

# Installation Instructions

## PermaBase® BRAND Cement Boards in Wall Protectors and Heat Shields

**UL APPROVED FOR  
HEAT SHIELD/WALL  
PROTECTOR PER  
ANSI/UL 1618 and ULC S632**

**PROTECTS  
COMBUSTIBLE WALLS**

**REDUCES REQUIRED  
CLEARANCE BY 40%**

**LIGHTWEIGHT &  
EASY TO INSTALL**

### WALL PROTECTOR/HEAT SHIELD

PermaBase® BRAND Cement Board and PermaBase PLUS® Cement Board are listed by Underwriters Laboratories, Inc., for use with UL-listed solid-fuel room heaters and fireplace stoves. Used as a wall protector/heat shield, PermaBase Cement Boards reduces by 40% the manufacturer-specified clearance (minimum 12") between the room heater or stove and a combustibile wall surface.

The heat shield made with PermaBase Cement Board can reduce the required clearance between a heat producing appliance and the wall by up to 40%, except where the clearance includes provision for access or ventilation.

Use the following equation to determine the minimum acceptable reduced clearance:

$$C_{mc} = C_{sc} \times (1 - Crp/100)$$

Where:

**C<sub>mc</sub>** is the minimum clearance after reduction,

**C<sub>sc</sub>** is the specified clearance on the heating appliance, and

**Crp** is the clearance reduction percentage

**INSTALLATION:** Furring is made by cutting a full PermaBase panel into 4" wide strips with carbide tipped saw or utility knife. Attach a double layer of furring strips to the wall studs using cement board screws which provide a minimum penetration of 3/4" into the framing.

When installing the panels, leave a 3" gap at the ceiling and 1" - 2" gap at the floor. Heat build-up is reduced by allowing air to enter and exit the cavity between the wall and the heat shield. **This air space is required for the proper functioning of the heat shield. Do not close or block these openings.**

Heat shield panels may be cut to required size using standard utility knife or power saw. Fasten the PermaBase panels to the studs with galvanized roofing nails or cement board screws spaced 8" o.c. Cement board screws must be long enough to penetrate into framing a minimum of 3/4". Do not install any nails or screws into the wall area directly behind the proposed location of the appliance.

The following details show the minimum wall-shield extension beyond the room heater or stove. The reduced clearances (minimum 12") with a wall shield of PermaBase cement board are shown below. Check the graph for the exact reduction you can make in the manufacturer's specified clearance.

### HEAT SHIELD INSTALLATION



- 1) Studs, 16" (400 mm) o.c.
- 2) Existing Gypsum Board
- 3) 2 layers 4" (100 mm) wide furring strips
- 4) PermaBase® Heat Shield
- 5) Joint Treatment
- 6) Fasteners spaced 8" (200 mm) o.c. maximum
- 7) 1-2" (25-50 mm) Clearance from floor

**PermaBase® heat shielding permits clearance reduction up to 40% of the manufacturer's suggested clearance.**

Wall protector cannot be used to reduce clearance in front of any loading or ash removal doors. Combustible material may need to be shielded from effects of chimney connector. A minimum clearance of 2" (50mm) is required between the chimney connector and heat shield.

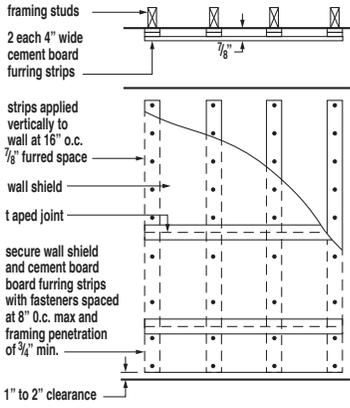
**FINISHING:** Prefill joints with polymer modified portland cement mortar, then immediately embed PermaBase® BRAND Tape and level joints. As an alternative, apply PermaBase Tape over the joints, then apply latex-fortified portland cement mortar, forcing it through the tape to completely fill and level the joints. All non-combustible finishes, such as ceramic tile, thin brick or stone can be applied over wall-shield.

**Do not apply combustible finishes such as wallpaper to cement board surface.**

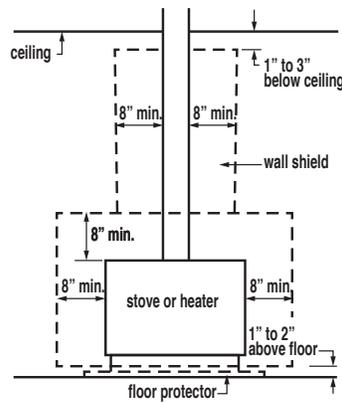
Products are available in several sizes:

- 1/2" thick, 3'X4', 5',6' and 4'X,4',8'
- 7/16" thick, 3'x5' and 4'x8'

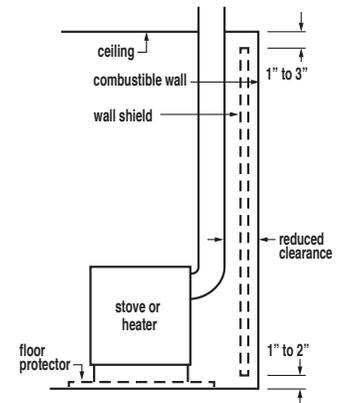
### Furred Wall Shield Installation



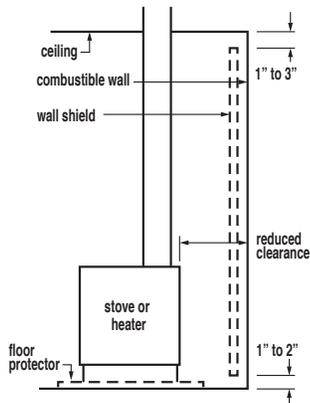
### Corner or Wall Installation



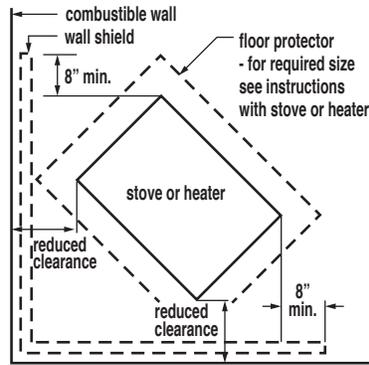
### Rear Flue Stove Installation



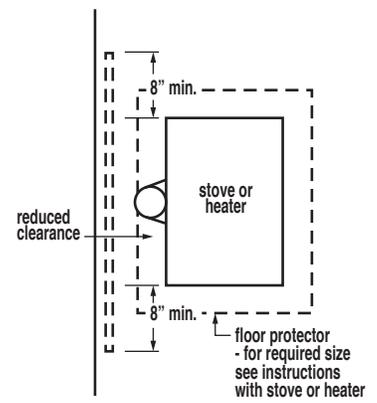
### Top Flue Stove Installation



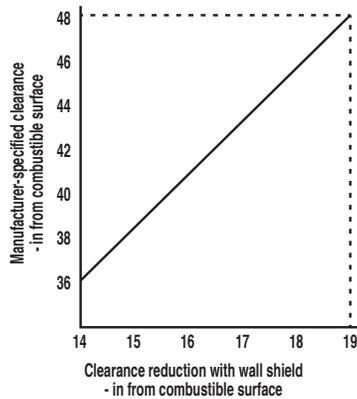
### Corner Installation



### Along The Wall Installation



### Stove to Wall Clearance



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