

# ASSA ABLOY Door Group Acoustic Installation Instructions



## General Information

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 ASSA ABLOY acoustic door 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 ASSA ABLOY Customer Service Department.

## Frame Installation

- 1. Frames provided by ASSA ABLOY 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 further 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.
- 2. Frames should be immediately checked to ensure they are square and true.** Minor damage incurred during shipping can typically be corrected by an experienced installer. Frames intended for installation in metal or wood stud walls must be grouted prior to installation. For STC-rated frames requiring mortar grout, use grout in accordance with SDI 128 and ANSI/SDI A250.11. A non-shrinking mortar grout conforming to ASTM C476-20 is recommended. The grout should harden chemically and not be cementitious. Follow applicable SDI guidelines (SDI-108/SDI-100), including coating the interior (throat) of the frame with a water-based undercoating or asphaltic emulsion to protect against moisture when using Portland cement grout or similar materials. Ensure proper curing and brace the frame securely during installation to maintain alignment and prevent damage as the grout sets. Heads and jambs must be completely filled to the point where the metal or wood stud attaches to the provided anchors. Grout should be allowed to set for a minimum of 24 hours prior to frame installation. Once the grout begins to harden, the installer should trough or otherwise block out the areas behind the backbend to allow for wallboard insertion after installation. Note that drywall insertion is a code requirement for fire-rated assemblies and will also reduce the overall weight of the frame. Frames installed in new masonry walls shall be grout-filled as specified in the project documents as the wall and frame are erected. Frames installed in existing masonry walls shall be grout-filled after the frame is installed. Note: As an alternative to grouting, frames may be completely packed with 10 lb mineral wool. When properly installed, this method can achieve a door and frame assembly rating of up to STC-51.
- 3. 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 and horizontal wood spreaders at the top, middle and bottom of the frame, square up, 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 should extend to the slab above and minimum 16 Ga. is recommended for metal studs.

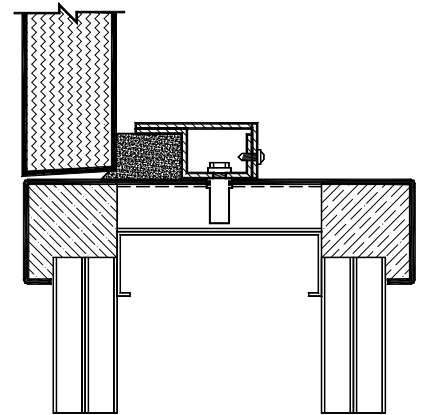


FIGURE 1

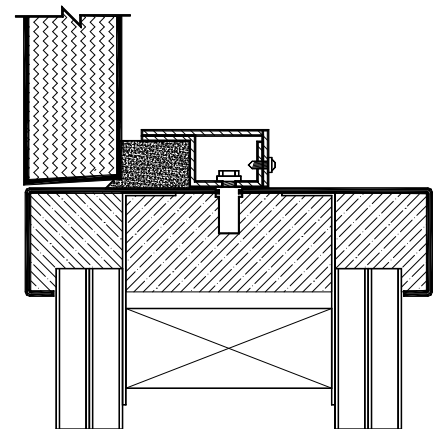


FIGURE 2

# ASSA ABLOY Acoustic Installation Instructions

Use more anchor screws than for normal installations as these frames must support very heavy doors. Once the frame is fully attached to the studs 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 ASSA ABLOY, must be fully packed with plaster or mastic, leveled and installed at this time and then fully caulked around the perimeter.

**Note:** The standard for lab testing is with grout filled frames to ensure the STC rating is based on the door and the associated seals. If another type of fill is desired, an acoustic consultant should be consulted for recommendations. The alternate fill must be capable of maintaining the specified level of acoustic performance.

- 4. 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.

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

## Door, Threshold and Perimeter Seal Installation

- 1. Install the supplied threshold. Prior to installation, fill the voids with lightweight grout or mastic.** The threshold should be parallel to the bottom of the door and may need to be shimmed if the floor is not level. Once installed, seal the entire perimeter with caulk. The threshold must be installed to the floor slab and not over carpeting or similar material as this would allow flanking and reduce the door clearance causing it to bind. The threshold is to go full width from jamb to jamb and should never be notched around the jamb seals.
- 2. Mount the Gravity Glide hinges (Fig. 4) to the frame and door with the 12-24 flat head machine 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. Gravity Glide hinges are factory lubricated and should only require further lubrication as an annual maintenance task.
- 3. Install the L-Frame door bottom seal (Fig. 5) with the 1/4-20 machine bolts 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, meeting stiles and 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.

