Masonry Stove
Builders

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Instructions for Finishing Heat-Kit Fireplace

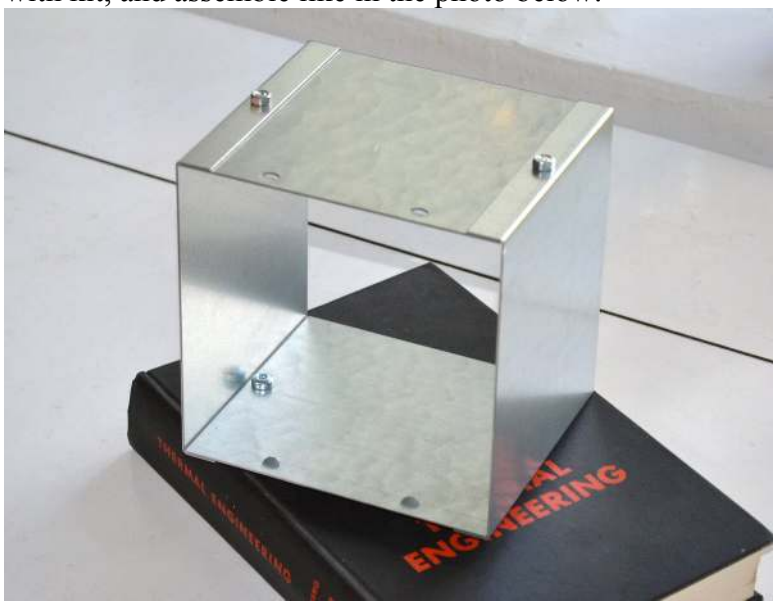
General

Heater is faced with approximately 5” of masonry. Typically this is 4” of brick and a 1” mortar slush between the facing and the core to provide a seal. Bricks are normally laid out to the nearst half brick, so this gap will vary.

Mortar for facing: Mortar should be fairly "soft" - masonry cement is O.K. Portland cement/lime mortar should only be used with a high lime ratio - 1:1:6 portland/lime/sand.

Cavity between back of facing and heater core should be **slushed solid** with mortar for good heat transfer. **IMPORTANT**: Do not to puncture the glass mat expansion joint material. Direct contact between the facing and the core in these areas can result in a cracked facing.

Cleanout doors:
Pisla cleanout doors come with an optional sheet metal install kit in a flat pack. Refer to drawing with kit, and assemble like in the photo below:



Note the punched tabs that stick out to the inside, and to the rear. You mortar in the install kit, let it set, and the cleanout (and ashbox, if used) doors push in and are locked in by the tabs. For airtight heaters, use silicone to seal the back of the cleanout door frame to your heater facing.

Chimney Connection - Use flue liner; simply make a solid connection between facing and chimney. Leave expansion joint above liner by laying in a fiberglass cutoffs from heater wrap, or a piece of cardboard. Liner should have about 8" of solid masonry above it.

Door Opening: Start door opening 1 - 1.5 courses above firebox floor. If facebricks are cored, fill cores solid around area of door opening. Steel lintel for facebrick must be set at same height or slightly higher than firebox lintel to allow firebrick heat shields to slide underneath.

Rough opening for doors is 18" wide x 20 - 21 ½" high. However, the actual opening width in face brickwork is 20 ¾". This allows for a 1 ¼" firebrick lining on the door jambs (This is to keep the facebrick from being exposed in the firebox). See photos on page 4 for lining doorjamb with splits. The 20 ¾" opening usually doesn't work out too well to the brick bond, so you have to do it carefully.

Angle iron lintel above door opening: be sure to provide room at the ends for expansion, otherwise the facing will crack. Best way is to put a bit of mineral wool or fiberglass insulation around the ends.

Sliding Shut-off Damper: Install in chimney high enough so kids can't reach and you don't hit your head on the handle (6 to 7 ft.). It should tilt slightly inwards (1/16”) so that any rainwater getting down the chimney and reaching the damper plate doesn't run into the room and stain the chimney.

Don't set flue liners directly on damper frame, or damper will eventually bind. Instead, corbel bricks above damper to make a ledge for the rest of the liners to sit on. It also helps to mortar in solid the first 6" of flue liner above damper, so that it can't slip down.

