

⇒ These forms can be viewed on our website at: dhsi-seal.com/inspectionforms.htm ⇐

Industry Standards & Recommended Guidelines for Installation

Installation Notes: On door frames that have previously used teardrop seals:

- The strike plate was probably die-grinded to relieve lock pressure, which also allowed a gap for noise and smoke to pass. If the strike plates were die grinded, you should replace them with new strike plates as originally fire tested.
- The closing speeds of spring hinges or closers were originally increased to overcome bind caused by teardrop seals. "Cush 'N' Seal" works with a much lower closing force. Decrease the tension on the spring hinges or closers to achieve the "Quiet Latch Sealing System."

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.

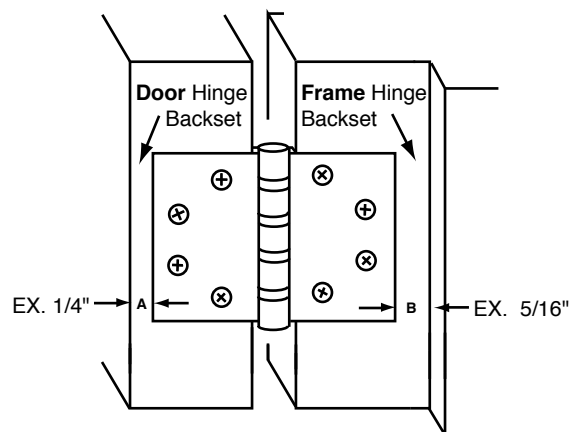
PRELIMINARY ACCEPTANCE: sample some doors and verify actual width (verify mitre to mitre), height (for proper undercut), and distance to first hinge (top clearance). AWI allows +/- 1/32".

Standing Outside: The Hall Side

STEP #1 HINGE SIDE CLEARANCE

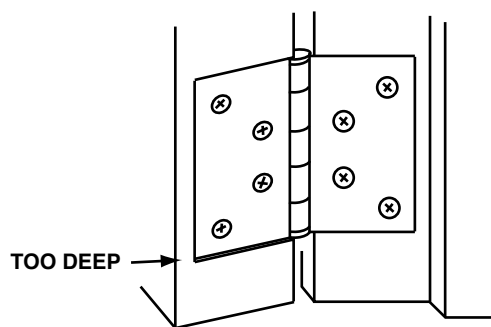
1.1 Frames: Place a hinge in the frame and verify that the tap plates allow the hinge to sit perfectly flat to the rabbet.

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



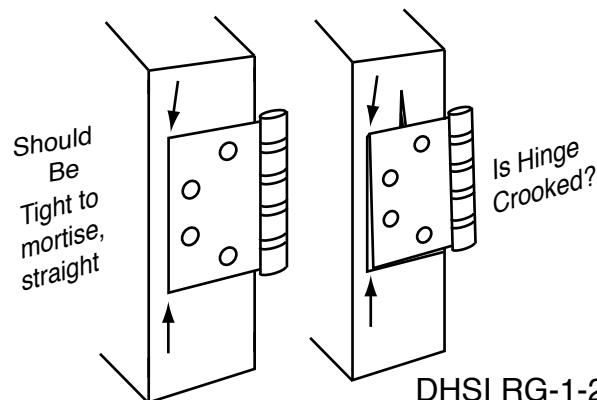
1.2 Surface of the hinge should lay flat to the surface of the door edge. Wood door manufacturers state that shimming or sanding, if necessary, is standard installation procedure. AWI allows the manufacturer +/- 1/32" on hardware location mortise.

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.

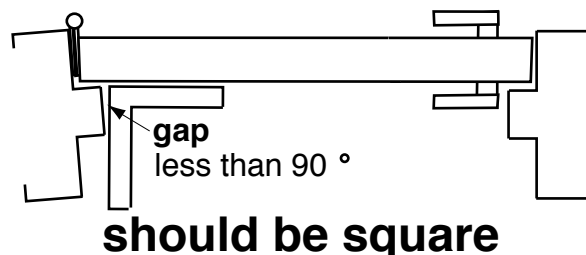
Pilot holes should be drilled for all hardware.
 Pre-drill holes for hinges and lockset (mortise lock body or latch of cylindrical lockset).



