

## **INSTALLATION INSTRUCTIONS FOR SECURITY ACOUSTICS WOOD DOOR AND FRAME ASSEMBLIES**

### **GENERAL**

The installation of acoustic door and frame assemblies differs significantly from that of standard door and frame assemblies. These instructions are specially designed for the successful installation of Security Acoustics Sound Tight products and are to be utilized in combination with the approved shop drawings in order to ensure proper operation, to achieve specified STC ratings and to validate product warranty. These instructions assume the installer has had previous experience in setting frames and installing doors. If any questions arise during installation please contact our Customer Service Department.

### **FRAME INSTALLATION**

**A.** Frames provided by Security Acoustics are designed to be installed as the metal stud, wood stud or masonry wall is erected. Frames designed to be installed in existing walls usually require special conditions which will likely require a review of the approved shop drawings. A review of the architect's plans and the approved hardware submittal is also recommended to verify proper swing and hardware preparation.

**B.** Frames should be immediately checked to ensure they are square and true. Minor damage which could occur during shipping can be easily corrected by an experienced installer. Note that frames intended for installation in metal or wood stud walls should be grouted prior to installation. Recommended grout fill is Gold Bond Gypsolite Plaster manufactured by National Gypsum ([www.nationalgypsum.com](http://www.nationalgypsum.com)) or Structo-Lite manufactured by U.S. Gypsum ([www.usg.com](http://www.usg.com)). Heads and jambs should be completely filled to the point at which the metal or wood stud attaches to the anchors provided. Grout should be allowed to set for a minimum of 24 hours prior to frame installation, however, once the grout begins to harden, the installer should trough or otherwise block out the areas behind the backbend to allow insertion of wallboard after installation (it should be noted that drywall insertion is a code requirement for fire rated assemblies). This also will tend to lighten the overall weight of the frame. Frames in new masonry walls will be grout filled as specified by the project documents as the wall and frame are erected. Frames in existing masonry walls should be grout filled after the frame is installed.

**C. Installation In New Metal/Wood Stud Walls (Fig. 1 and 2).** Remove the steel spreader at the bottom and place the frame between the floor tracks. Using vertical wood braces for alignment and temporary wood spreaders at the top, middle and bottom of the frame for squareness, level and set the frame. Cross string the frame to ensure the jambs are properly set and then anchor to the studs and floor using the wall and floor anchors provided. Double king studs extending to the slab above are recommended and 16 Ga.

minimum is recommended for metal studs. Use more anchor screws than for normal installations as these frames must support very heavy doors. Once the frame is fully connected and wallboard is installed, the temporary wood spreaders can be removed. The frame should then be fully caulked around the perimeter at both sides where it meets the wall and at the floor. The threshold, provided by Security Acoustics, must be fully packed with plaster or mastic, leveled and installed at this time and fully caulked around the perimeter.

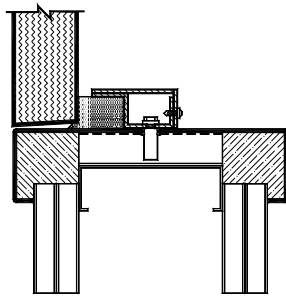


FIGURE 1

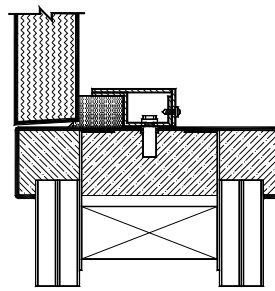


FIGURE 2

**D. Installation In New Masonry Partitions (Fig 3).** Instructions for this type wall are not significantly different from those above other than the actual anchorage to the wall and grout fill which takes place as the wall is erected. Special precautions should be taken to prevent the head and jambs from bowing during grout fill.

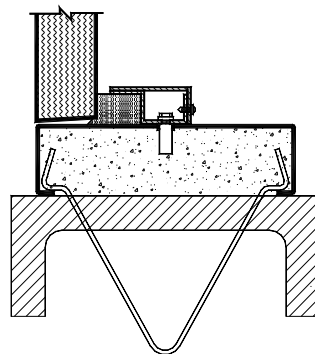


FIGURE 3

Note 1: Thresholds are to run full width from jamb to jamb. These should **never** be notched around the perimeter seals.

Note 2: When conditions allow, wallboard should extend above the ceiling and to the structure above to prevent flanking.

## DOOR AND PERIMETER SEAL INSTALLATION

**A.** Mount the Gravity Glide hinges (**Fig. 4**) to the frame and door with the 12-24 flat head machine screws and #12 flat head wood screws provided. The hinge leaf with the pin mounts to the frame. All hinges are handed for left hand and right hand assemblies and

are marked **L** for left hand or **R** for right hand on each leaf for proper identification. Set the door approximately 170 degrees in the open position and lift and lower the door onto the hinge pins. Note that acoustic doors are extremely heavy and assistance is recommended in hanging the door. Caution should be exercised to avoid damaging the hinge pins and the door bottom mortise in this step. Note that if flush bolts are provided for paired openings, these should be installed prior to hanging the door. Once the door is hung, remove the cap from the top of each hinge and place several drops of high quality multi-use Teflon lubricant into the reservoir. Allow several minutes for the lubricant to seep into the hinge pin mechanism and then replace the caps. Swing the door back and forth several times to ensure the hinges are fully seated on the pins.

