

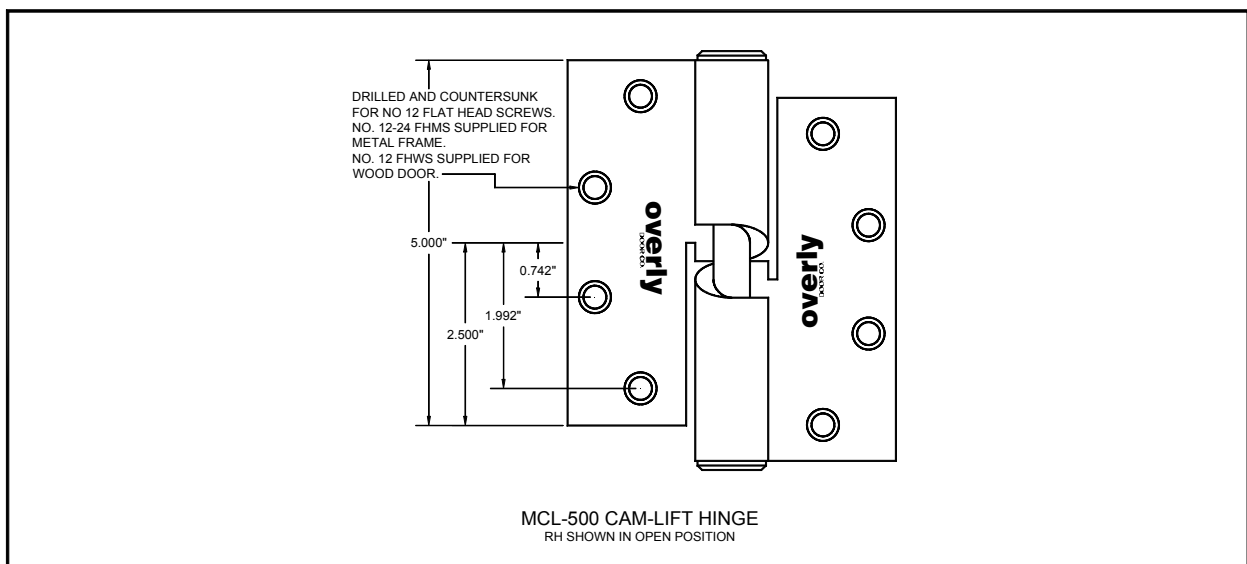
## Wood Sound Retardant Door Hardware Information Bulletin

Overly Door Company has been a leading manufacturer and supplier of Wood Sound Retardant Acoustical Doors to the commercial and industrial marketplaces for a number of years. During this time period, we have found many instances where conflicts occur between the standard designs of the Sound Retardant Wood Doors and their required usage. The center of these conflicts is often the hardware requirements and operational usage that compromises the acoustical effectiveness of the doors or is incompatible with the design and/or construction of the doors. The following pages try to address many of these conflicts and offer common solutions which will allow the integrity of the unit as well as the acoustical performance to be maximized.

### Hinges:

Overly Wood Sound Retardant Door designs commonly utilize two types of full mortised template hinges; a cam-lift type of proprietary design, designated the MCL 500, and a level swing ball bearing type. The type of hinge required depends on the door bottom sealing system for the designated model.

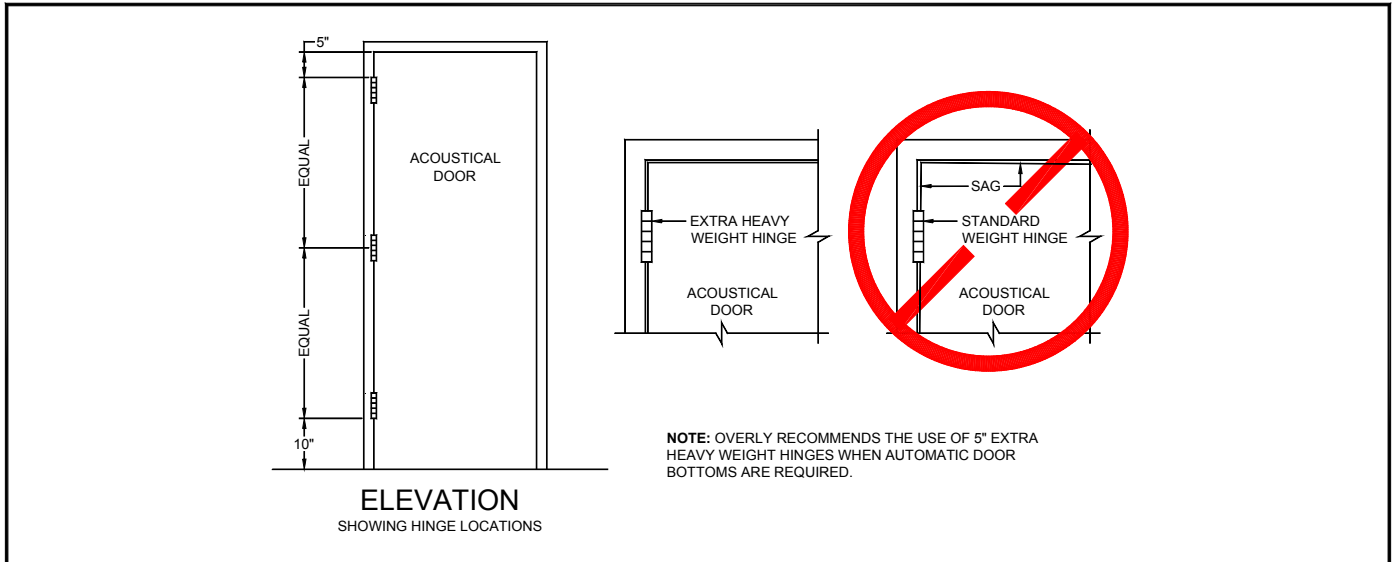
The Overly MCL 500 cam-lift hinges are used in conjunction with wood sound retardant door models which require Overly Super H door bottoms. Each hinge has a load rating which will accommodate doors weighing up to 500 lbs.



Commercially available level swing ball bearing type hinges are required for sound retardant door models which utilize an automatic type door bottom or raised threshold seal. When this type of hinge is required, Overly recommends that 5" extra heavy hinges be specified to accommodate the increased weight of the wood acoustical door panels.

Standard hinge location/spacing normally provided by Overly for its wood sound retardant doors is 5"-10" and equal. Quantities of hinges per door leaf include one (1) hinge for every 30" of height, regardless of the hinge type used.

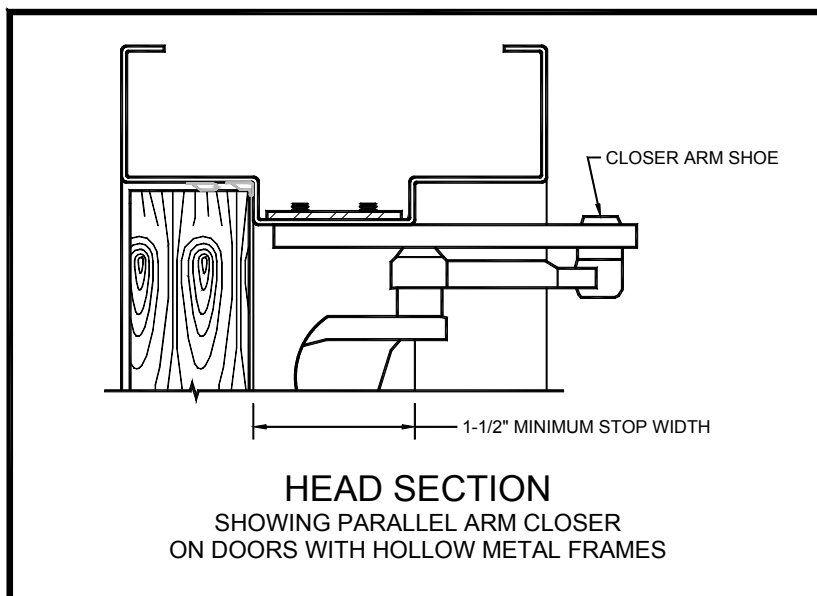
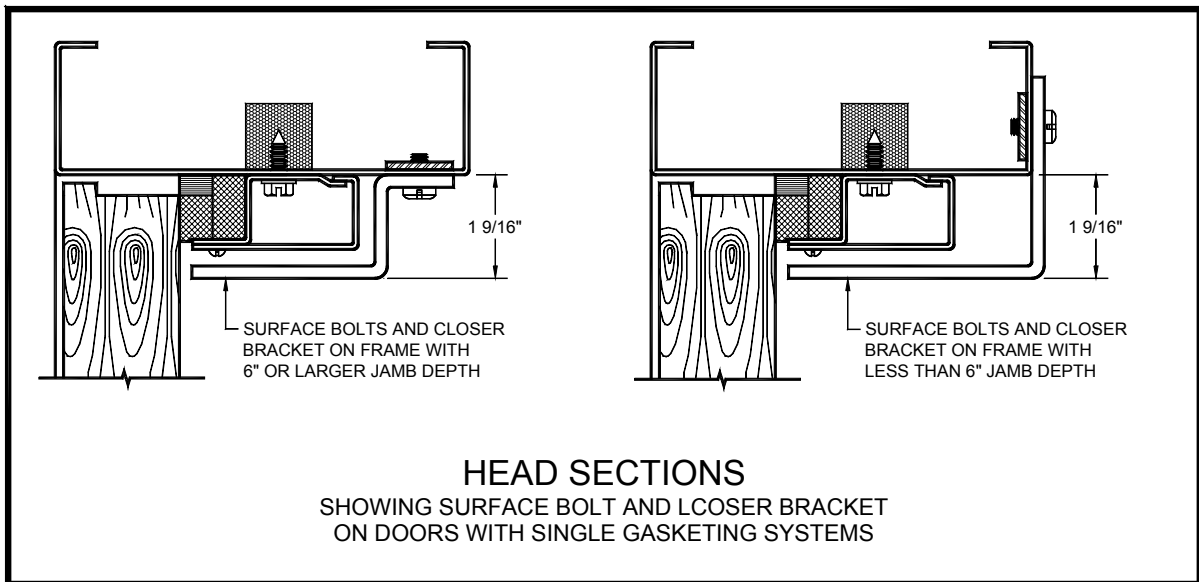
**Note:** When cam-lift hinges are used in conjunction with Overly's compression type door bottom, the hinges will not by themselves close and latch the door. When no closers are present, the door will require manual closing and latching. The reason for this is the fact that the action of the cam-lift hinge is one in which the door is lifted as it is opened and drops during the closing motion. During the last 10 degrees of closing swing, the door bottom begins to contact the sill, which creates friction. Depending on how tightly the door bottom is adjusted, in combination with the type of sealing surface at the sill, dictates the amount of friction that must be overcome. Also, the seal on the jambs will affect how easily the door will latch, depending on how evenly they are adjusted around the door's perimeter.



