ 07480 • Tel:(973) 728-2780 • Fax: (973) 728-2843

Woodstove Installation Guide

1. This handout is based on the 1996 BOCA Building Code and the 1993 BOCA Mechanical Code for single-family dwellings. This is only a guide and cannot cover every situation that you may encounter.
2. Permits are required for woodstoves and pellet stoves.
3. A drawing showing wood stove or pellet stove's location, clearance to combustibles and type and size of floor protection.
4. A copy of the manufactures installation instruction must be provided to the Building Department before a permit can be issued.
5. For woodstoves, the manufactures listed clearances to combustibles must be used. If installation instructions are not available minimum clearances listed in this handout are to be used.
6. For pellet stoves, manufacturers installation instruction must be available at time of installation and must be followed.
7. Required Inspections:
 - **Rough**- Rough inspections are required if any part of the vent pipe is to be concealed – **Fire Protection Inspector**
 - **Final**- Final inspections are required after everything has been completed – **Fire Protection Inspector**
8. Call (973) 728-2780 between 8:30 am and 4:30 pm Monday through Friday to schedule inspections. Please give at least one business days notice when calling for inspections. Building inspections are done Monday through Friday and Fire Protection Inspections are done Monday, Wednesday and Friday.
9. Smoke detectors are required on each level, including basement, and in the vicinity of each sleeping area.

Woodstoves

Clearances to combustibles-Clearances to combustibles, including furnishings. Front- 36", Sides- 36" Back- 36"- (Figure 1). Drywall (Sheetrock) is considered a combustible material- (Figure2). Plaster, while not considered a combustible material, does not provide the required protection for the framing behind and required clearances must be followed. (NFPA 211 9-6.2.1)

Where a vent pipe passes through a combustible wall or ceiling an insulated thimble listed by a recognized testing laboratory and installed in accordance with the installation instructions shall be used.

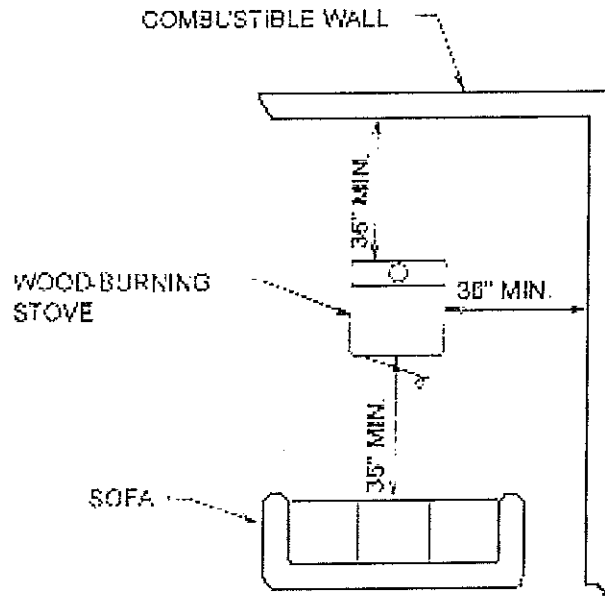


Figure 1
Clearance to Combustibles

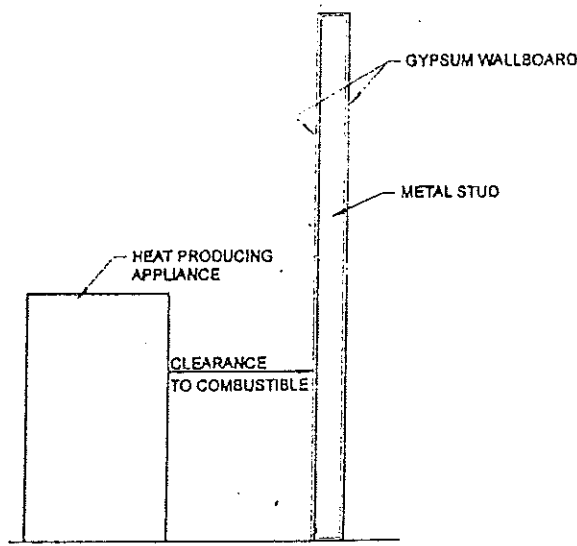


Figure 2
Measuring Clearance to Combustibles

- **Clearance reductions** – One of the following methods may be used to reduce clearance to combustibles. (Figures 3,4,5,6,7,8)