Alternatively, run steel bars above damper for flue liners to sit on, and then mortar solid the first 8" of liner above the damper.

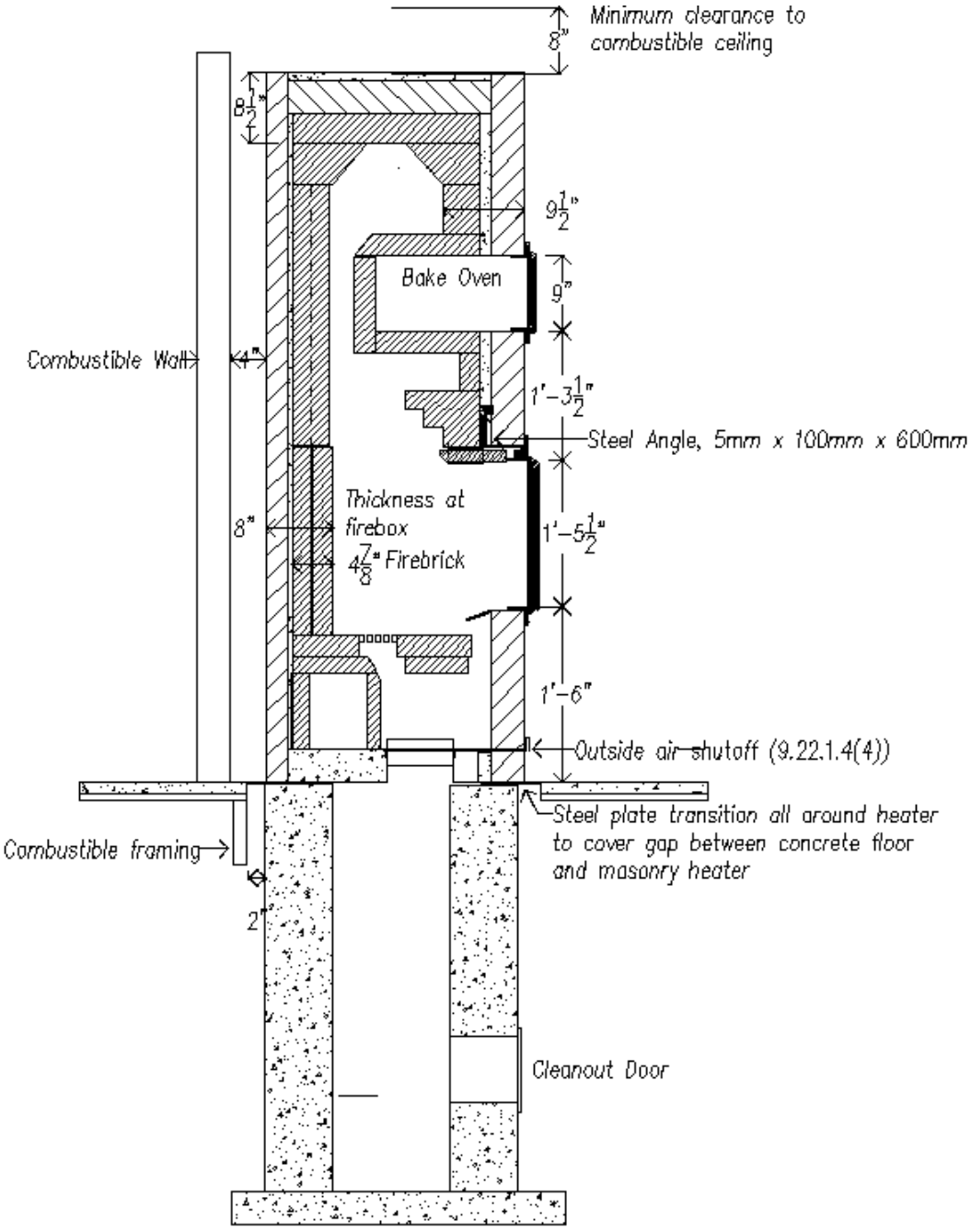


Figure 1 - Section through generic heater

Heater Top: (See Figure 1) Run facing past top of core a minimum of 4".