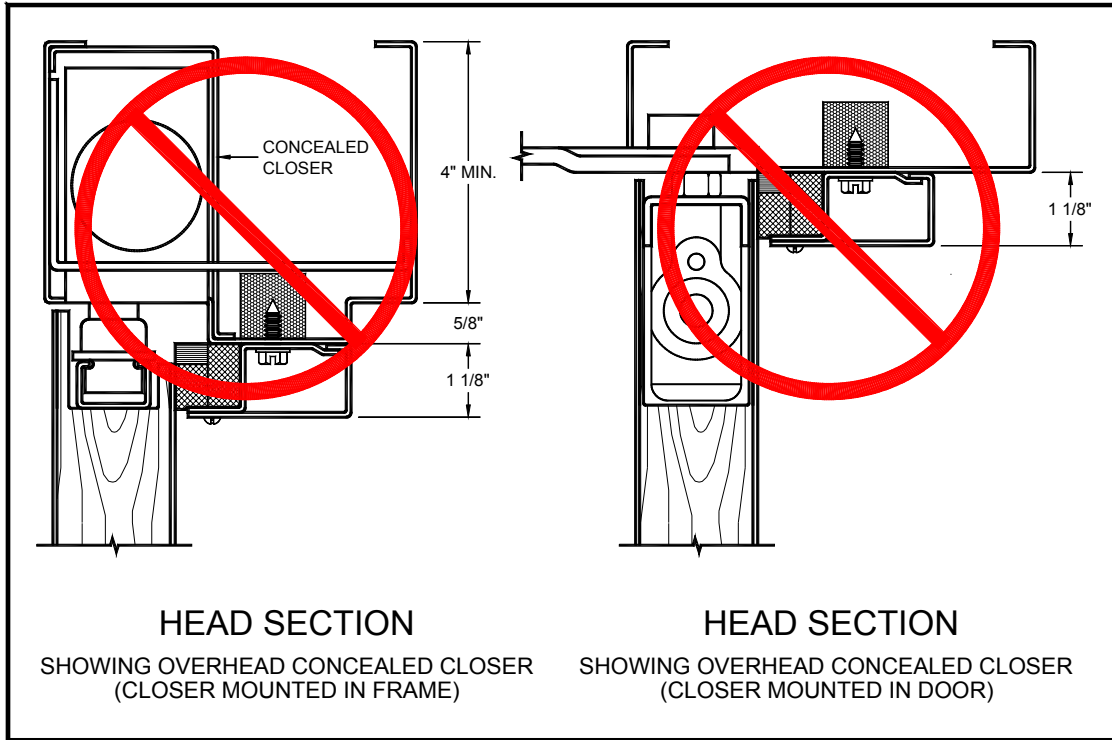
## Closers:

If a closer is going to be utilized to close and latch the door automatically, the following are items to watch out and be prepared for, depending on the specific type of closer and the model of wood sound retardant door chosen.

- A. Surface Mounted Closers:** When the Wood Sound Retardant Door model selected requires the use of MCL-500 cam lift hinges, the closers selected must have arms equipped with enough arm play to accommodate the required up/down movement created by the cam lift hinges. Overly recommends the Norton 1600 or 7500 series or the LCN 4000 series
- B. Parallel Arm Closers:** When the Wood Sound Retardant Door model selected requires the use of Overly adjustable H type compression sealing system, a Z- or L-shaped bracket is supplied to mount the closer arm. The type of bracket supplied is based on the jamb depth of the frame. In all cases, the **Closer arm must never be mounted to retainer covers!** For models which utilize a standard hollow metal type frame and "Double Bubble" sealing system, closer arms can be mounted directly to the frame stop.



- C. Floor Closers:** Floor closers require the use of an arm which must mount to the bottom of the door. This precludes the ability of Overly to utilize its standard mortise door bottoms. Special considerations must be taken in order to provide adequate operation and performance. Overly does not recommend using this type of closer on any of its acoustical wood doors and will not guarantee their acoustical performance .
- D. Concealed Overhead Closers/Hold-opens:** Concealed overhead closers/hold-ops must be concealed in the frame and/or the door. Overly Wood Sound Retardant Doors **cannot** be supplied with preparations for this type device.



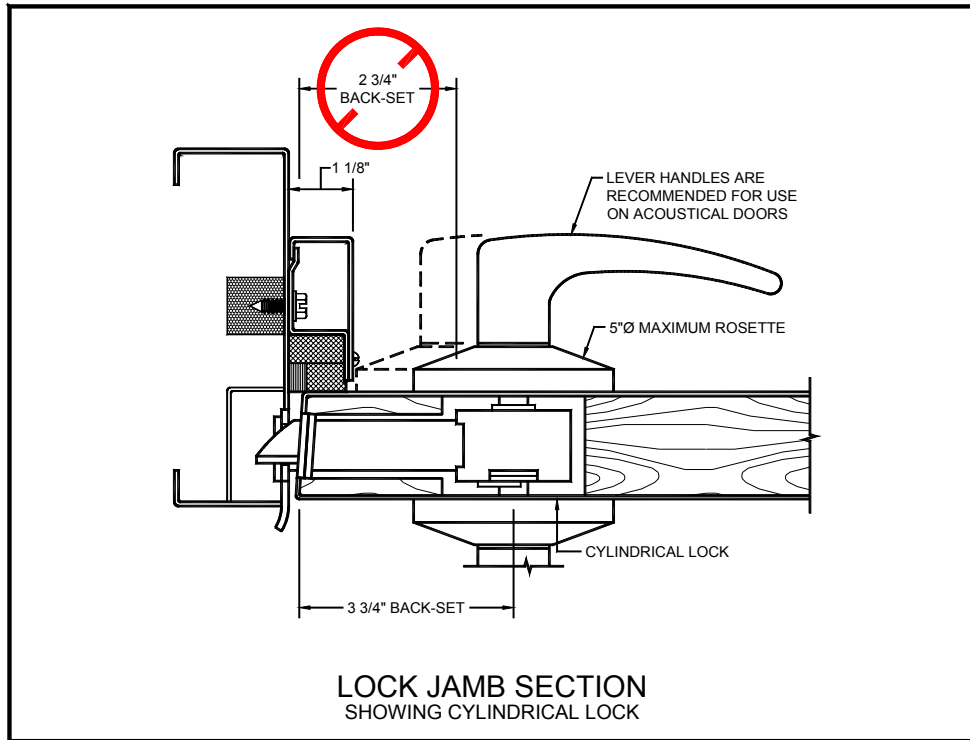
## Locks:

- A. Cylindrical Locks:** Overly acoustical wood doors utilize two types of perimeter sealing systems. The first type is a “double bubble” mounted to a standard hollow metal frame, and the second is the Overly H type compression seal.

For door models that require the “double bubble” seals and a hollow metal type frame, 2-3/4” backsets are permitted. The maximum rose size for this type of frame is 4”.

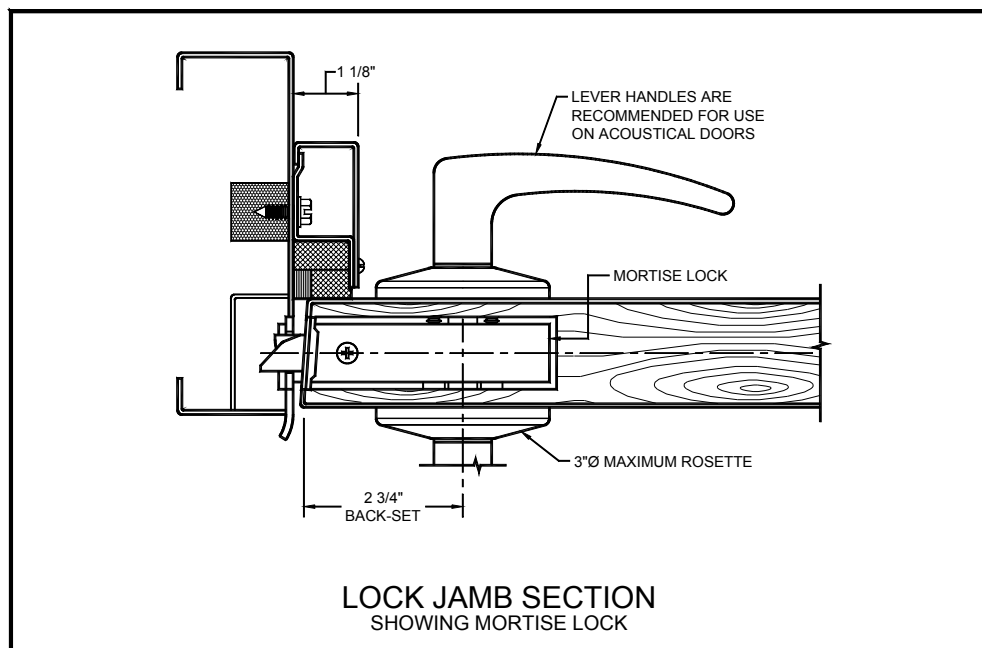
For models that require the Overly compression type seals, there are several items to consider. Most manufacturers of cylindrical locksets have rose diameters which, when a 2-3/4” backset is used, will interfere with the seal covers and not allow the door to close. If 2-3/4” backset is used, the rose diameter cannot exceed 3”. Because of this situation, Overly recommends that a 3-3/4” backset be used on single door openings utilizing a cylindrical lock. A 2-3/4” backset is permissible for the active leaf of a pair of doors.