Type of Protective Assembly	Reduced Clearance With Protection	
	Required Clearance W/O Protection	
	36"	18"
Galvanized sheet metal (24 Gauge) spaced 1" off the combustible assembly.	12"	6"
2 Layers of galvanized sheet metal (24 Gauge) having a 1" air space between layers, spaced 1" off combustible assembly.	12"	6"
2 Layers of galvanized sheet metal (24 Gauge) having 1" fiberglass insulation between layers, spaced 1" off combustible assembly.	12"	6"
½" inorganic insulation board, over 1" of fiberglass or mineral wool insulation, against combustible assembly.	18"	9"
3 ½" brick wall, spaced 1" off the combustible wall.	12"	6"
3 ½" brick wall, against combustible wall.	24"	12"

Figure 3
Clearance Reduction Table

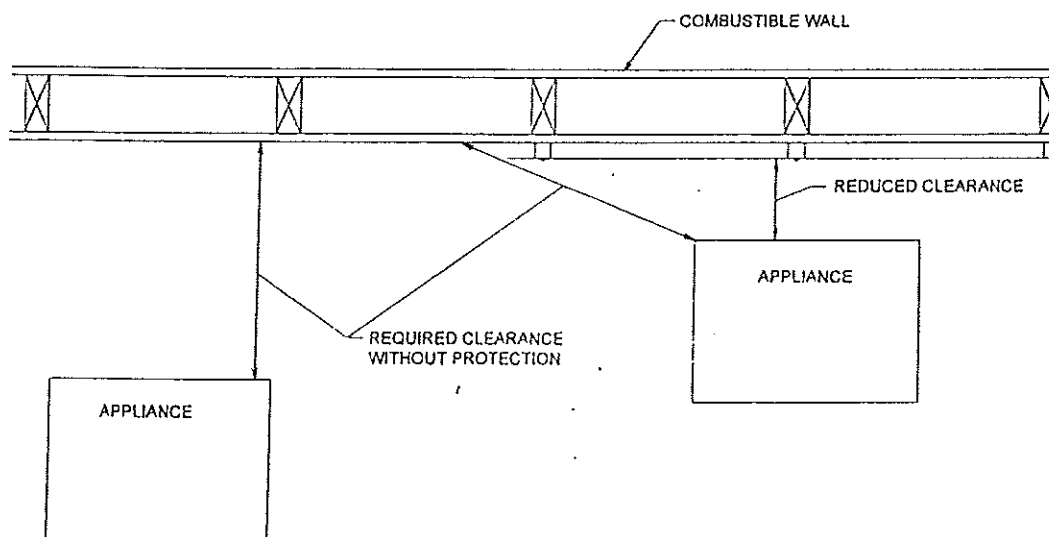


Figure 4
Clearance Reduction

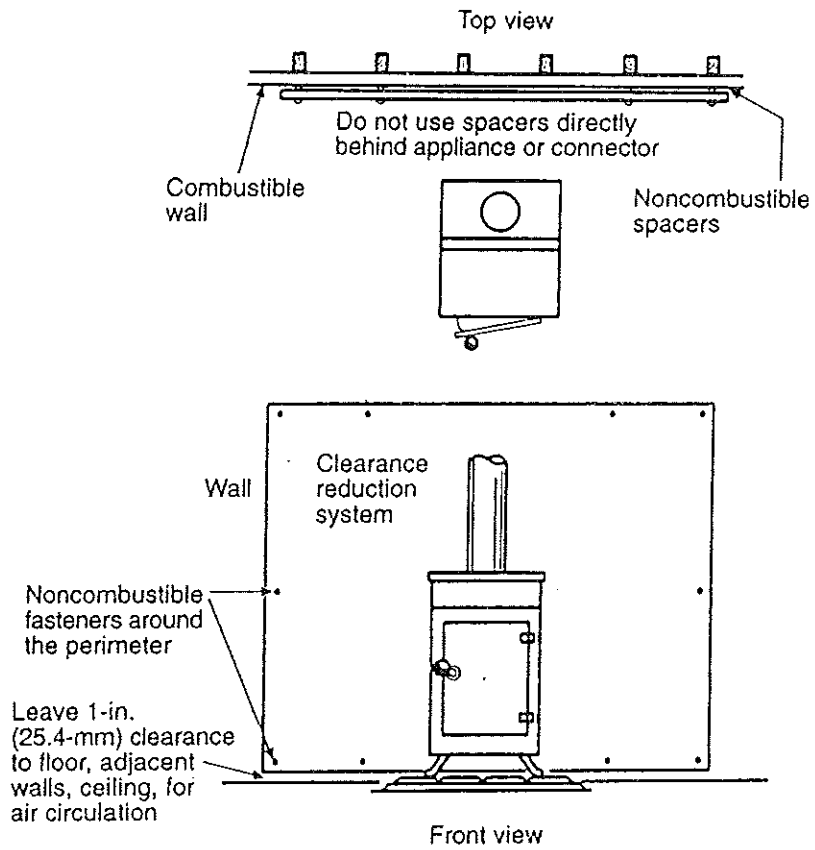
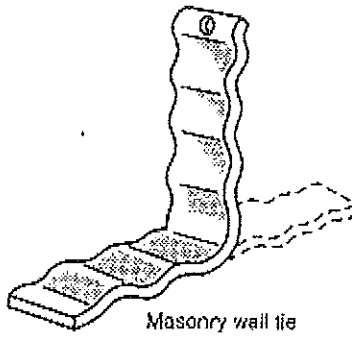
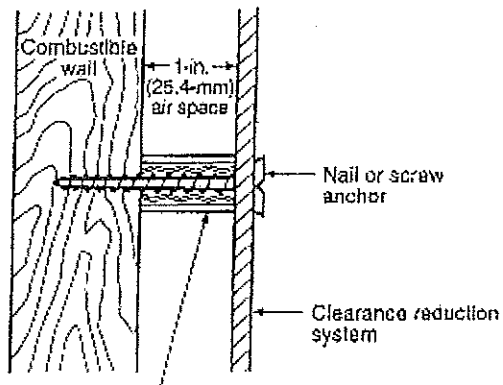


Figure 5
Clearance Reduction Installation



Masonry wall tie



1-in. (25.4-mm) noncombustible spacer such as stacked washers, small diameter pipe, tubing, or electrical conduit.

Masonry walls can be attached to combustible walls using wall ties. Do not use spacers directly behind appliance or connector.

Figure 6
Clearance Reduction System Spacers

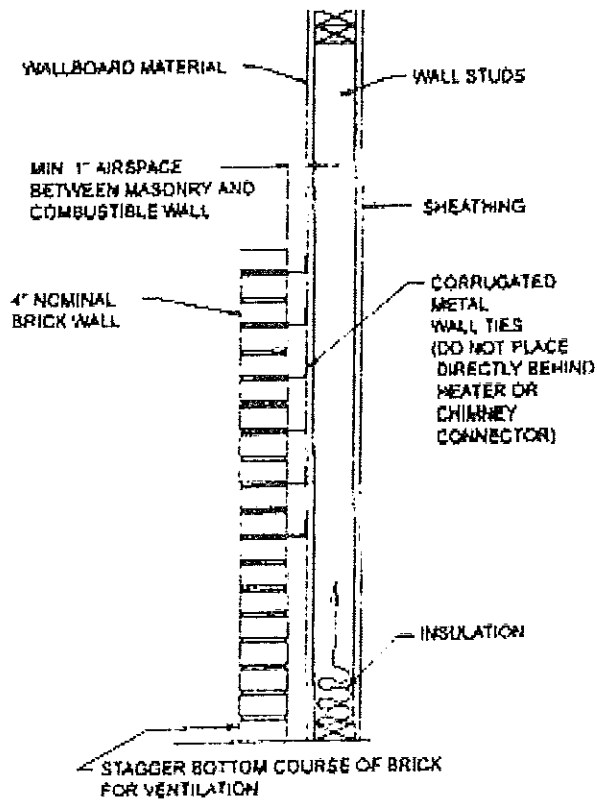
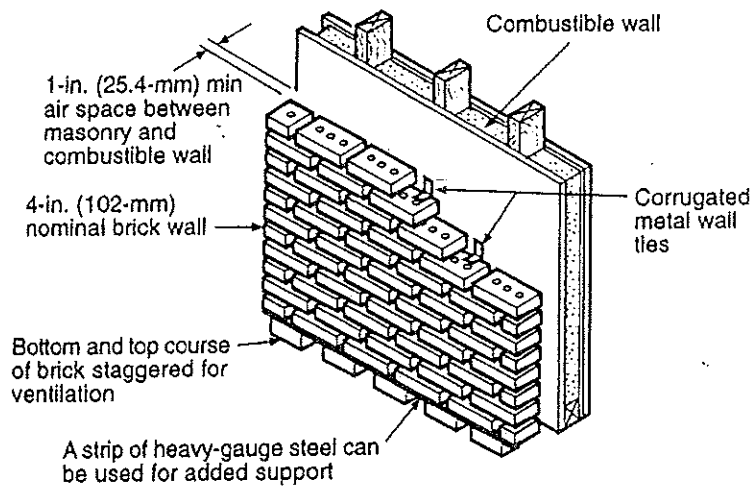


