

DOOR AND HARDWARE SYSTEMS INC.

**Manufacturers of patented
frame seals, door bottoms and
thresholds for smoke, fire,
sound, sight, security
and weatherstripping**

◆
Website: dhsi-seal.com

DHSI SEALING SYSTEMS

Products, Performance Specifications and Systems Testing:

The burden is on a manufacturer to show evidence all components are code compliant as a system



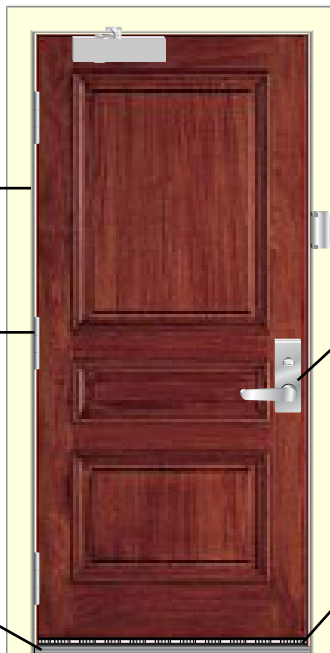
**Sealing Systems:
90 minute Positive
Pressure Rated**

meets UL 1784 & UL10C

**DHSI Seals are ADA
compliant for opening
and closing forces.**

DHSI Frame Seals:
Achieved a field operable
STC 32 with a 20 minute
particle core fire door
(higher STC and NIC
data available)

**Interior Thresholds
by DHSI:**
Fire Rated, Solid Colors



**Patented #SAL
"Secur-A-Latch"®
Privacy Guard - Page 9**

Per ADA: The system cannot
allow the lever to exceed
15 inch/pounds to open

**Mortise and Surface Door
Bottoms by DHSI:**
Available up to 90 minute
Positive Pressure rated.
Patented Option: Block light
and sound, yet allow air return
under the door!

DHSI Sealing Systems provide the highest STC and NIC ratings, Life Safety and security assurance, even under allowable Industry Tolerances for warp, thermal bow and out of plumb. Only DHSI can provide manufacturer's evidence that doors will close, lock, seal and secure within NFPA 80, Life Safety, ADA, UBC 7-1 for positive pressure and 7-2 for smoke with Warnock Hersey.

DHSI projects with non-proprietary performance based systems specifications:

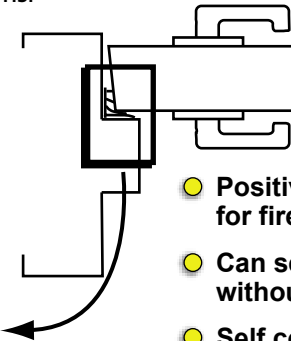
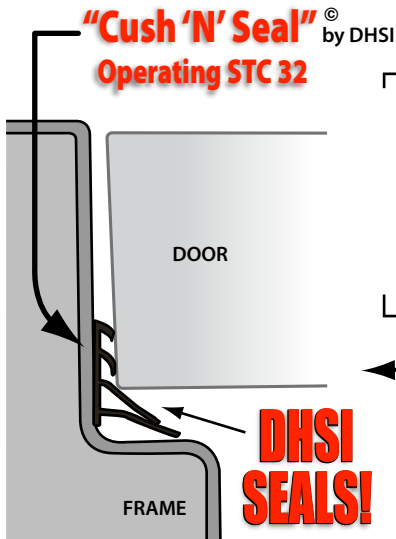
- The rebuild of the Pentagon (9-11) for smoke, fire & sound assemblies, both HM & wood doors
- Ritz-Carltons in Washington DC, Boston, Miami, New York City, Amelia Island, San Juan...
- Four Seasons in Jackson Hole, Palo Alto, Boston, Miami...
- Andrews Air Force Base housing, Pope AFB, US Embassy Baghdad, Federal installations for bio research...
- Hilton Convention Centers in Austin, Chicago, Boston, NYC, Anaheim, Orlando, Baltimore...
- Bellagio, Conrad Maldives, Full Service Marriotts, Courtyards, Microtel Inns, Country Inns and many others
- Yale, Northeastern, University of Maryland, University of Missouri, and many others