As a general note, Overly always recommends the use of lever handles instead of knobs on all doors that use cylindrical locks.

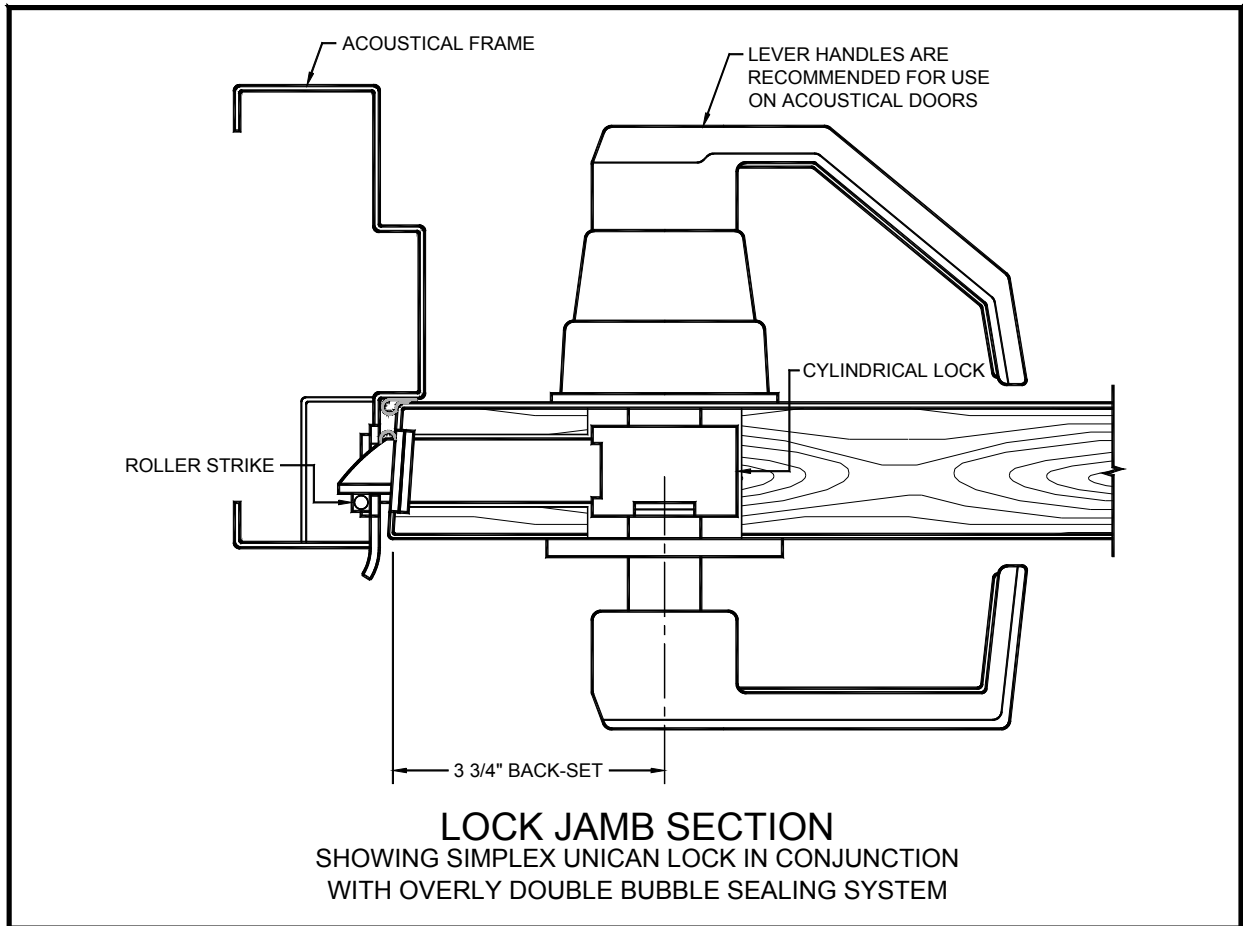


**B. Mortise Locks:** All mortise locks are only available in a 2-3/4" backset. Because of the small rose's used on mortised locks, this does not create a problem with any type of perimeter sealing system chosen. The maximum rose diameter or trim width can be 4" when choosing a model with "double bubble" seals.

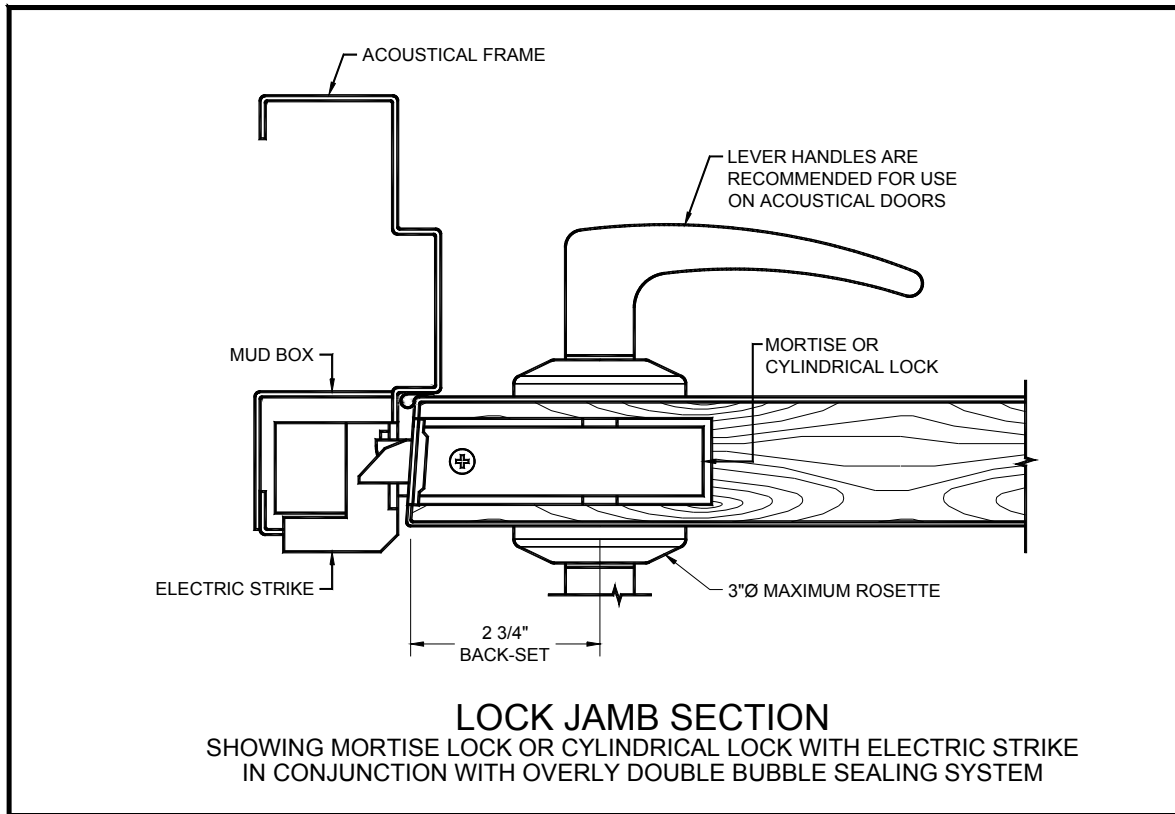
And when the Overly compression seals are used, due to the fact that our perimeter seal covers are 1-1/8" high (see explanation in cylindrical lock section), we recommend that lever handles always be used to avoid the "knuckle buster" situation. As in cylindrical locks, due to the 2-3/4" backset, the maximum rose diameter cannot exceed 3".



- C. **Unit Locks:** Overly does not recommend the use of any unit type lock under any circumstances. These locks require the entire edge of the door to be notched out and the escutcheon trim interferes with the 1-1/8" high perimeter seals. This prevents the seal from contacting the door. We cannot certify any acoustical ratings when this type of lock is used.
- D. **Simplex Unican 1000:** This type of cypher lock is very sensitive. If this type of lock must be used, Overly recommends that a sound retardant wood door equipped with its' "double bubble" seals be specified. Use on models which utilize Overly H type compression seals is not recommended.