Figure 7
Brick Clearance Reduction



Note: Do not place masonry wall ties directly behind appliance or connector

Masonry clearance reduction system

Figure 8
Brick Clearance Reduction

- **Floor protection**-Floor protection, of one of the following types, must be provided.
 - Concrete base adequately supported on compacted soil, crushed rock or gravel, may be used without any additional protection, provided combustible floor coverings are not installed within 18" of the woodstove. (NFPA 211 9-5.1.1.1)
 - Woodstoves set in legs or pedestals with not less than 6" ventilated open space beneath the fire chamber shall be permitted to be placed on floors of combustible construction, provided the floor under the appliance is protected with closely spaced solid masonry units not less than 2" in thickness. The top surface of the masonry shall be covered with sheet metal not less than 24 gauge. The floor protection shall extend not less than 18 in. beyond the appliance on all sides. (NFPA 211 9-5.1.2.2)
 - Woodstoves set in legs or pedestals providing 2" to 6" ventilated open space beneath the fire chamber shall be permitted to be placed on floors of combustible construction, provided the floor under the appliance is protected with one course of hollow masonry units not less than 4" in thickness. The masonry units shall be laid with ends unsealed and joints matched in such a way to allow air circulation through the cores spaces of the masonry. The floor protection shall extend not less than 18 in. beyond the appliance on all sides. (NFPA 211 9-5.1.2.2)
 - Woodstoves set in legs or pedestals with less than 2" ventilated open space beneath the fire chamber shall not be placed on floors of combustible construction. (NFPA 211 9-5.1.2.3)
 - In lieu of the requirements for floor protection specified herein, a floor protector listed by a recognized testing laboratory and installed in accordance with the installation instructions shall be permitted to be employed. (NFPA 211 9-5.1.1.3) (Figure 9)

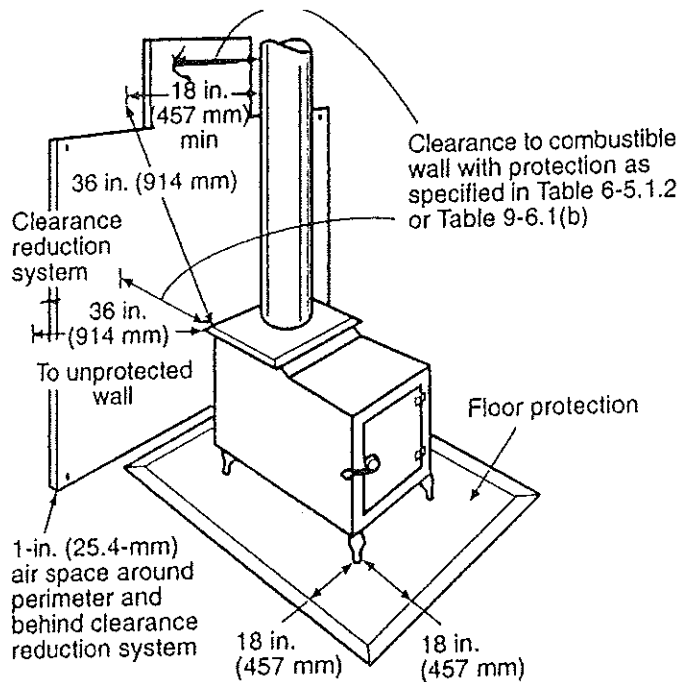


Figure 9 Floor Protection

- **Termination Height**-Chimneys shall terminate outdoors above the roof of the house. Chimney outlets shall be located a minimum of 3' above the highest point that the chimney penetrates the roof. Chimney outlets shall be a minimum of 2' higher than any portion of the building within 10'. (BOCA 2115.4) (Figure 10)

