

Industry Standards & Recommended Guidelines for Installation

The important point is that a door should close, latch and seal regardless of tolerances. Installers must notify the GC if any conditions prevent acceptable latching and sealing. NFPA 80 recommends a clearance of 2 credit cards thickness. "Cush 'N' Seal" should work with only 1 credit card thickness (1/32"). The installers of hinges, frames and doors need to understand that when the dimensions allowed the manufacturers are combined with the dimensions allowed the installers, field adjustments may be necessary. Proper inspection and installation guidelines can help avoid problems.

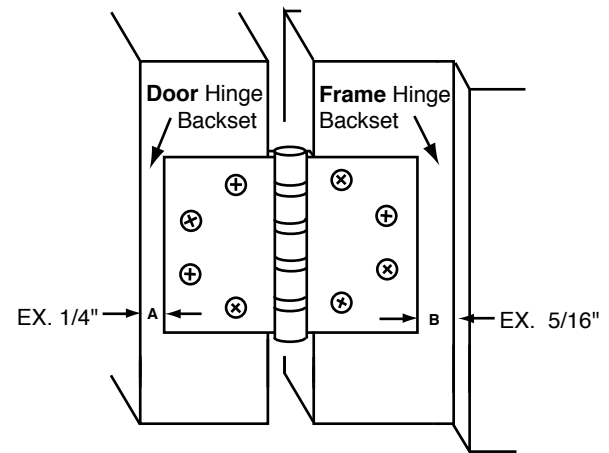
PRELIMINARY ACCEPTANCE: sample some doors and verify actual width (verify mitre to mitre), height (for proper undercut), and distance to first hinge (top clearance). AWI allows +/- 1/32".

Standing Outside: The Hall Side

STEP #1 HINGE SIDE CLEARANCE

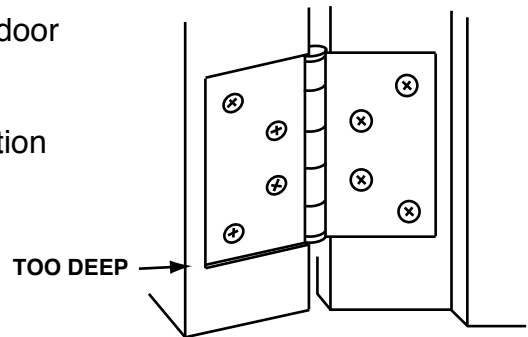
1.1 Frames: Place a hinge in the frame and verify that the tap plates allow the hinge to sit perfectly flat to the rabbet.

Doors: Before installing hinges on doors verify that the hinge backset on the door is 1/16" less than the frame backset. (use an adjustable carpenter's square). The door mfg. is allowed (AWI) +/- 1/32"



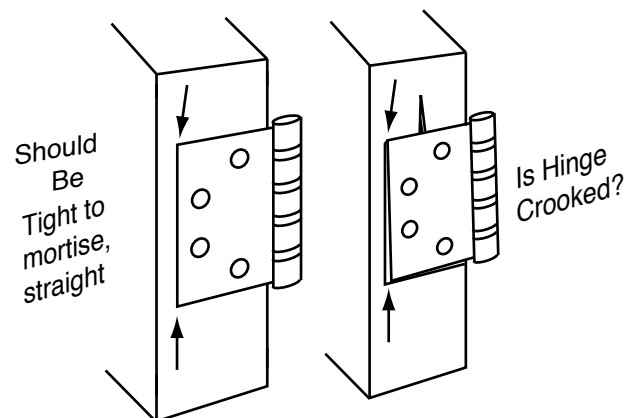
1.2 Surface of the hinge should lay flat to the surface of the door edge. Wood door manufacturers state that shimming or sanding, if necessary, is standard installation procedure. AWI allows the manufacturer +/- 1/32" on hardware location mortise.

On hollow metal frame or hollow metal door -
Are tap plates on door or frame welded in on an angle?



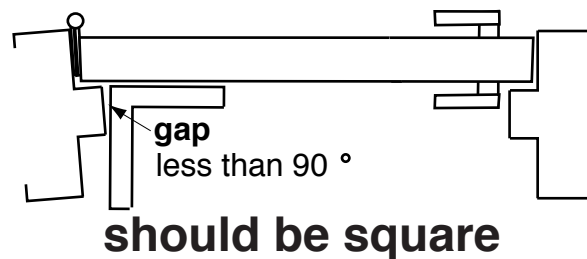
1.3 Hinge should be tight in the door mortise.
NO GAP ALLOWED.