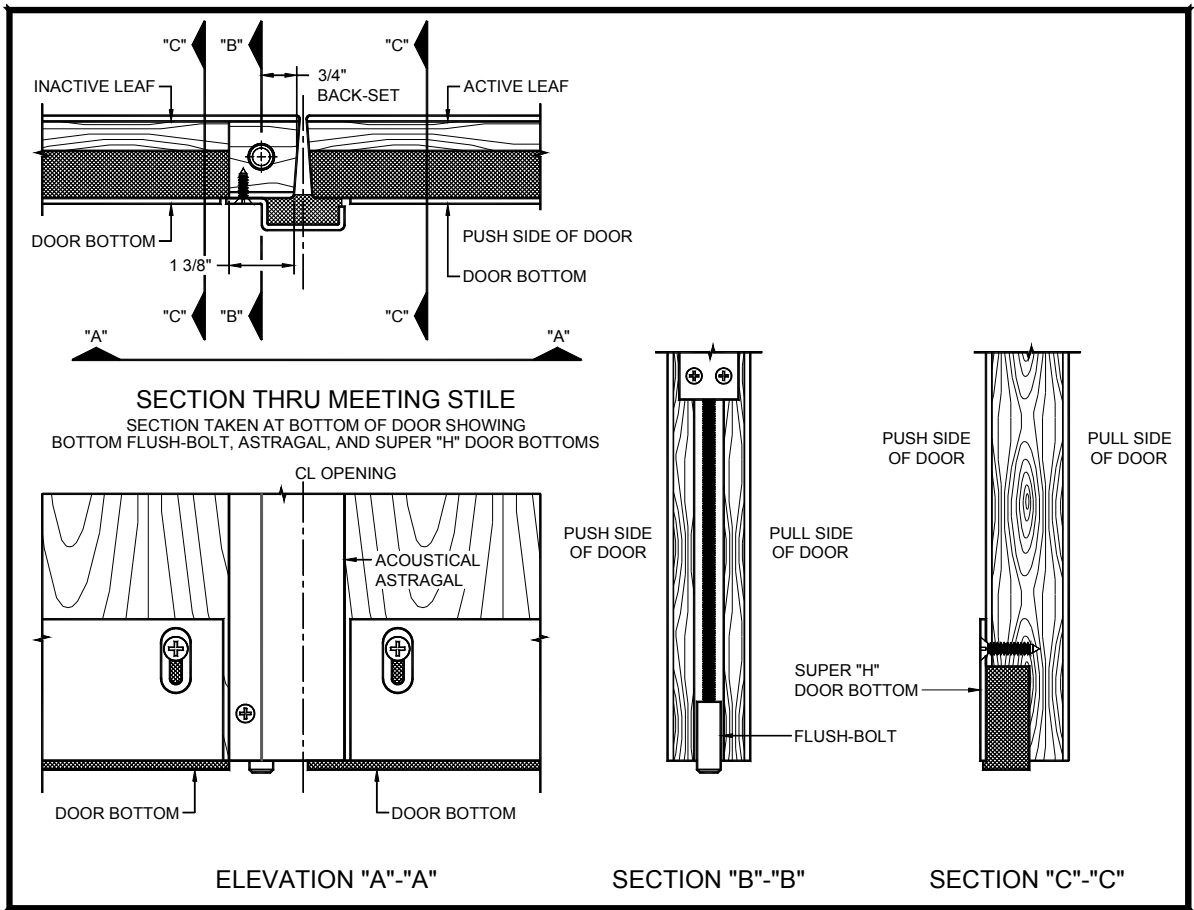
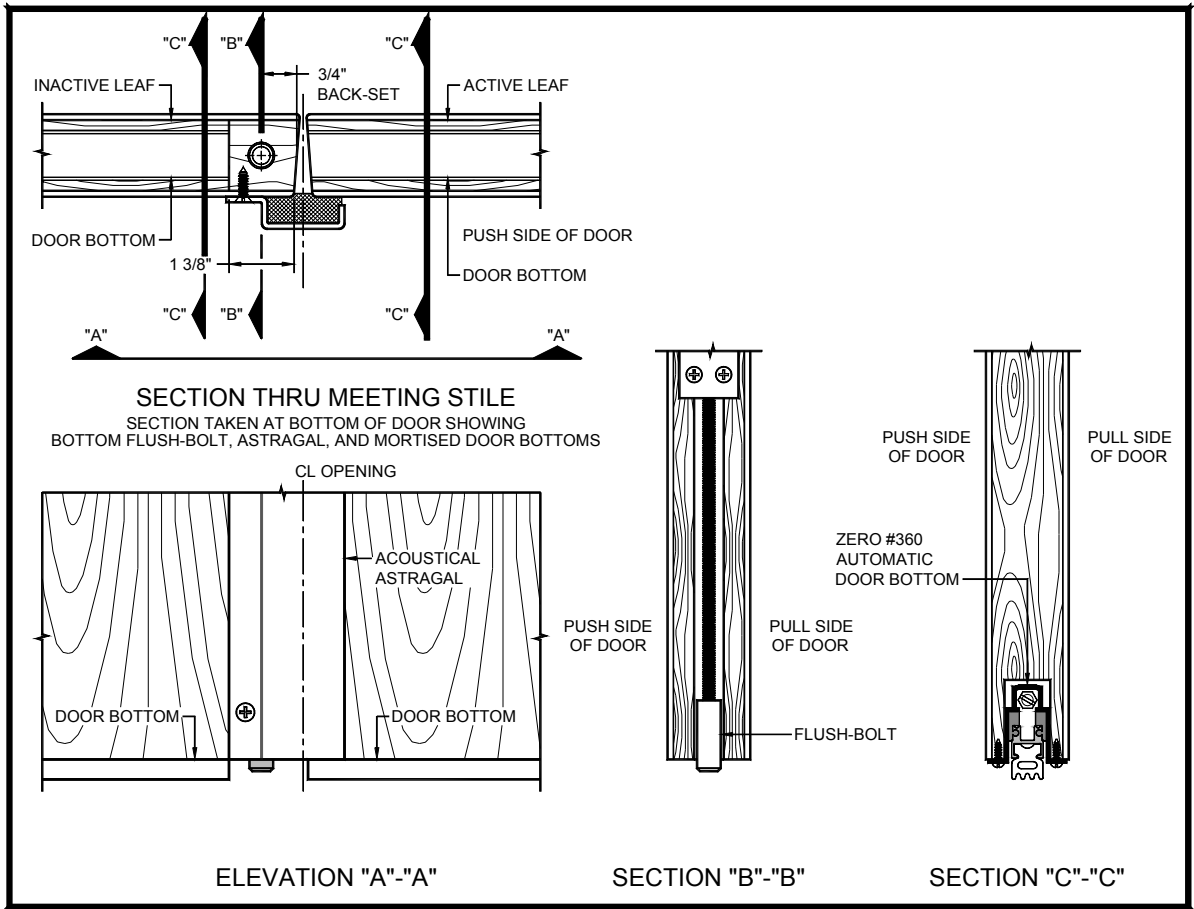
**E. Electric Strikes for single swing openings:** Overly recommends that if electric strikes must be used, sound retardant wood doors equipped with Overly “double bubble”seals be specified. Most electric strikes are too sensitive and bind up when used with compression type seals. The compression seals create pressure between the latch bolt and the gate of the electric strike and will not allow the gate to activate and retract properly.



**F. Electric Strikes for inactive leaf of Pairs:** Due to the unique fabrication and assembly methods of Overly sound-retardant wood doors, electric hardware preparations of any kind **cannot** be done, and therefore **no** electric hardware can be used at any time.

## Flushbolts:

**A. Manual Flushbolts:** For all Overly sound-retardant wood doors, manual flushbolts designed for wood doors can be used. Overly recommends the Ives 358 or equal. As a caution, when flushbolts are placed into the in-active leaf, the acoustical door bottoms must be held back from the strike edge of the door to allow proper flushbolt prep. This leaves a section of the door bottom without gaskets, which will decrease the acoustical performance of the door slightly. For pairs of doors that require maximum acoustical performance, Overly recommends using a door model with a raised threshold seal at the bottom of the door.

