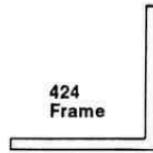


Installation Instructions

Aluminum Foot Grille - 1-5/8" - Recessed Floor Mat

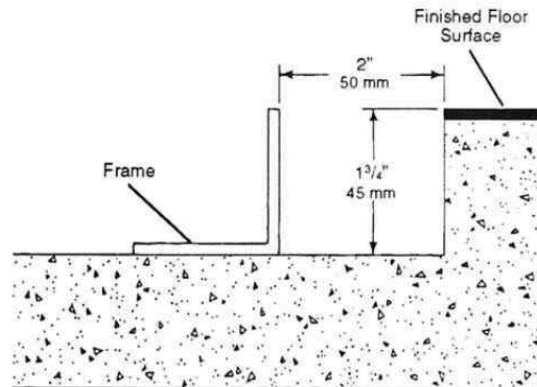
#424 Grate Frames



1. Prepare the floor recess

Prepare a recess in the concrete flooring where the grate will be located. The recess should be at least:

- 1³/₄" (45 mm) deep
- 4" (100 mm) wider than the outside dimensions of the frame — this allows 2" (50 mm) on all sides to maneuver the frame into position



2. Drill anchor holes

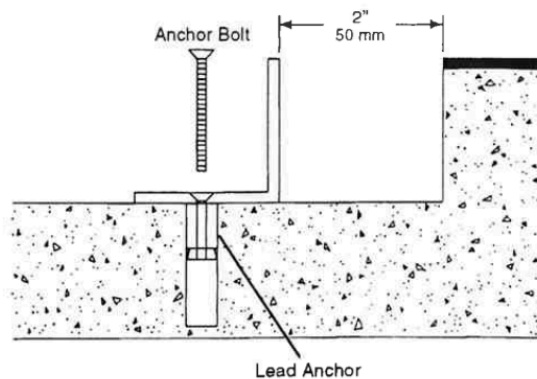
The grate frames should be secured to the concrete floor using anchor bolts into lead anchors that are set into the floor.

Drill holes in the frames at about 2-ft (6-m) intervals for the bolts. Countersink the holes.

Set the frames into the recess at the appropriate locations to position the grate(s). Mark the hole locations on the concrete.

Remove the frames and drill holes in the floor for the anchors.

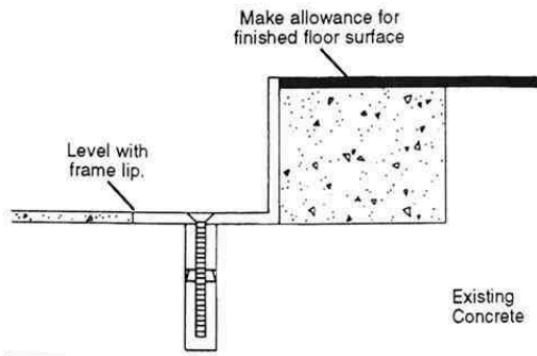
Install the anchors using an anchor setting tool.



3. Secure frames in the recess

Reinstall the frames. Secure them to the floor with 1/8" x 1 1/2" anchor bolts into the lead anchors.

NOTE: If necessary, shim under the frame sections so that the top edge of the frames will be flush with the finished floor surface, and the frames are level.

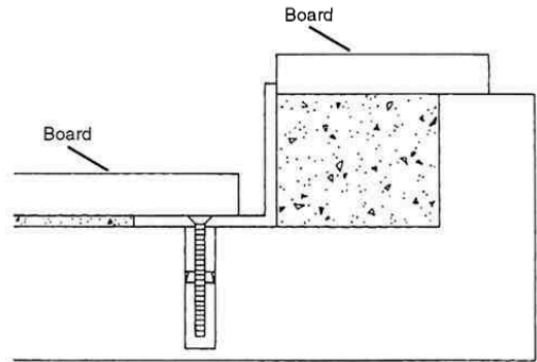


4. Pour concrete

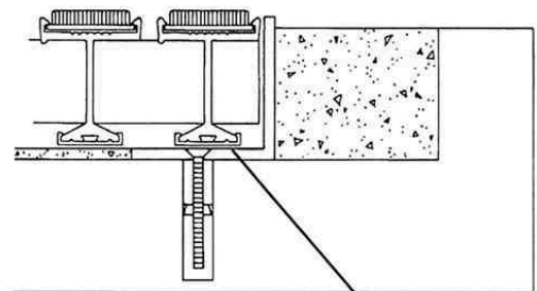
Pour concrete (or grout) around the edges and in the center of the frame.