The core will lift up inside the facing when heated, so it is necessary to install a "**crushing zone**" above the core. This is simply 2" of soft vermiculite mix - 8 parts vermiculite to 1 part portand cement. Finish with a 3:1 vemiculite mix, within 1/2" of top. Finish off with a piece of expanded metal lath (provided) and a 1/2 inch mortar topping. If heater top shows and needs to be finished in brick, etc., raise height of facing accordingly.

Install Grate: set it in firebox floor opening.

Install Firebox Floor Slopes: These are two triangular pieces about 16" long. Set them in refractory mortar. The space between the front of the floor slopes and the facing is used to hold the 3" steel bar for the combustion air slot in place, see next item.

Combustion Air Slot: Refer to Figure 3, below. At the front of the firebox floor, you will see an air slot. Once the facing is on, take the 3" steel bar provided and use it to form the 1" x 14" combustion air supply. Air should exit the slot horizontally, aimed at the back of the firebox. Set the ends of the bar in place with castable refractory or regular mortar.

Install doors according to separate instructions provided below.

Chimney: Install a rain cap. Remove damper sliding plate while building chimney to avoid mortar droppings forming a mortar bridge at the damper. Be sure to clean dropped mortar from chimney cleanout before it hardens. Also check heater cleanouts for mortar droppings from core construction.

Installing the Sliding Chimney Damper

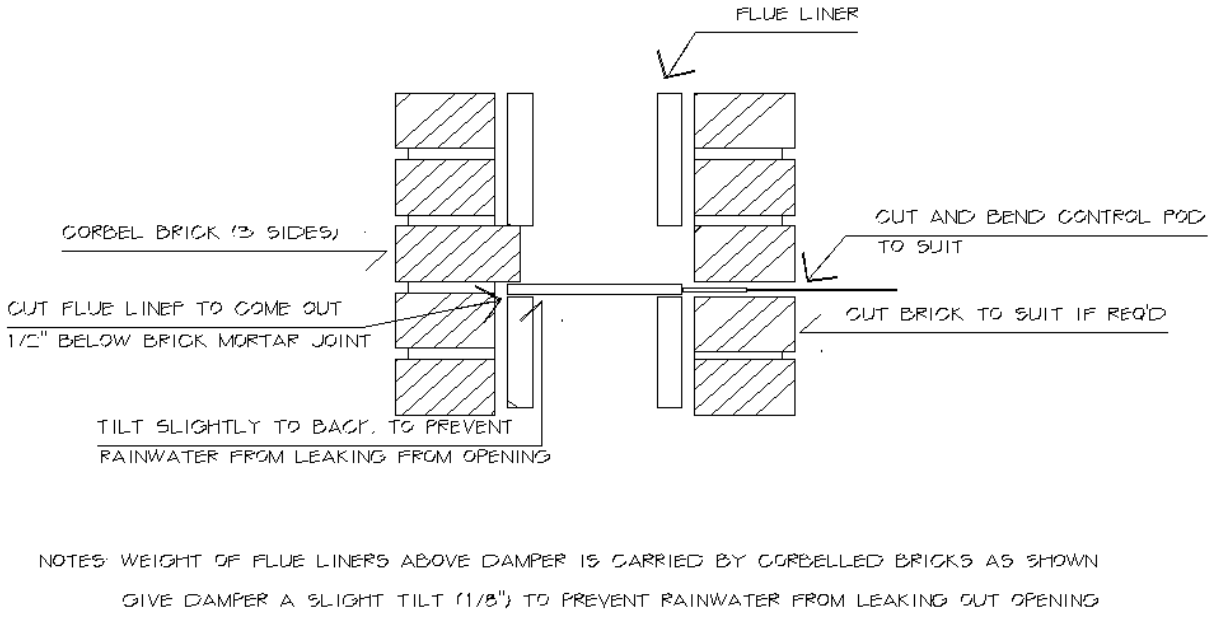


Figure 2

Installing Pisla HTT602 doors Doors

Discard the mineral wool strips and motorcycle spokes provided in the box.

Installing Door

Provide a rough opening of 22” wide X 16-1/2” high.
The angle iron lintel on the heater facing should be the same height as the angle iron lintel for the firebox. Refer to drawing below. For a brick facing, this may require pre-planning to come out at the right height with the bricks.