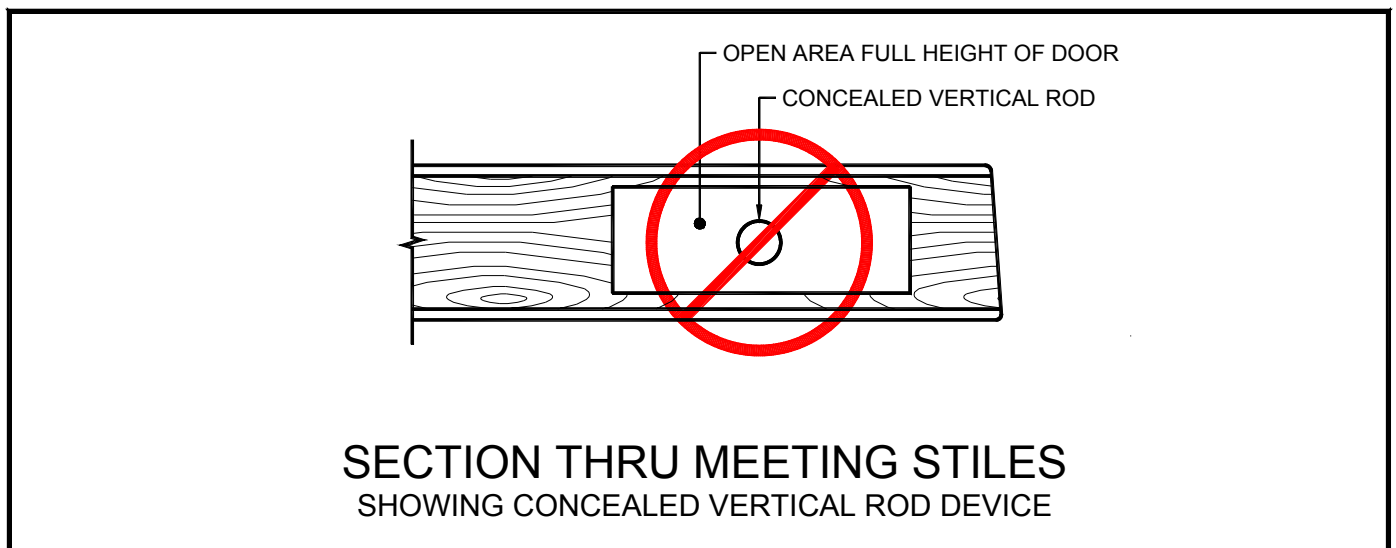




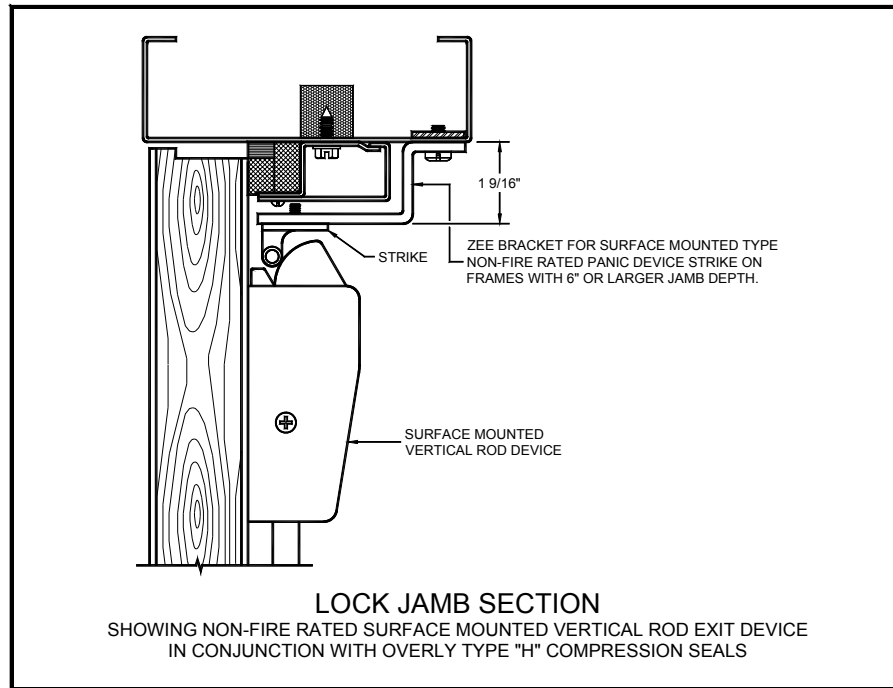
**B. Automatic Flushbolts:** Automatic flushbolts are not recommended for use with H type compression seals. If automatic flushbolts are required, a sound retardant wood door model that utilizes Overly “double bubble” seals is recommended. The reason compression seals should not be used is that when the door is closed, the compression gaskets and astragal are adjusted and pressure is applied to the door(s), the automatic flushbolts will not retract as required when the active leaf is opened. While the bolt may retract if the inactive door is pulled tightly against the seals, when the door is closed again, it will not automatically enter the strike, since it requires a loose clearance to function properly.

## Panic Devices:

**A. Concealed Vertical Rods for pairs of doors:** Concealed vertical rods cannot be used in any of its sound-retardant wood doors. The reason being that due to the unique construction required to achieve superior acoustical ratings, proper preparation of the door cavity in combination with structural integrity cannot be achieved.



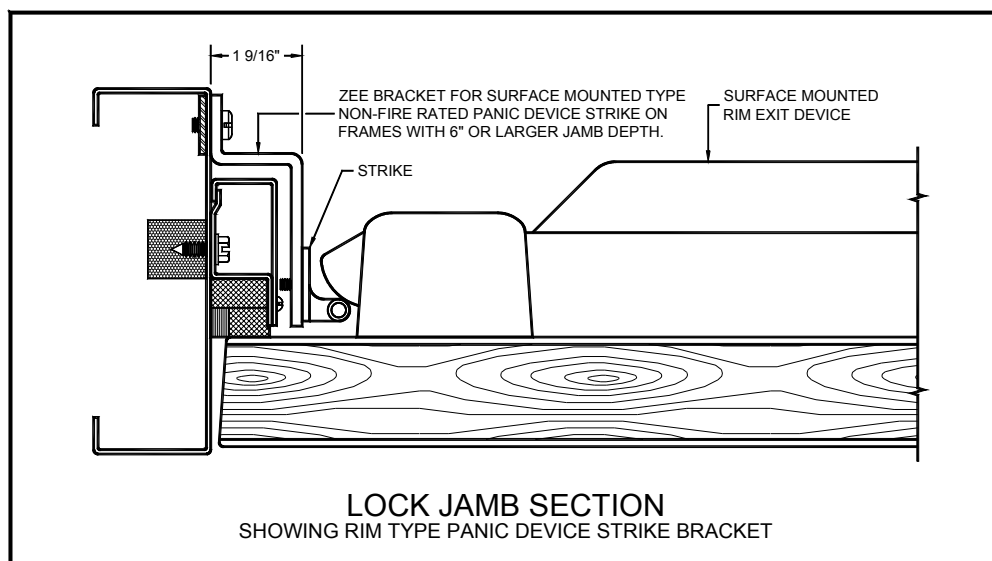
**B. Surface Mounted Vertical Rods:** When surface mounted vertical rods are to be used in conjunction with wood door models where H type compression seals are used, the required roller strike for the top latch strike **must** be mounted to a Z- or L-shaped bracket, supplied by Overly, at the head. If a door model is specified with “double bubble” seals, the top latch strike can be mounted directly to the frame.



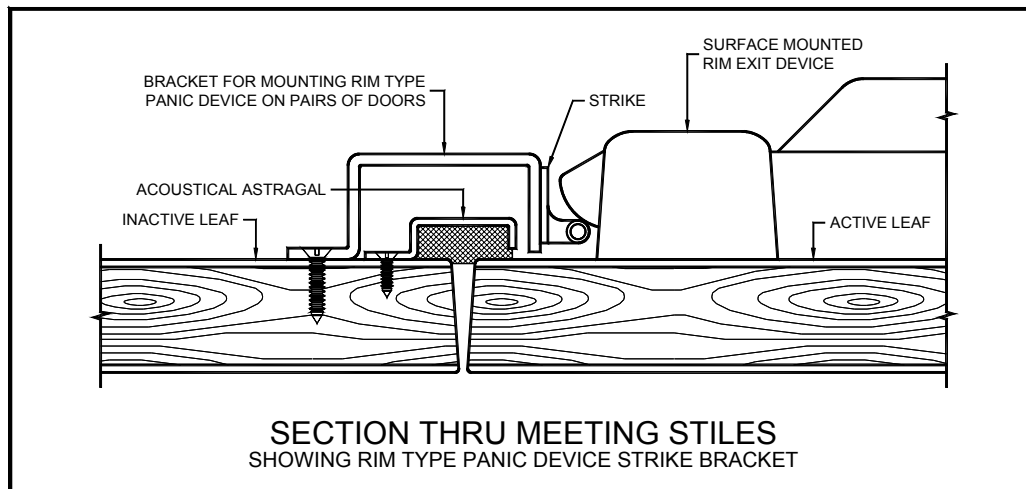
The bottom latch of the device has two (2) conditions on Overly sound retardant doors due to the type of door bottoms utilized.

1. When the automatic type is used, any mounting screws occurring on the bottom 2" of the door must be cut short or they will prevent the automatic door bottom from operating properly.
2. When an Overly Super H door bottom is used, adjust the door bottom first, then drill, tap and mount the bottom latch. The bottom latch will mount directly to the 11 gauge retainer plate of the door bottom.

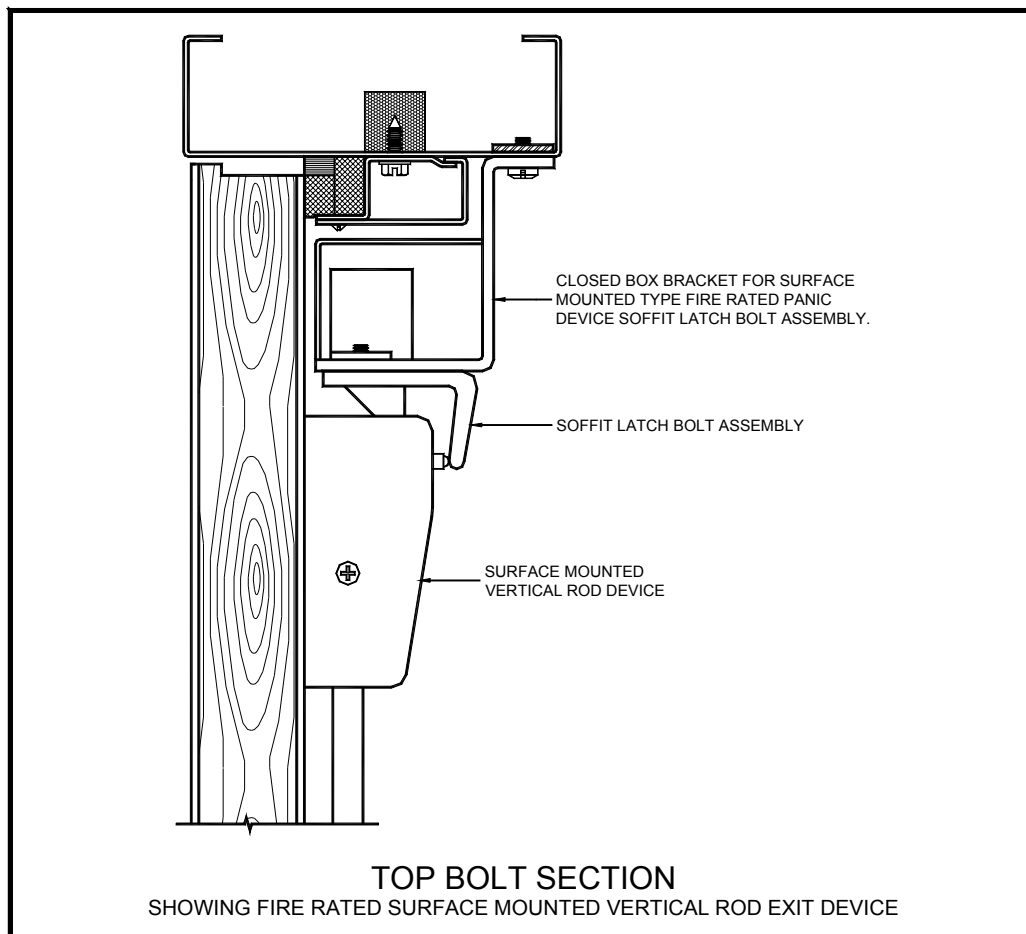
**C. Rim Type (single doors only):** When rim type locking devices are required and used in conjunction with door models equipped with H type compression seals, the roller strike must be mounted to a supplied Z- or L-shaped bracket. Overly provides this bracket and its shape is determined by the frame jamb depth. If a door model is specified with "double bubble" seals, the latch strike can be mounted directly to the frame.