5. Level the concrete

Cut a board just slightly **shorter** than the width of the frame.
Use the board to smooth and level the concrete.



Be very careful that the concrete is absolutely smooth and level with the inside lip of the frame. This will allow the grate to lie perfectly flat and avoid rocking.



Level the concrete so the grate will lie flat when installed.

6. Recheck all dimensions

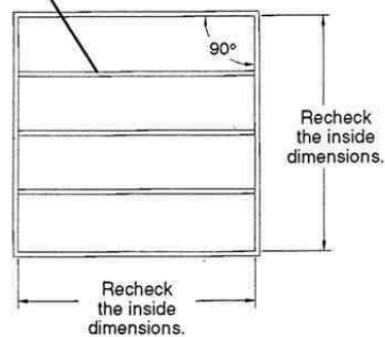
Before the concrete sets, recheck that:

- The frame sides are straight
- The frame corners are at correct angles so the grate will fit properly
- All inside dimensions of the frame are accurate according to drawing measurements

If the frame bows inward, use spreaders inside the frame until the concrete is thoroughly set.

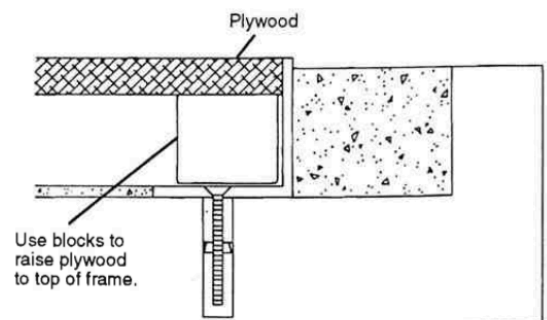
IMPORTANT: The grate is made to fit snugly into the frame according to the drawing.

Use spreaders if frame bows inward.



7. Protect the frame edges

When the concrete has hardened, install plywood or other material in the recess to protect the frame edges from damage until the grate is installed.



INSTALLATION GUIDE

Frame Option #421

For use with or without Metal Drain Pan #422



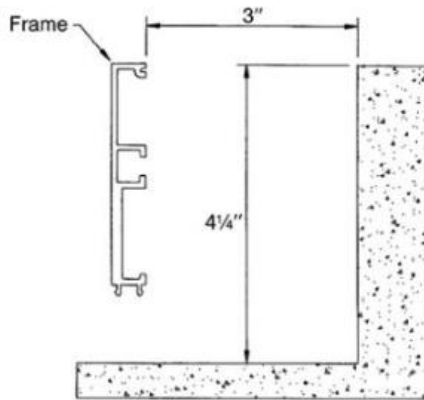
No. 421



No. 422
With
Pan
Adapter

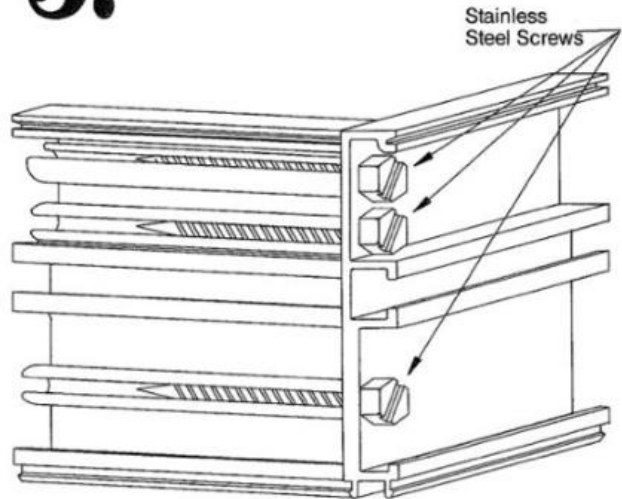
1.

Recess must be provided in concrete flooring at location of grate. Recess should be deep enough to allow construction of the desired pit, but no less than $4\frac{1}{4}"$, to allow the cross supports to fit under the grate. The length and width should be 6" greater than the frame dimensions. This will allow 3" on all sides to maneuver the frame into position and sufficient concrete strength to support the grate.



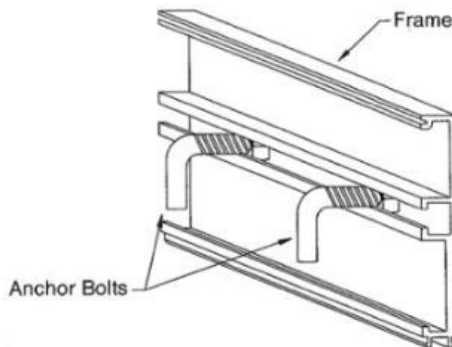
3.