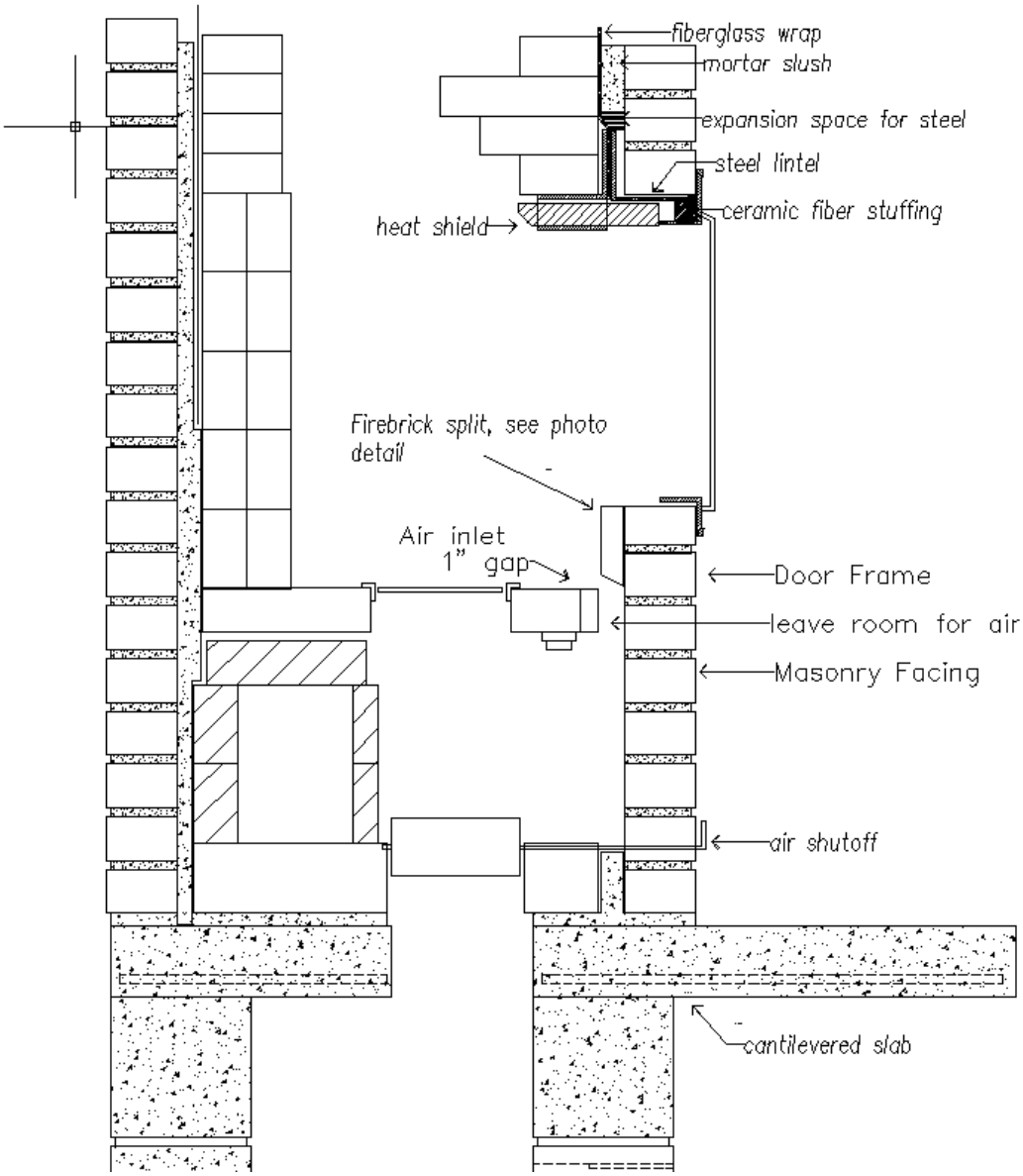


Figure 3.

View of bottom of door, from inside the firebox, showing air slot created with firebrick splits

Lay a 2 inch wide by 1/4" thick strip of mineral wool or ceramic fiber across the bottom of the door opening.

Have a helper hold the doors in place

Hammer drill 3/16” holes through door holes, into the facing, to the depth of the Tapcons. Drill the holes slightly inwards, to avoid coming too close to the outside face. This also helps to draw the doors tight to the face.