- D. Rim Type (pairs of doors):** For all models of Overly wood doors swinging in pairs using a rim type device for the active leaf of a pair, Overly supplies a roller strike mounting bracket. **Do not mount roller strike directly to the acoustical astragal.**

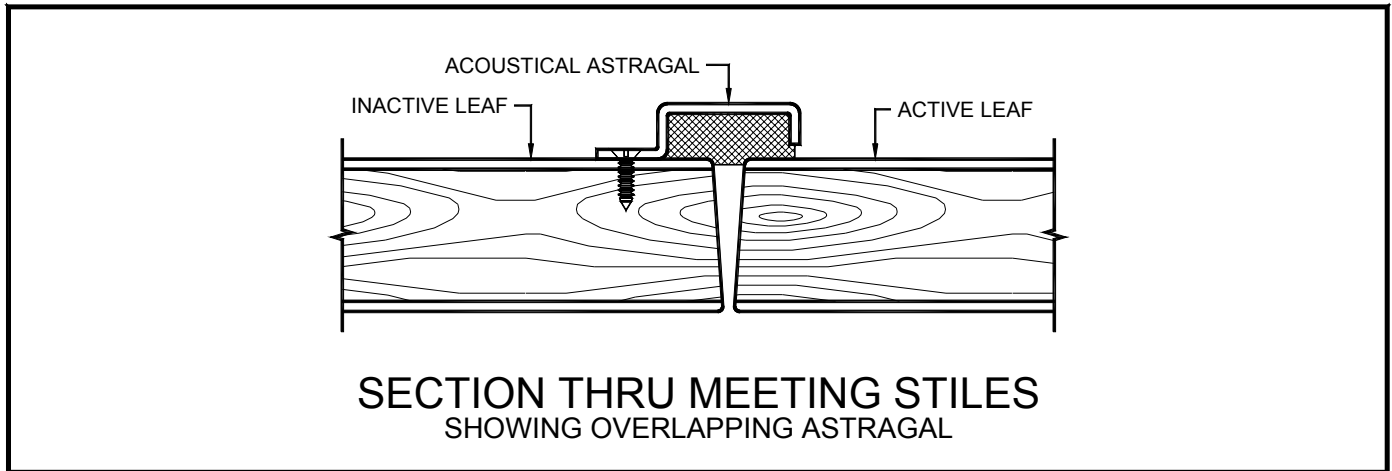


- E. Fire rated vertical rods:** When fire rated surface vertical rods are used in conjunction with pairs of door models that require H type compression seals, a special soffit latch mounting assembly is provided by Overly and must be used at the head. The top latch strike **must not** be directly mounted to the seal cover. If a door model is specified with “double bubble” seals, the top latch strike can be mounted directly to the frame.

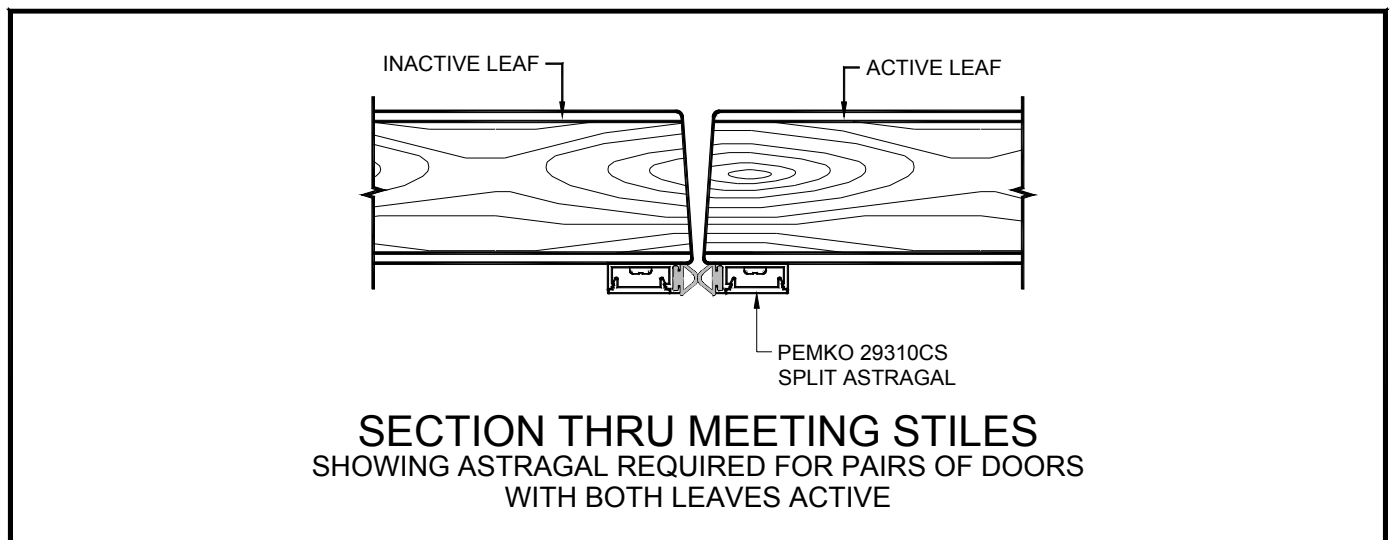


**F. Exit devices (pairs of doors):** On pairs of acoustical wood doors, Overly supplies two types of astragal situations. They are an overlapping surface mounted type located on the push side of door, an overlapping integral type located on the push side of door and a surface mounted split type mounted on the pull side of the door.

**Overlapping surface mounted type:** Overly supplies a surface mounted type astragal secured to the narrow side of the inactive leaf. If both leaves of the opening are to be “active”, Overly recommends that a mortise lock exit device and a surface mounted vertical rod device be used. This will also require the use of a coordinator to allow the doors to close in the proper order to account for the overlapping astragal. Overly recommends an arm type coordinator such as the Ives COR9G with a long enough arm to accommodate the overlap of the astragal. If a bar type coordinator is used, a coordinator bracket set-up must be supplied by Overly.

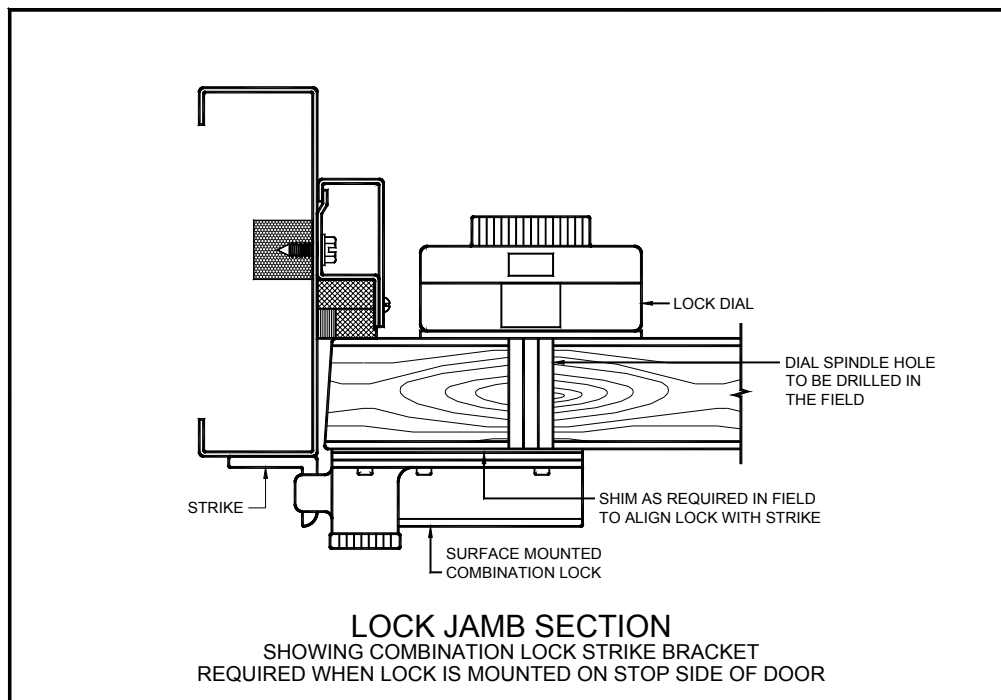
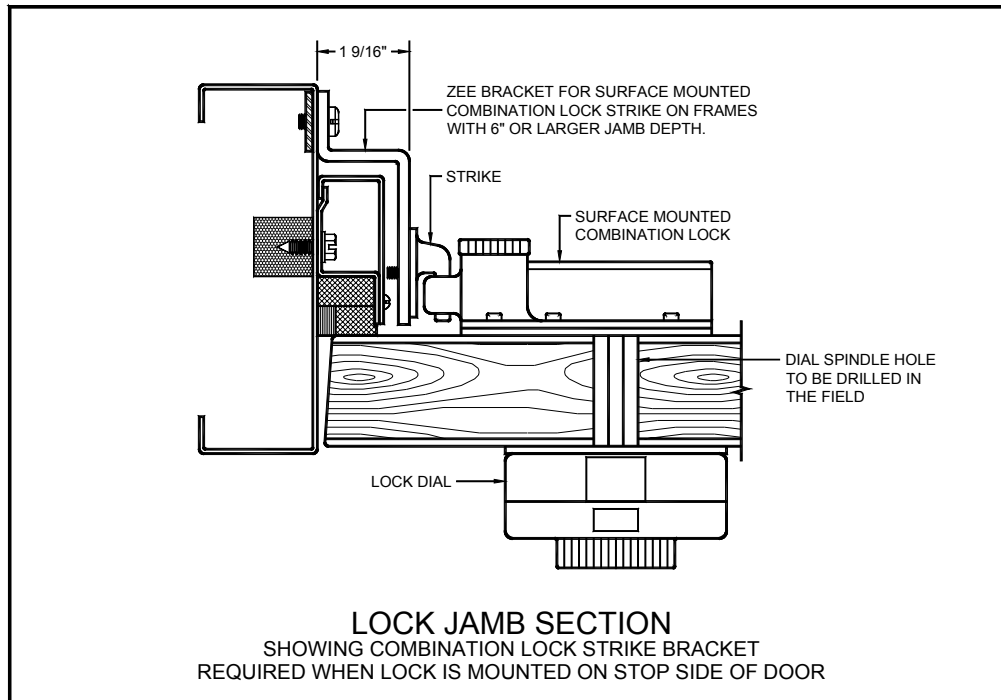