Assemble frame with the stainless steel screws provided.



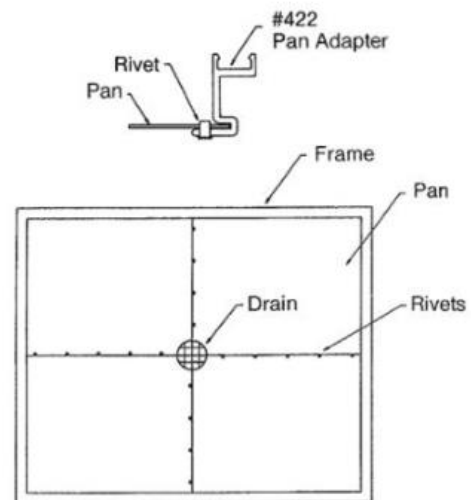
2.

Install anchor bolts ($\frac{1}{4}" \times 3"$) using brass nuts provided, by sliding into frame from end. Space at approximately 2 foot intervals on all four sides. Anchor bolts may be bent to fit a recess if necessary.



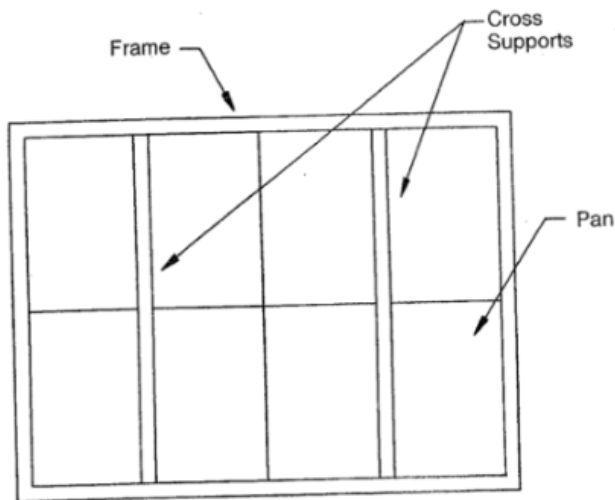
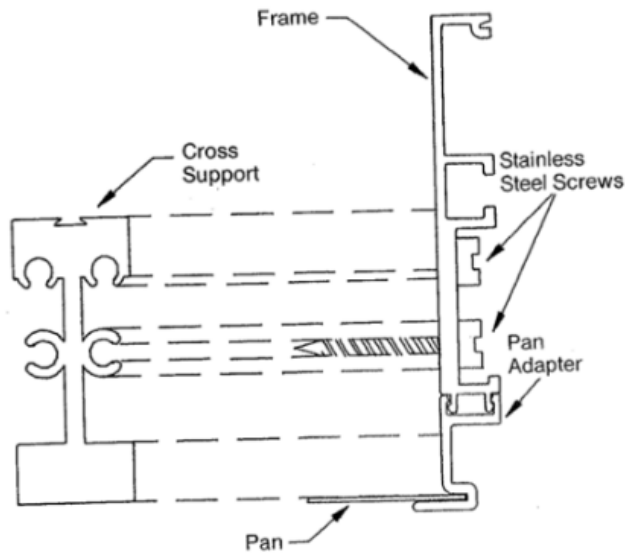
4.

Install pan material into lip on frame. Rivet pan material to pan adapter lip with pop rivets provided. If pan is in sections, pop rivet these sections together. Locate drain and cut hole in pan. Seal joints and drain as required with silicone or caulk.



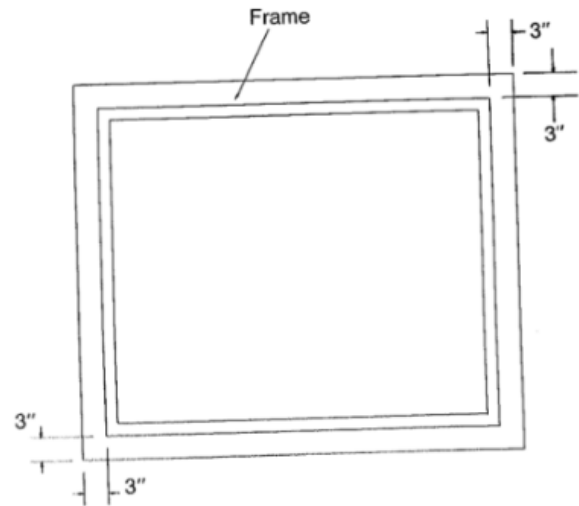
5.