If needed, you can drill new holes into the door frame with a ¼” bit. The cast iron is soft and easy to drill. When using hard stone, for example, you may want to drill into a mortar joing instead of the stone. With some types of bricks, on the other hand, you may want to drill into the brick instead of the mortar joint.

Using a 5/16" socket and ratchet, screw in the Tapcons provided. Leave them a little loose.

Using a level across the top of the door frame, tighten them in the proper sequence to the keep the door frame level.

Pack gap between bricks and door frame (inside firebox) tightly with the ceramic wool provided.

Install firebrick split heat shields by sliding into guides on firebox lintel. Slide forward until they touch door frame. The heatshield bricks on either end require a notch to clear doorjambs.30330

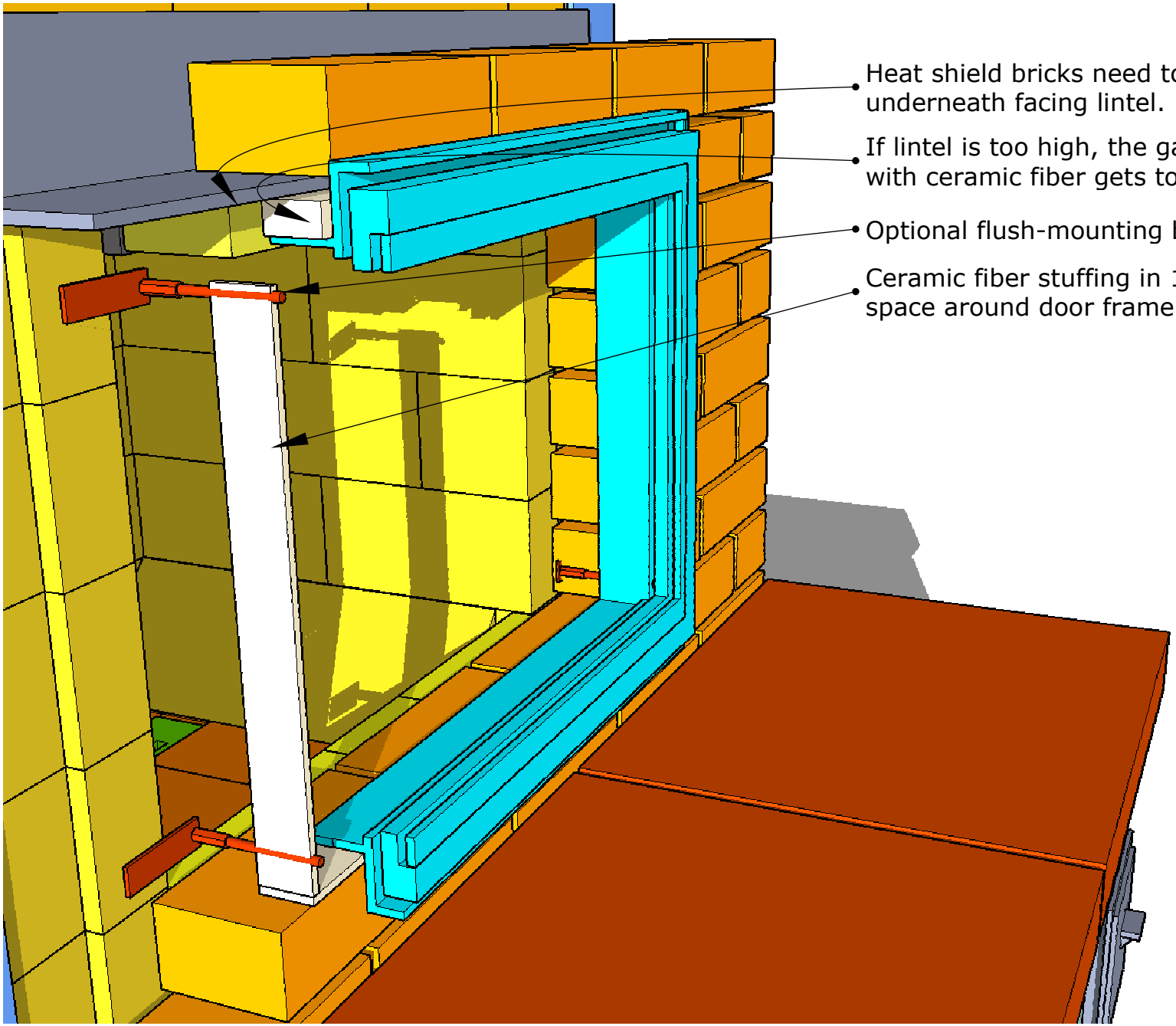
Figure 3. Location of heat shield bricks relative to door.