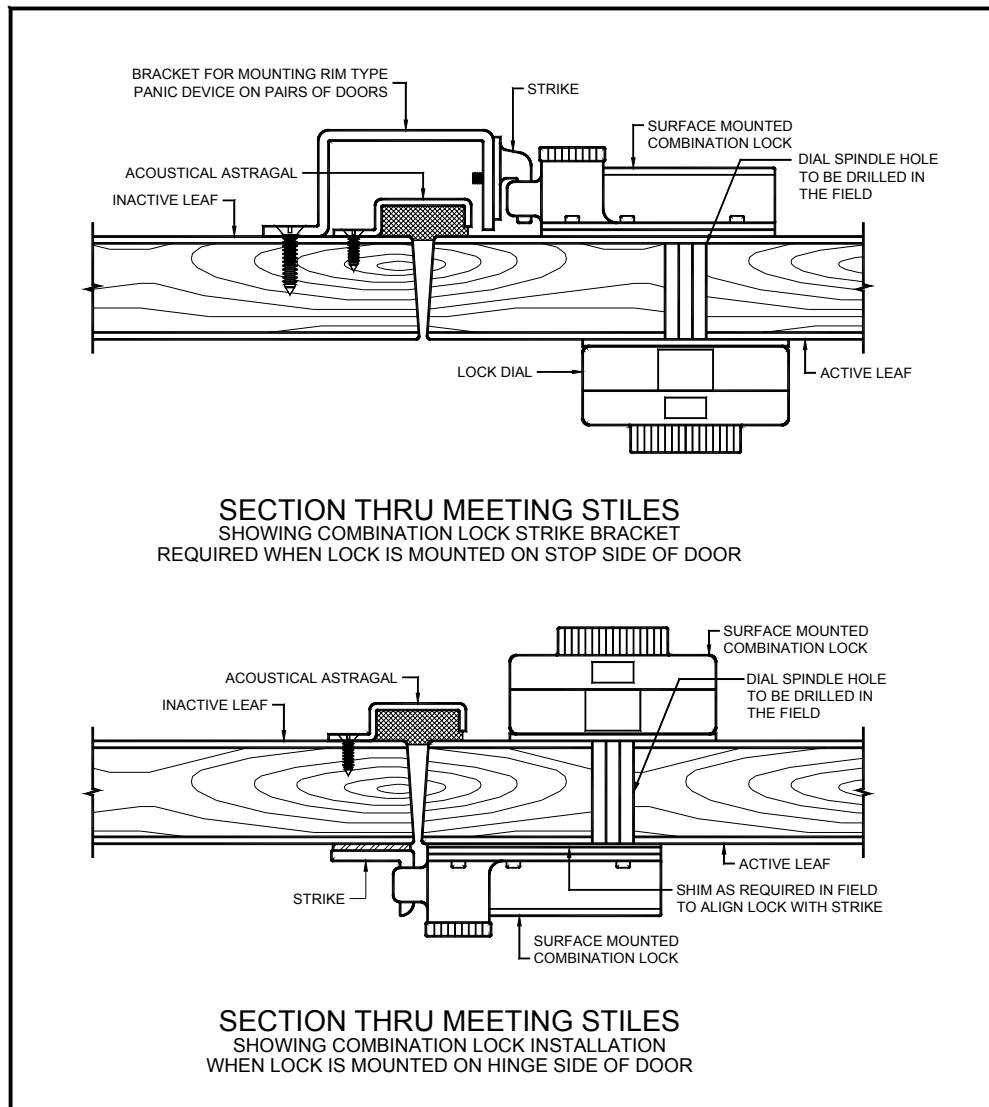
**Surface mounted split type:** When both leaves are required to be active and both are equipped with surface mounted vertical rods, Overly provides a split type astragal designed to work in this situation. The overall acoustical effectiveness is not as good as when the overlapping types are used, but is acceptable for most applications when egress is the primary concern.



# Surface Mounted Auxiliary Locks:

When models that require H type compression seals are used, surface mounted auxiliary locks such as the Sargent & Greenleaf 8470 or Mas-Hamilton CD X-09 combination locks or a Yale 197 deadlock require a strike bracket when the device is mounted on the stop side of doors. For all models using the “double bubble” type seals, the strike bracket can be mounted directly to the frame.