Install cross supports on frames that are 4 foot x 4 foot or larger. Fasten cross supports to frame with the stainless steel screws provided. Installation should be done after installing pan sections.



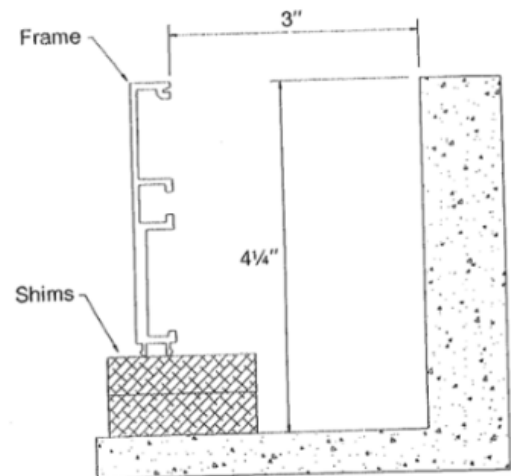
6.

Locate assembled unit in opening at desired position.



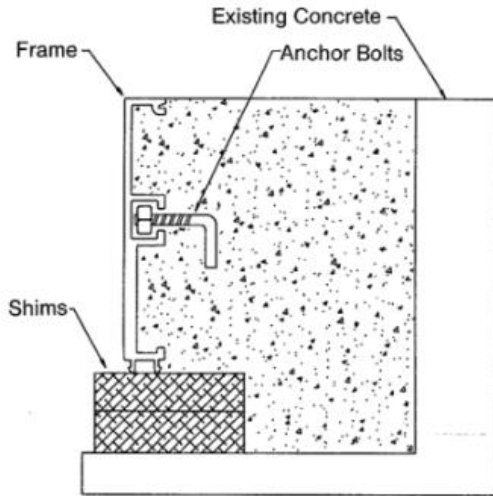
7.

Use wooden shims to level frame to position flush with final level of finished floor surface.



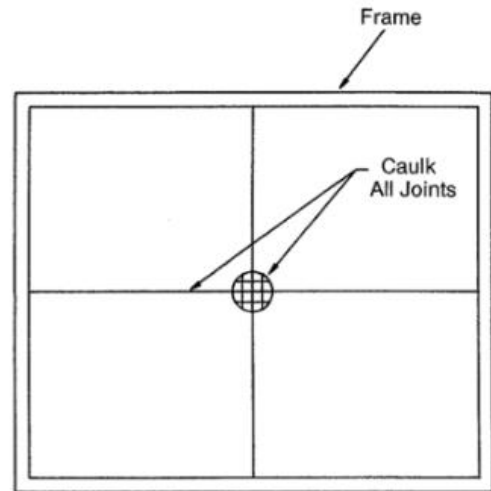
8.

Pour cement mortar around edges and trowel it in so that when hardened it provides proper support for frame and anchor bolts.



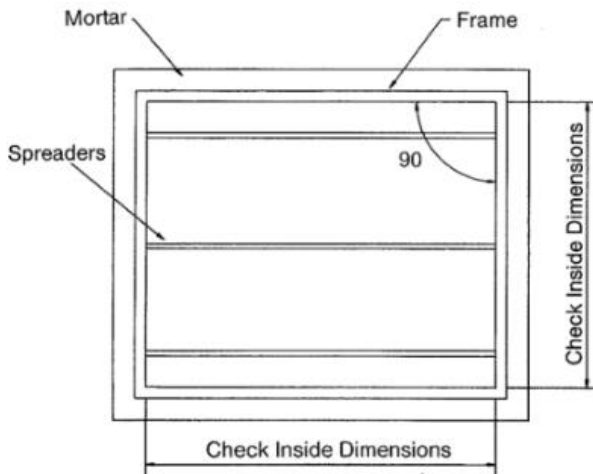
10.

If drain pipe is used with drain pan, connect pan to drain pipe. Caulk all joints and connections to prevent leakage.



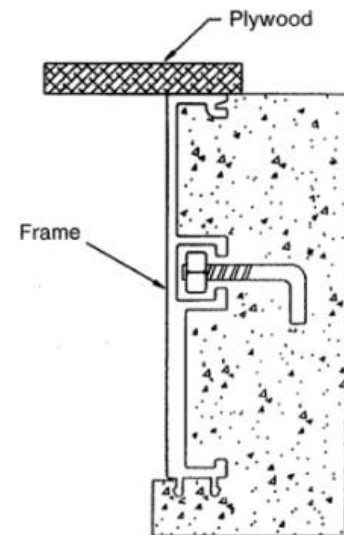
9.