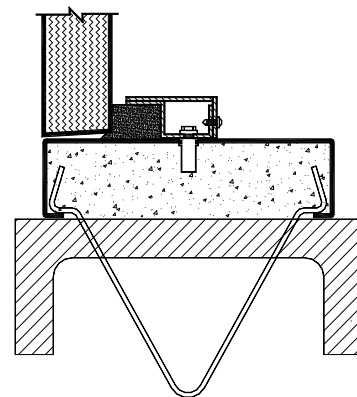


FIGURE 3

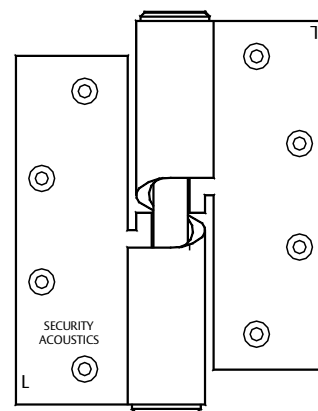


FIGURE 4

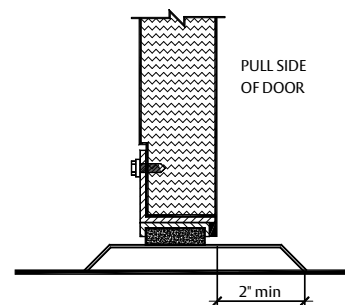


FIGURE 5

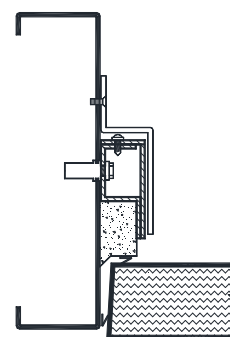


FIGURE 6

# ASSA ABLOY Acoustic Installation Instructions

4. **Cut the jamb seal retainers to abut the top of the previously installed threshold**  
**Thresholds should never be notched around the jamb seal assembly. (Fig. 7)**

Install all 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 EPDM rubber 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. Finally adhere the two sets of Pemko S44 adhesive backed seals (Fig. 6), one set applied to the area between the frame stop and the door and one set applied toward the outside of the frame rabbet as shown in the detail. It's important that the seals are installed properly.

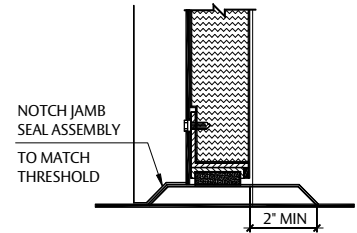


FIGURE 7

5. **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 screws 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 from one side to the other with a flashlight. Once optimum adjustment is obtained, tighten the retainer bolts to prevent the seal assembly from moving.

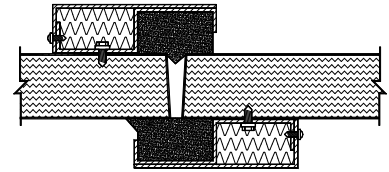


FIGURE 8

6. **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.

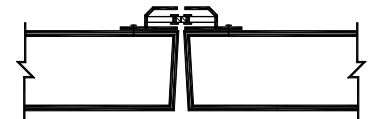
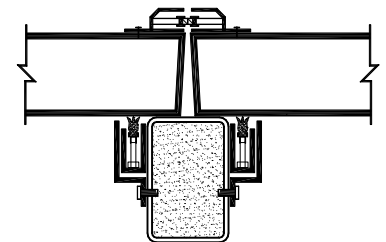


FIGURE 9

7. **Paired assemblies prepared for locks will be provided with a single or a 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.



8. **Optional astragal assemblies will be provided to accommodate other specific hardware assemblies (Fig. 9 and 10).** Be sure all components are installed exactly as shown in the approved shop drawings and these associated details.

9. **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 acoustic caulk along the entire exposed edge of the head and jamb retainers. Cut the jamb retainer covers to match the length of the jamb retainers and then install the head and jamb covers with the 6-32 self drilling screws provided. The covers should be field painted prior to installing and it's most important to prevent paint and/or debris from coming into contact with the seals.