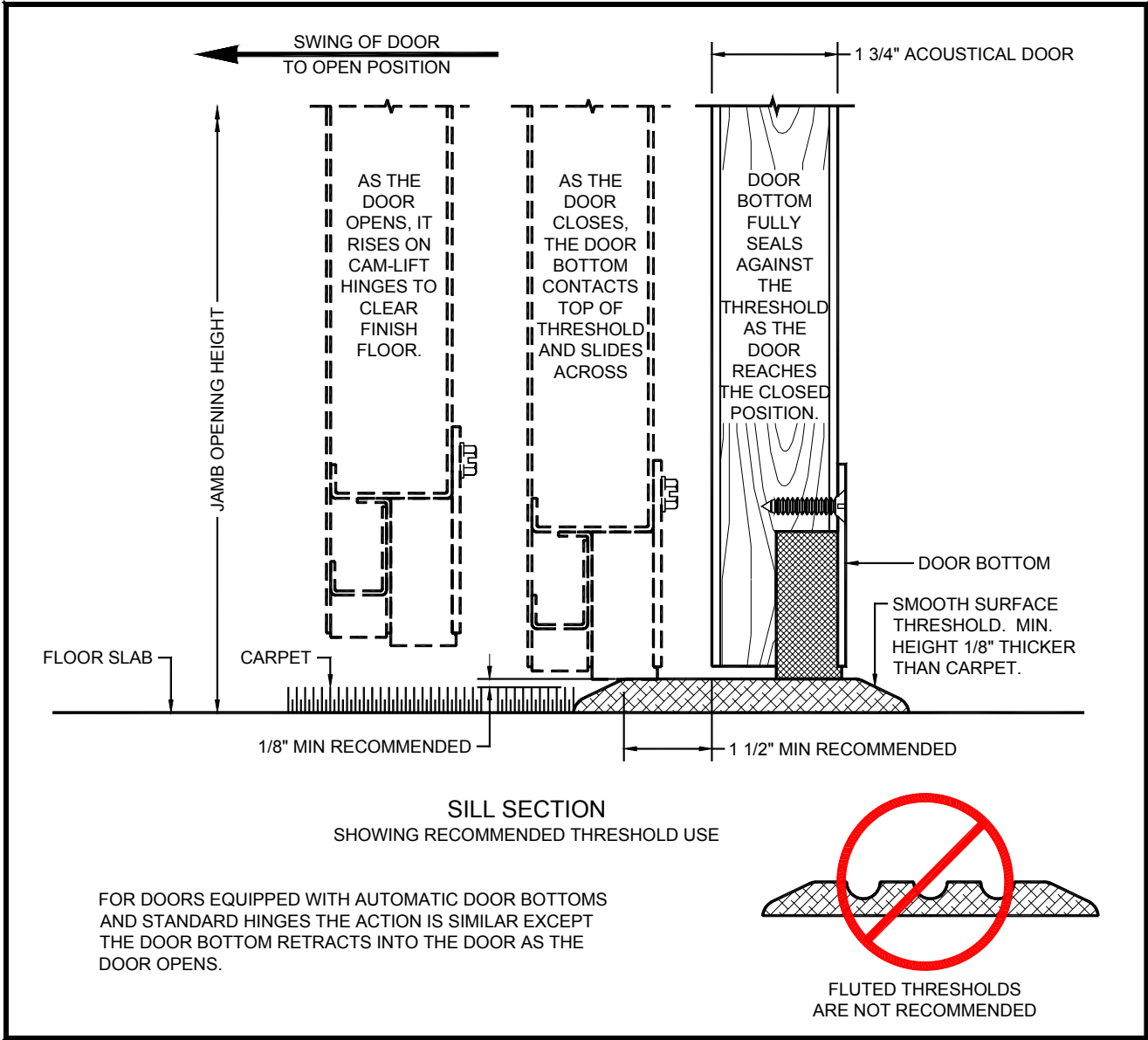


## Thresholds:

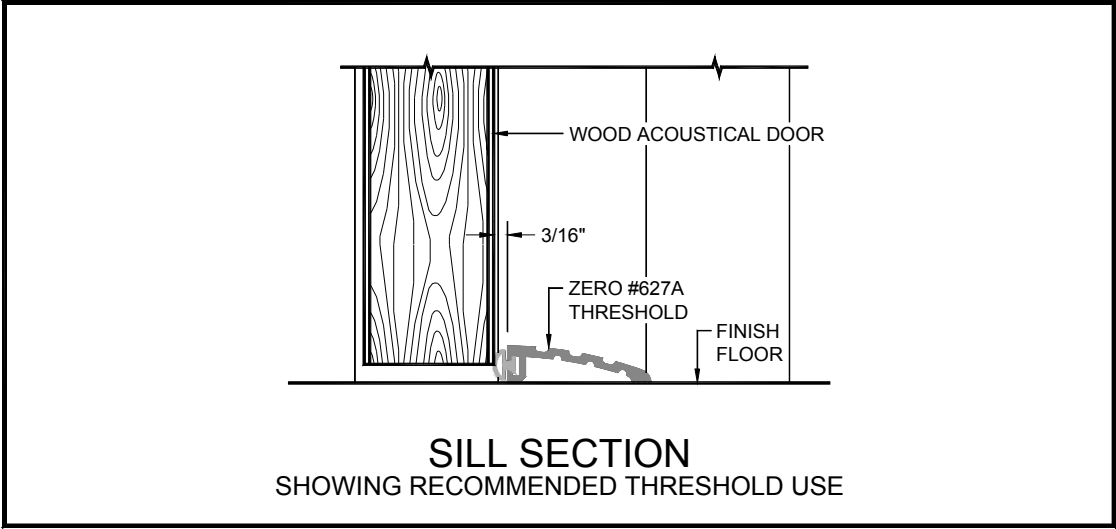
Models of Overly sound retardant wood doors which utilize automatic or compression type door bottoms, must have a smooth, level surface for the door bottom to seal against. If carpeting is to be used, a threshold must be installed. The height of the threshold should be at least equal to and preferably 1/8" higher than the carpet. It is recommended that the threshold be installed against the sub-floor and run the carpet up to the threshold. **Do not** install the threshold on top of the carpeting. Thresholds are to be set in a good grade of acoustical sealant.

**Note:** The use of fluted and/or abrasive coated thresholds will cause premature wearing and failure of the door bottom neoprene.

The position of the thresholds should be such that the leading edge of the threshold be placed no deeper than the door side trim of the frame.

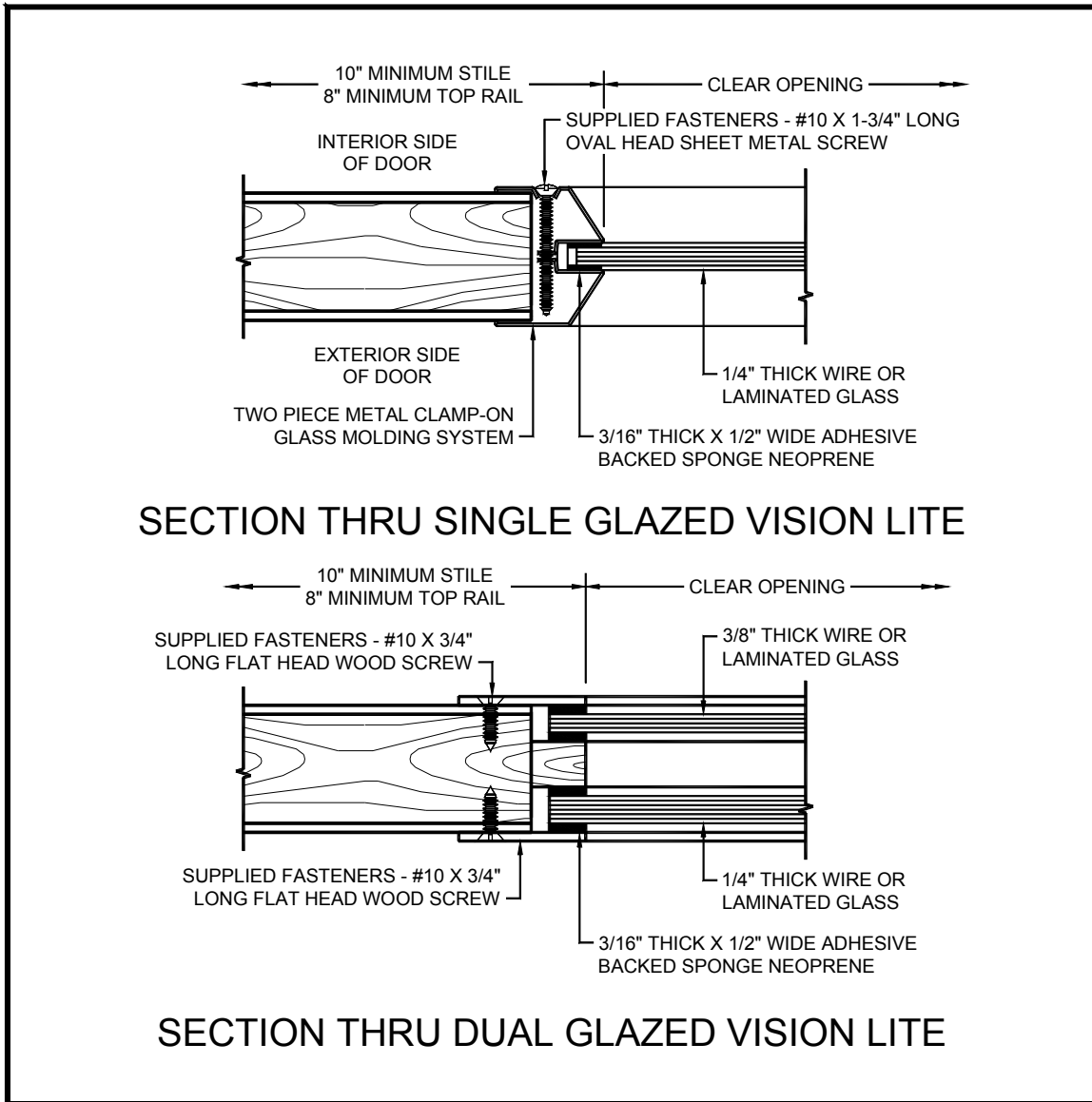


For Overly models that utilize a gasketed threshold to achieve the bottom seal, the threshold must be shimmed so that the bottom of the threshold is at carpet height or finished floor height.



## Vision Lights:

Overly has two options available for use in it's line of sound-retardant wood doors. The first is a single glazed clamp-on glazing system, and the second is a dual-glazed applied stop system.

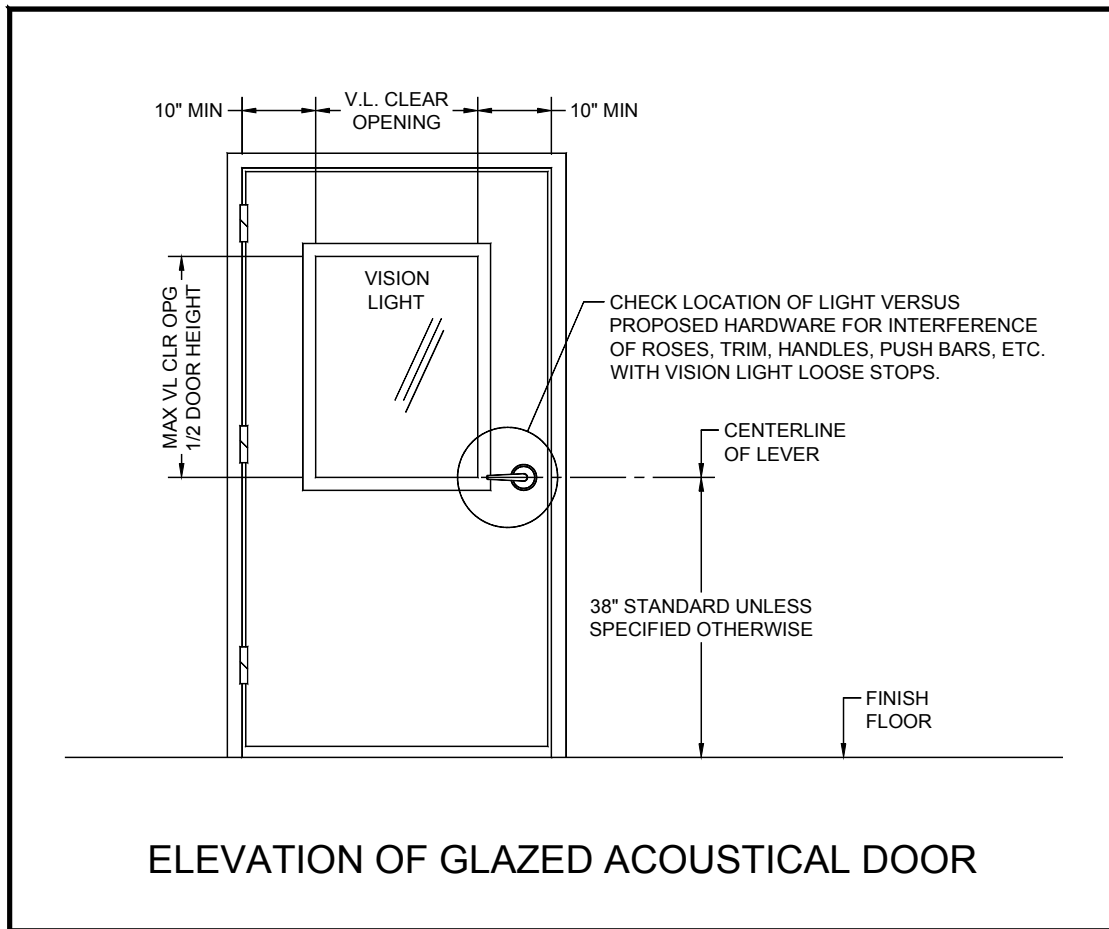




There are several items to consider when placing either vision light systems into an Overly wood door. First is that due to the unique sound-retardant construction required, 10" stile and 8" rail dimensions must be maintained to allow proper preparations in the doors.

Second, is the overall heights of the vision light system. Again, due to their unique construction and in order to maintain the door slab structural integrity, a maximum height for a light **cannot** be greater than 1/2 the door height.

A general item to consider when placing vision lights in any type of door is to be sure and check the position of the light in relationship to the latching hardware to be used on the door leaf. Many times, poor planning often results in a "collision" between the latch and loose stops of the vision system.



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