Installing Bakeoven Door

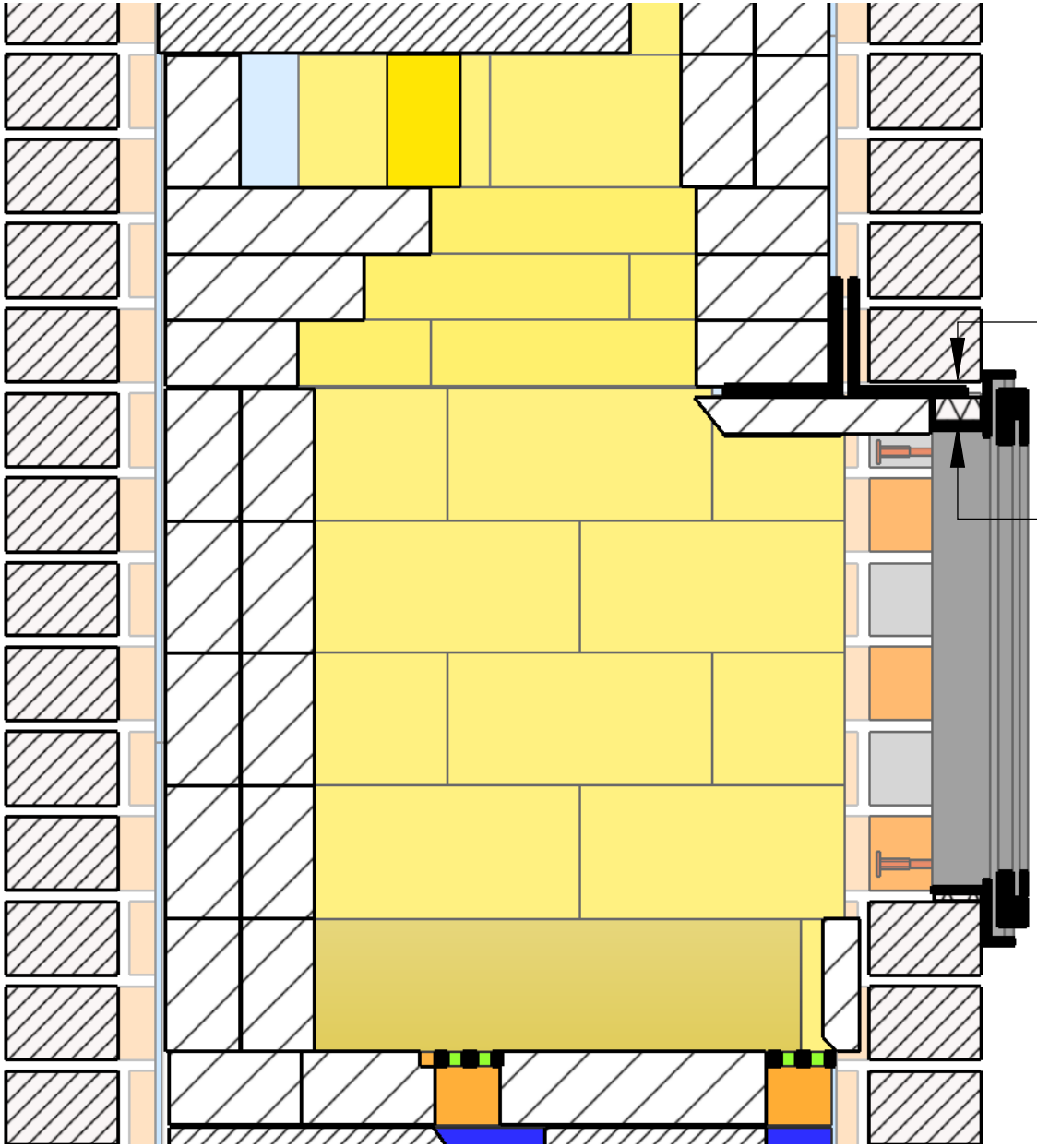
The bakeoven door is held in place with a ¼" Tapcon on either side of the frame. No firebrick splits are required on the doorjambs, as they are with the firebox door. Stuff the space between the frame and the doorjamb bricks with the white ceramic fiber supplied.