Before mortar is allowed to set up, be sure that frame sides are straight and that corners are at perfect 90 degree angles so grating will fit properly. Check inside dimensions of frame against drawing measurements to be sure they are accurate. Remember — the grate is being made to fit snugly into the frame according to the drawing. If frame tends to bow inward use spreaders.



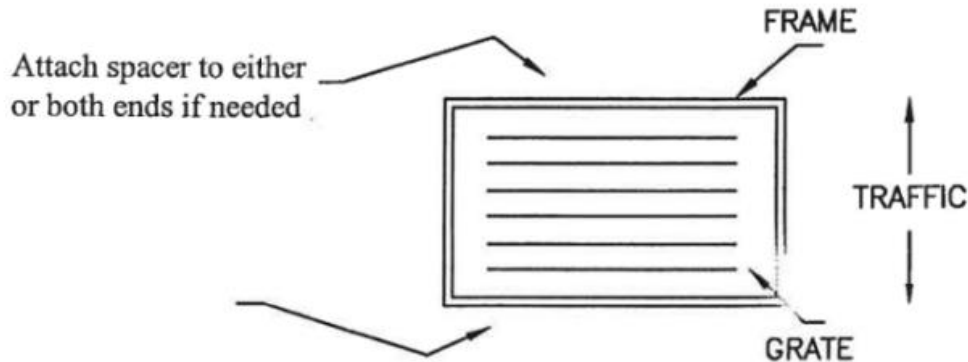
11.

Plywood or other material should be placed on top of frame to protect frame edges from damage prior to installation of grate at some later time.



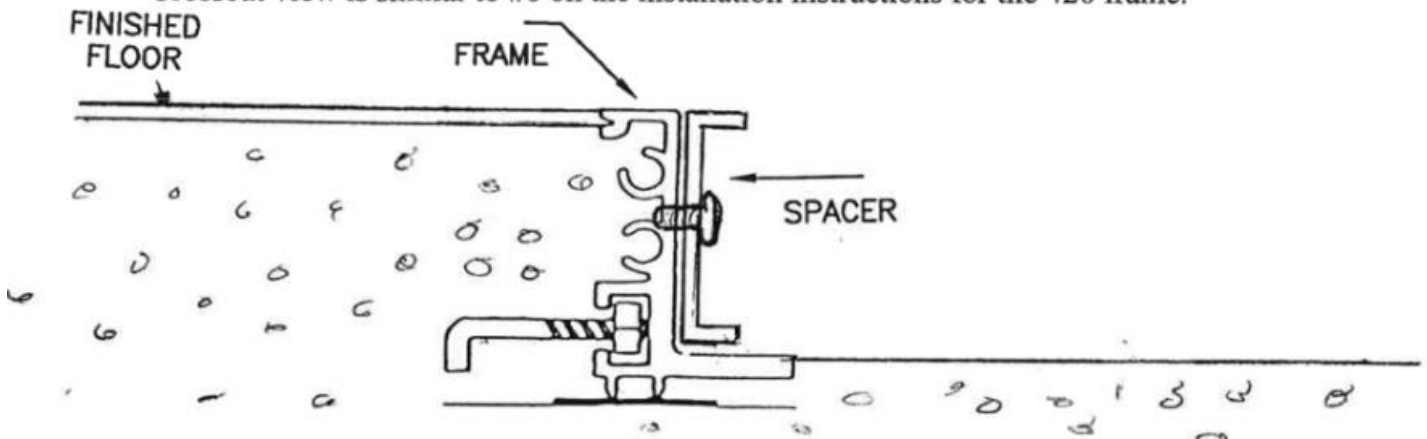
Spacer Installation Instructions:

To install, place spacer in the appropriate location (spacer runs parallel with the grating rails and is attached to the frame at the leading or following edge of the traffic direction).



When placing the spacer, make sure that the smooth 1 5/8" face is placed next to the inside frame edge, the 1/2" edge is flush with the frame edge throughout the entire length, and the ends of the spacer are evenly placed.

Crosscut view is similar to #6 on the installation instructions for the 420 frame.



Secure in place to the frame by drilling approximately every two feet. Use a #14 drill bit to drill holes through the spacer and to the frame piece. It is imperative that the spacer not move while drilling. Before attaching the spacer to the frame with enclosed hardware, make sure that all debris is removed between the face of the frame and the spacer to insure a proper fit.