Pilot holes should be drilled for all hardware.
Pre-drill holes for hinges and lockset (mortise lock or latch of cylindrical lockset).



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- 1.4 Check for twist in frame with a carpenter square. If 1 credit card can slip in the gap as shown, the frame is out of spec for twist.

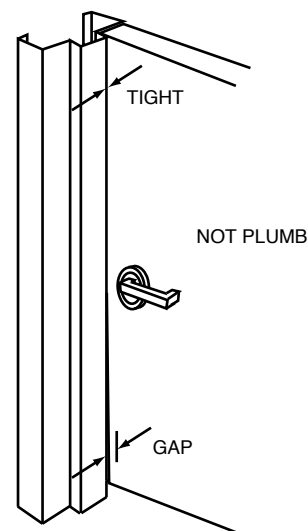


STEP #2 STOP SIDE CLEARANCE

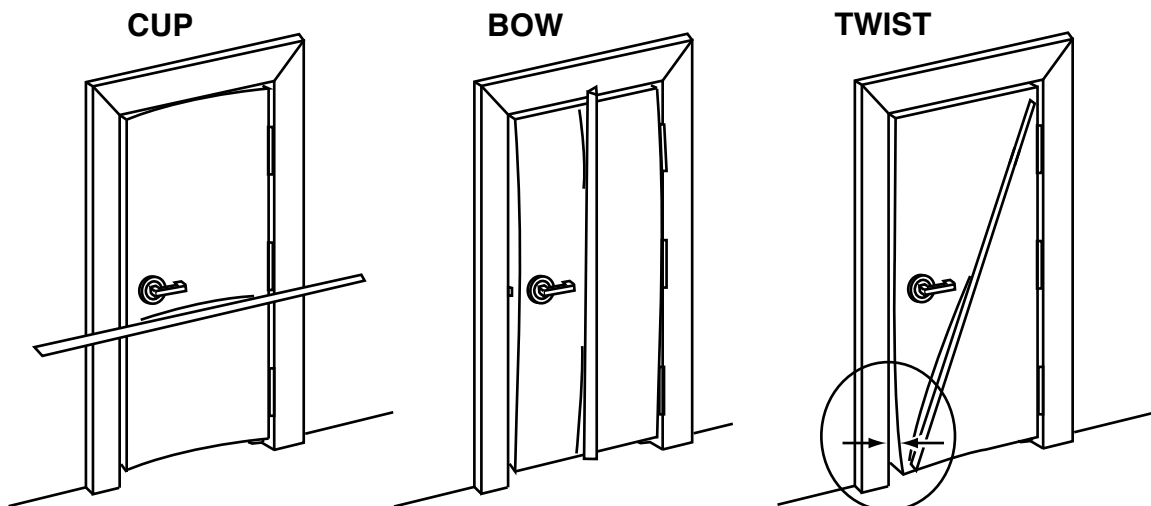
With no rubber mutes in the frame, close the door. Latch should rattle in the frame strike plate.

If there is no rattle: is there a gap between the face of the door and the frame stop at the top or bottom?

- 2.1 SDI allows 2 credit cards. **NOTE:** "CUSH 'N' SEAL" can compensate for 8 cards out of plumb. This measurement is more for the lock installer for causes of bind on a latch.

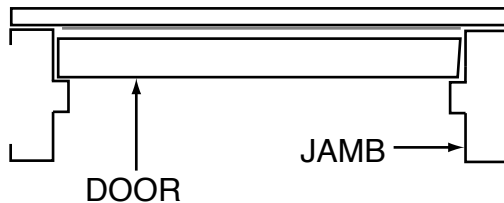


- 2.2 Use guide 1.4 "CUSH 'N' SEAL" mounts on the lock jamb rabbet, not on the stop. Mutes and "tear drop" seals use up almost 1/8" more tolerance on strike plate, which causes bind.
- 2.3 Check for cup, bow, and twist with 7'-0" straight edge. AWI allows 1/4" measured on the Cup side only. AWI 1300-T1.



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2.3, cont'd



Face of door should be parallel with plane across faces of frame. Straight edge can be extended beyond jack studs to qualify plumb of studs before drywall.