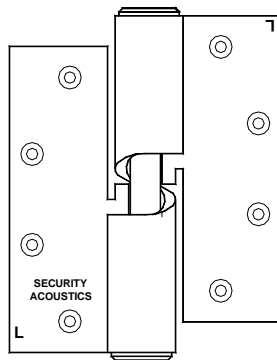


FIGURE 4

**B.** Install the L-Frame door bottom seal (**Fig. 5**) with the 1/4" wood screws provided and then adjust it to the highest position. At this point, all other mortised and surface applied hardware supplied by others can also be installed. Note that heavy duty offset hardware mounting brackets (**Fig. 6**) are provided for all hardware intended to be mounted to the frame stop. No hardware should be mounted directly to the seal assembly. Prior to installation of perimeter seals, check the door for proper clearances (1/8" at edges and meeting stiles, 1/8" at top). The weight of these doors often requires minor shimming of hinges in order to square them in the opening and slotted metal shims which can be placed under the hinge are provided for this purpose.

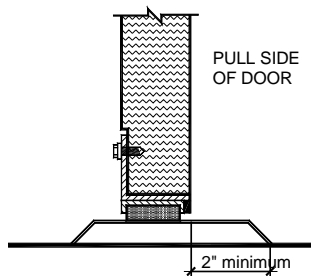


FIGURE 5

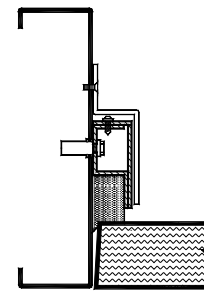


FIGURE 6

C. Notch the jamb seal retainers to match the shape of the previously installed threshold (Fig. 7). Thresholds should never be notched around the jamb seal assembly. Install the perimeter seal retainers through the elongated slots with the 1/4-20 machine bolts provided, beginning with the jamb retainers and then the head retainers and slide them to a point farthest away from the door. Install the Sound Tight seals into the retainers beginning at the top and bottom corners, working toward the center then trim any excess at the bottom. Note that the small V-shaped leg of the seal must be toward the door.

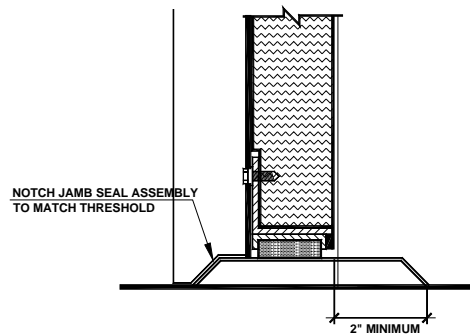


FIGURE 7

D. Close and latch the door and then push the seal and retainer assembly tight to the door and snug the screws. Do not over tighten the bolts at this point. Using a block of wood, tap the retainer assembly with a hammer until the seal makes complete contact with the entire length and width of the door. During the adjustment process, use a very thin credit card or similar to check seal tension. The card should fit very snugly along the entire perimeter and not fall out. Periodically open and close the door during seal adjustment to ensure the door operates properly. Do not force the seal against the door as this will cause it to bind. Darken the room and check the seal assembly for light penetration with a flashlight. Once optimum adjustment is obtained, retighten the retainer bolts to prevent the seal assembly from moving.

E. Adjust the L-Frame door bottom by closing the door and then adjusting in a manner similar to the perimeter seals. Ensure the threshold is level, filled and sealed prior to performing this work.

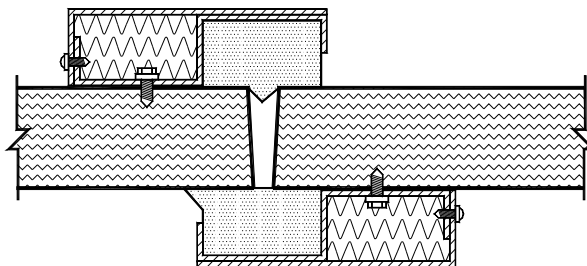
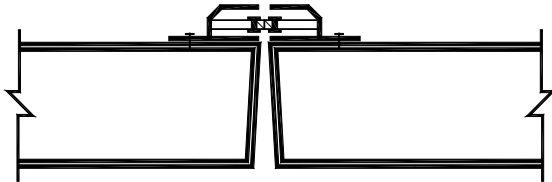
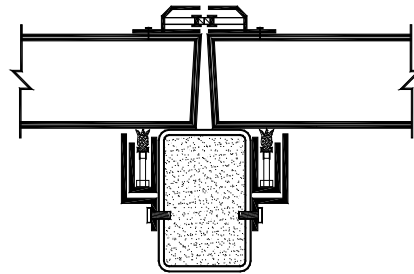


FIGURE 8

F. Paired assemblies will be provided with a single or double astragal assembly depending on the required rating (**Fig. 8**). These are to be mounted and adjusted in a manner similar to the perimeter seals. The V-Seal astragal, when provided, is always mounted to the inactive leaf. Optional astragal assemblies may be provided to accommodate specific hardware assemblies (**Fig. 9 and 10**).



**FIGURE 9**



**FIGURE 10**

G. Once all seals are adjusted and the doors are fully operable the entire seal assembly (top, bottom and sides) should be final checked with some type of noise generator and a mechanic's stethoscope. The stethoscope can easily locate weak points which can then be addressed in the final adjustment process. After final adjustment, run a single bead of acoustical caulk along the entire exposed edge of the head and jamb retainers. Notch the jamb retainer covers to match the shape of the installed threshold and then install head and jamb covers with the 6-32 self drilling screws provided. The covers should be field painted prior to installing as it's most important to prevent paint and/or debris from coming into contact with the seals.