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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 by industry standards.

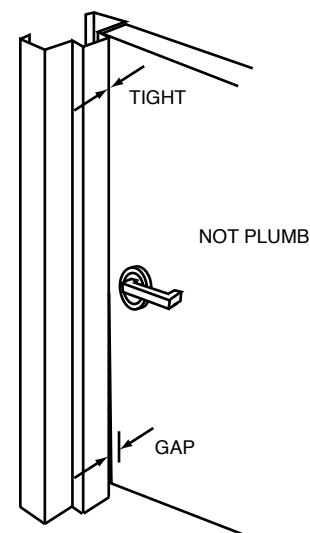


STEP #2 STOP SIDE CLEARANCE

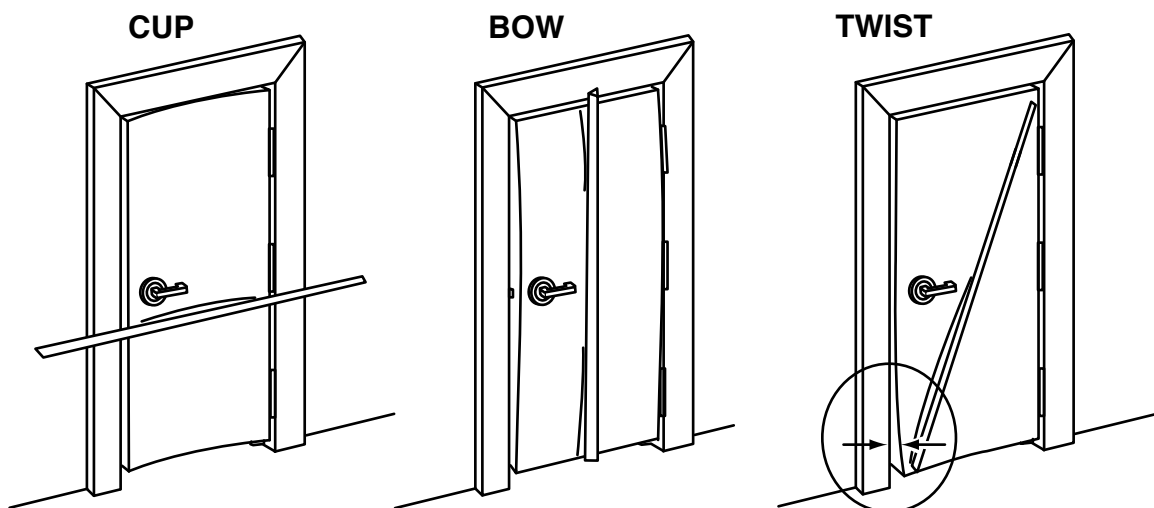
With no rubber mutes in the frame, close the door. Latch should rattle in the frame strike plate.

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** The industry standard by the Steel Door Institute (SDI) allows a maximum of 2 credit cards clearance. 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.



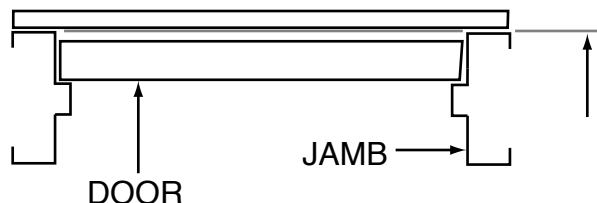
- 2.3** Check for cup, bow, and twist with 7'-0" straight edge. AWI allows 1/4" measured on the Cup side only. AWI 1300-T1.



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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 Room 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"(1credit 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.
With door closed, torque on lever shall not exceed ADA (NFPA 101 Life Safety) 15 inch pounds.
- 4.4 Check for door guard interference with seals or flip guard engagement interference.
- 4.5 See note on page 2 of Installation Checklist forms regarding teardrop seals.