Standing Inside: The Hall Side

STEP #3 SQUARE and SPREAD (NFPA 80: 1/8" clearance at top and sides)

Check for square on the hinge and lock jambs. Check for a problem with latching:

- 3.1 If there is a gap in the square it can not exceed 1/32" (1 credit card in the 16") SDI = 1/16 in 36"
- 3.2 There should be a minimum clearance of 1/16" between door edge and frame = 2 credit cards
- 3.3 Bottom clearance to rug: the practical observation is that the door should self close and latch without rug interference.
- 3.4 Check bottom of frame for spread. Not less than, nor more than 2 credit cards (1/16") in 36"

NOTES:

These "Nationally Referenced Standards" are used by code officials and QA personnel.

- No light shall pass the frame perimeter, per **UL 1784** test standard.
- **NFPA 80** states that no field modifications shall be made to a fire tested component.
No filing of a strike plate is allowed. This can void the fire label on the opening.
- Consult Specifications and code requirements for minimum **STC rating** on corridor doors.
- If a fire marshall objects to a door guard being used to illegally prop open the fire door, if you have banging complaints or door edge damage, or if ADA objects, view "Secur-A-Latch" on our website.

STEP #4 CLOSING, LATCHING, SECURING and FIELD QUALITY ASSURANCE Continued on Page 4

Observe for slamming and if the latch does not engage easily. Do not slam a door to make it latch. From 70 degree (ADA) open position: door should not be faster than 3 seconds (NFPA 101) to move to within 3" from latch, but (NFPA 80) not slower than 10 seconds.

- 4.1 (if closer) check valve adjustments for sweep, latch, and backcheck. Maximum closer resistance (ADA) Interior = 5 lbs., Exterior = 7 1/2 lbs.
- 4.2 (if spring hinges) check for equal tensioning on each.
- 4.3 With door held open, latch or lock or panic device should operate freely.
Lever torque shall not exceed ADA (taken from NFPA 101 Life Safety) of 15 inch pounds.
- 4.4 Check for door guard interference with seals and latching.
- 4.5 See note on copyright Installation Checklist forms regarding teardrop seals.

"Quality Assurance Form For Inspecting Guest Entry Openings"

In order to understand how gasketing can negatively impact the security of a lockset, log on to **dhsi-seal.com/roomsecurity.htm** & open **QA** to explain each letter below with digital photos. Use this form for punch list checkout or for security checklist by operations department.

- A. Auxiliary latch defective.
Room numbers failing: _____
- B.1 Verify that the latchbolt easily and fully extends into the strike plate when allowing the door to close from 70 degrees.
Room numbers failing: _____
- B.2 The strike plate is free of any material that could prevent the latch from engaging.
Room numbers failing: _____
- B.3 Inspect if the strike plate has been filed.
Room numbers failing: _____
- B.4 Inspect if the latchbolt is not engaging fully. Push on locked door. If you hear 'click' you have a security problem. **Room numbers failing:** _____
- B.5 **Existing Construction Only:**
List individual room numbers where condition exists. List as "all", etc:
No gasketing on door frame: _____
"Teardrop" gasketing currently on door frame: _____
Other type of gasketing (e.g. screw on stop applied): _____
DHSI "Cush 'N' Seal" installed on frame: _____
- List** openings where light can pass the frame perimeter (exclusive of the door bottom):

After removing gasketing, **list** the door opening numbers that have interference with credit card:

- B.6 Have frames been spread at the base to defeat the auxiliary latch and "card" the latchbolt?
List the room numbers where there is exposure to or actual violation at the base:

- C. Does the gap between the door and lock edge exceed 2 credit cards thickness?
Room numbers failing: _____
- D. Gaps under the door: Is there a recognizable gap between the door and the floor? Yes ____ No ____
Existing condition: Rug to Rug: no door bottom _____ with door bottom _____
Threshold: no door bottom _____ with door bottom _____

These details deal primarily with mortise locksets. Please bear in mind that the same conditions for securing a mortise lock latch apply to the anti-pick on a cylindrical latch. If you push on the door and the anti-pick on the cylindrical latch "jumps" into the strikeplate, you lose your security and the lock can be carded. Proper clearances, installation procedures and gasketing have to be monitored as a sealing and locking system.

Receipt Acknowledged By:

Site Supervisor (print): _____

General Contractor: _____

Date: _____

Project: _____

City/State: _____

copyright
RG-4-07

Required: Print forms and fax to DHSI at 585-235-0431.