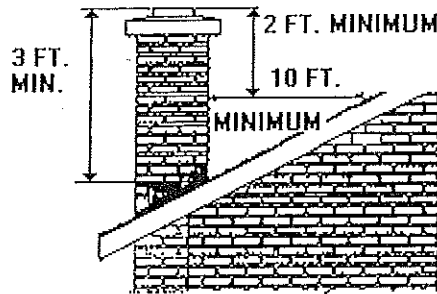
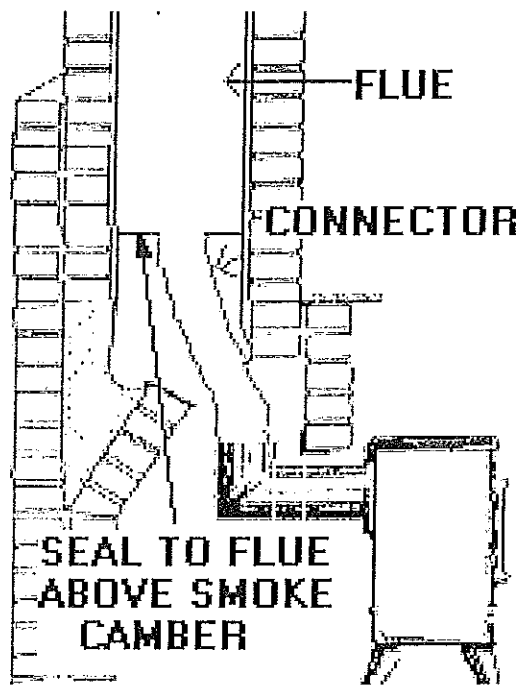
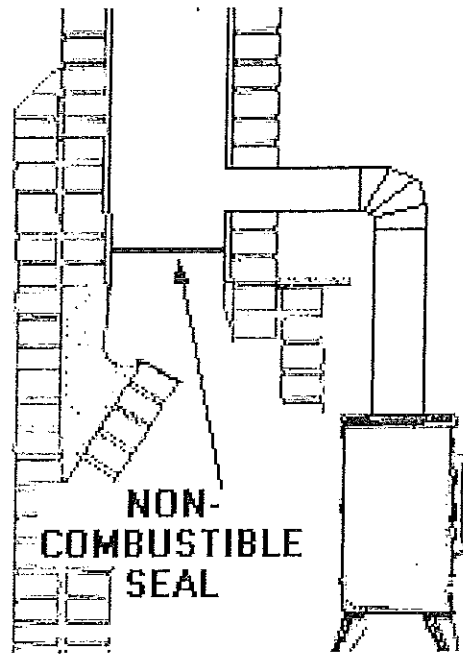


Figure 10
Termination Height

- **Connection to a masonry chimney**- The clearance of the chimney connector to combustibles shall be 18". Connectors and chimneys shall allow ready access for internal inspection and cleaning. The cross sectional area of the flue shall not be less than the cross sectional area of the woodstove's flue collar. A wood-burning stove shall not be connected to a flue serving any other appliance.
- **Connection to a Masonry Fireplace**- A woodstove shall be permitted to use a masonry fireplace flue where the following conditions are met:
 - a) There is a connector that extends from the woodstove to the flue liner.
 - b) The cross sectional area of the flue is not more than three times the cross sectional area of the flue collar of the stove.
 - c) If the stove vents directly through the chimney wall above the smoke chamber, there shall be a non-combustible seal below the entry point of the connector.
 - d) The installation shall be such that the chimney system can be inspected and cleaned.
 (NFPA 211 9-4.5) (Figure 11)



Connection through Fireplace



Connection through chimney wall

Figure 11
Connection to a Fireplace