Firebrick Split Heatshields:

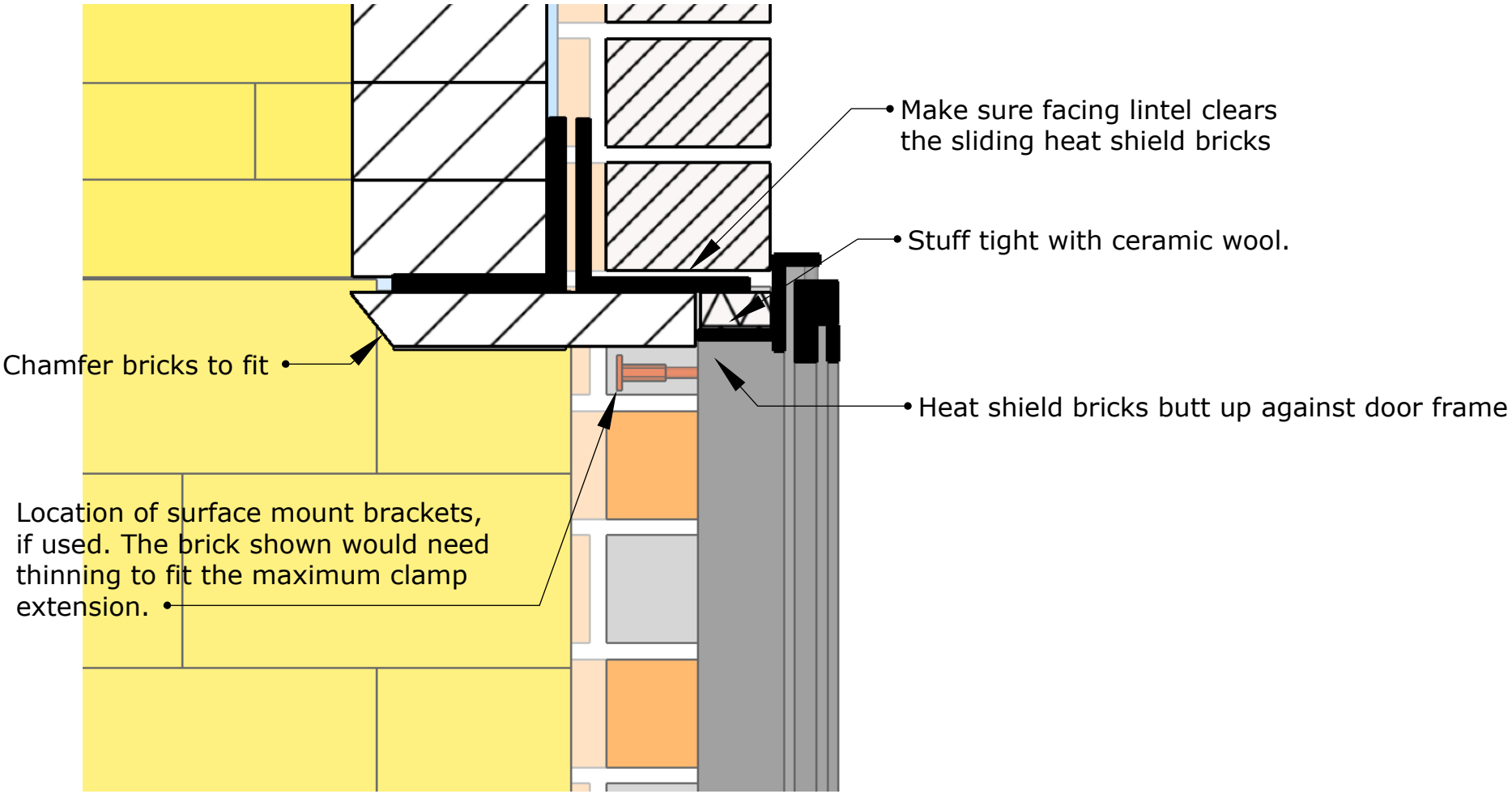
Refer to Figure 3., above. Note that, after installing the doors, the firebrick split heat shields are shortened and rounded at the back to provide smoother airflow at the rear edge.