10. **It is recommended that all perimeter and astragal seals are installed AFTER finish paint has been applied to the product.**

# Troubleshooting

It's important that the installation instructions for each acoustic door or window model are carefully read and followed. Occasionally there are minor issues that need to be addressed and these are usually related to installation. The following is a list of items that should be reviewed in order to verify that all attributes are properly installed and correctly adjusted. The ASSA ABLOY Project Manager or our Customer Service Department can assist in this.

## Door Frames

It's very important that the frames are installed perfectly plumb and square. They should be fully grouted or fully packed with insulation depending on the requirement specified in the associated installation instructions. When frames are installed in drywall partitions, the drywall should penetrate the frame throat. The frame needs to be fully caulked to the wall on both sides around the entire perimeter and at the floor. The hollow spaces in the drywall partition should be filled with material suitable for the specified STC rating and the wall should extend to the structure above to avoid any flanking.

## Doors

The doors need to be perfectly square in the frame with a maximum 1/8" to 3/16" door to frame clearance at the head and jambs. Some models include doors that are quite heavy and are furnished with cam lift hinges. Metal shim plates are provided with the hinges to compensate for sag, if any.

## Door Bottom Seals

Depending on the door model, there are two types of adjustable door bottom seals. One is fully mortised and adjusted by means of an adjustment screw at the edge of the door. The other one is semi mortised and adjusted by loosening/tightening the exposed bolts on the push side of the door. It is most important to get these adjusted to a point where they seal fully to the threshold without bind when the door is closed. This often takes several adjustments to get it right and might also require shimming the threshold slightly if the floor is not level. Proper adjustment can first be verified by closing the door over a piece of paper placed between the door bottom seal and the threshold. The paper should not pull out easily. A final check with a flashlight can then be performed with two persons, one in a darkened room. Light should not penetrate from the source side. Some models require only a small finned type of seal which is adhesive mounted directly to the bottom of the door. Be sure this is installed and mounted as shown in the installation instructions provided.

The ASSA ABLOY Group is the global leader in access solutions. Every day, we help billions of people experience a more open world.

ASSA ABLOY Opening Solutions leads the development within door openings and products for access solutions in homes, businesses and institutions. Our offering includes doors, door and window hardware, mechanical and smart locks, access control and service.

## Thresholds

Hollow thresholds need to be completely filled with grout or mastic. All thresholds should be caulked around the entire perimeter and should never be installed on top of carpet or similar material that would provide a flanking path. Hollow thresholds when used in conjunction with cam lift hinges must extend a minimum of 1-1/2" beyond the pull side of the door in order to provide a sweeping surface for the associated door bottom seal as the door closes.

## Perimeter Seals

### EPDM (neoprene) perimeter seals:

These are three part assemblies; a large preassembled seal, a three piece seal retainer and a three piece cover. These are sized to fit the clear opening of the door frame and need to be field cut to fit atop the threshold. A threshold should never be notched around the seal assembly as that would prevent adjustment of the jamb seals. The seal should be adjusted to tightly fit the perimeter of the door without binding. A seal adjusted too tightly will bind the door and make it difficult to close. A seal adjusted too loosely could allow the door to close past the intended point possibly causing the anti-pick latch of a lock to enter the latch bolt cutout in the strike and cause it to fail. Proper adjustment can be verified by attempting to slide a credit card between the seal and the door in the closed position around the entire perimeter. When properly adjusted this should be difficult to do. Verify the neoprene seals are installed as shown in the installation instructions. It's quite easy to get the seal reversed and installed incorrectly. Some models require an additional finned type of seal which is adhesive mounted in the frame rabbet above the top of the door. Be sure this is mounted as shown in the installation instructions provided.

## Hinges

Some models are provided with hinges. They are either mortised or surface applied depending on the model. All hinges are factory lubricated. The mortised hinges are stainless steel castings and the appearance is similar to a matt finish. These are highly recommended for interior use only and if used on exterior doors they will rust over time unless painted. The surface mounted hinges are used on large oversized assemblies. Those are factory pre-painted and can be field painted as desired.

## CECO DOOR | CURRIES

Ceco Door  
9159 Telecom Drive | Milan, TN 38358  
Tel (888) 264-7474 | Fax (866) 465-9975  
www.cecodoor.com

Curries  
1502 12th St. NW | Mason City, IA 50401  
Tel: 641-423-1334 | Fax: 641-424-8305  
www.curries.com