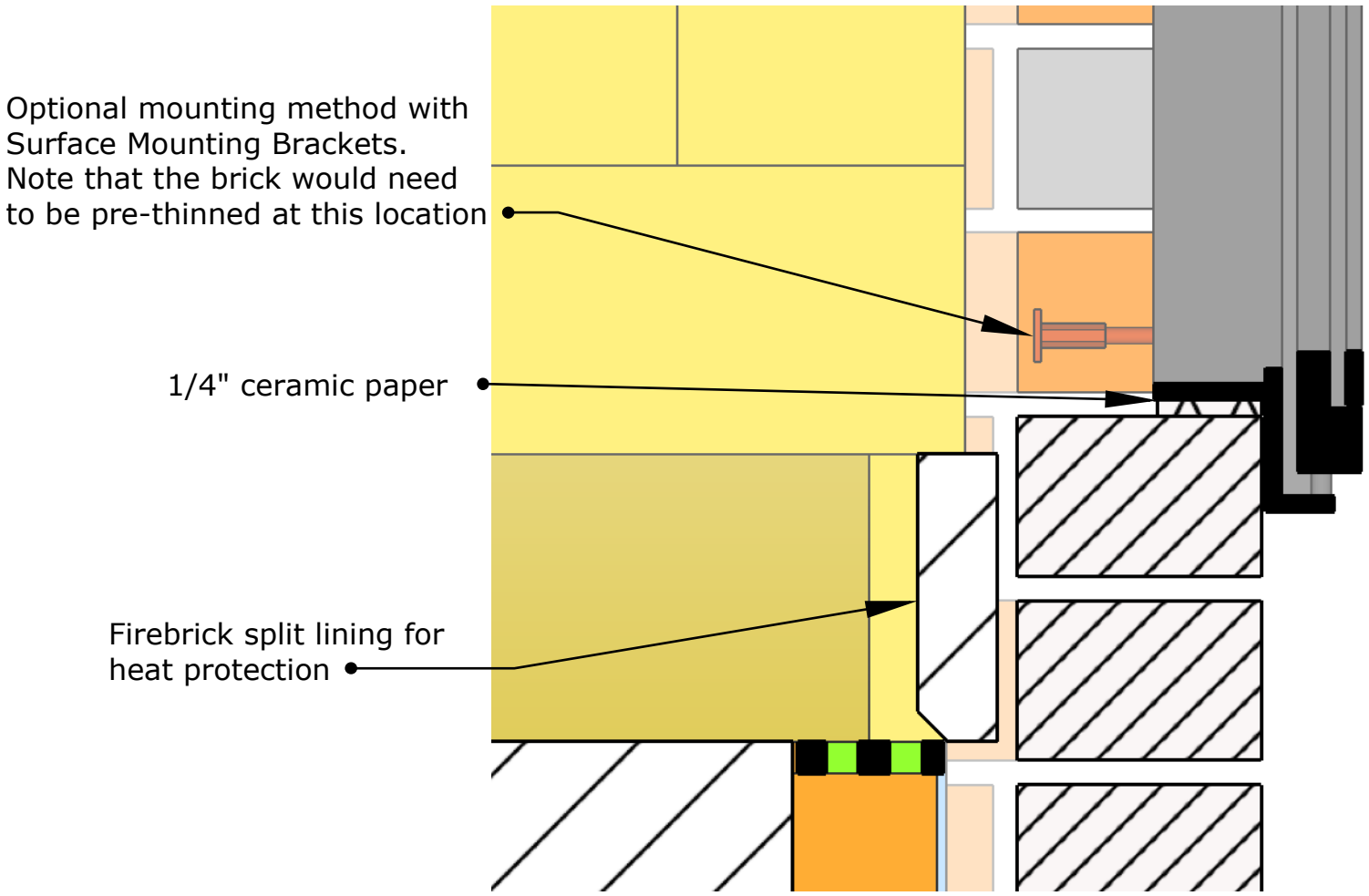
Door Installation: Overview



Door Installation: Section view at firebox door



Section view at top of door frame



Section View at Bottom of Door Frame