#105 "CUSH 'N' SEAL"®

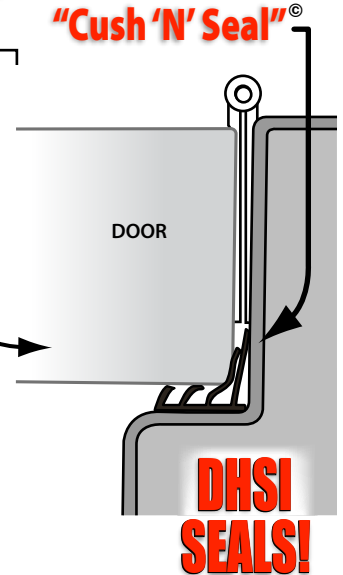
Sound and Smoke Seal Weatherstripping

Patents #5,577,349, #6,058,654, #6,266,924, & #6,381,905 & pending

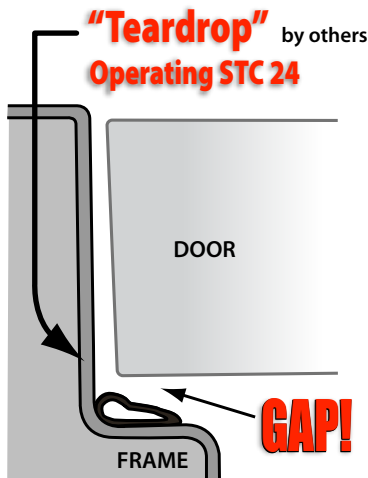
Is Sound A Problem?



- Positive Pressure tested and Listed for fire and smoke up to 3 hours
- Can seal a door 1/4" out of plumb without hinge or lock bind.
- Self compensating for warp, thermal bow, and out of plumb.
- Available in Off-White and Dark Brown
- #105 "Cush 'N' Seal"® - standard 3 and 4 foot lengths
#105-L "Cush 'N' Seal"® full 7 and 8 foot Lineals
- The illustrations are taken from actual digital photographs viewable on our website. This opening is within industry allowable tolerances for warp and plumb!



same opening:



Which One Would You Choose?

TEST RESULTS

TORQUE force on lever

STC 34 Panel sound transmission

DHSI System _____
No Grinding of Strike Needed

13 lbs

32 - sound barely audible

Teardrop _____
After Grinding of Strike _____
to make lever easy to open

35 lbs+
15 lbs+

27 - can hear words
24 - speech recognizable

ACTIVE LINK

View STC 34 and STC 41 information online at <http://dhsi-seal.com/stcreport.htm>

FEATURES

- Unparalleled range of sealing. Compensates for warp and thermal bow due to changes in humidity and temperature.
- Mounts on the lock jamb rabbet - not on the stop. Does not push door away from stop and put pressure on latch.
- Layered fins "absorb" the door impact.
- "Super strength" adhesive never dries out. Warranted it will not come off the frame for life of installation.
- Easy and fast strike jamb touchups with roller.

BENEFITS

- Maximum sound absorption and insulation. Reduction in heat and AC losses.
- Almost 1/8" more latch clearance. Makes lever ADA compliant. Allows deadbolt to engage easily.
- Eliminates the bang and "chatter" on the latch.
- No costs for seals falling off frame, including exterior use. Rust causing screw holes no longer needed.
- No seal hardening from paint buildup under "teardrop".

ACTIVE LINK

How sealing affects security: online at <http://dhsi-seal.com/qa.htm>

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DHSI • DOOR AND HARDWARE SYSTEMS, INC.

CAT-02 2-01-08 copyright

17 Silver St., Rochester, NY 14611 T: (585) 235-8543 F: (585) 235-0431 E: info@dhsi-seal.com W: dhsi-seal.com

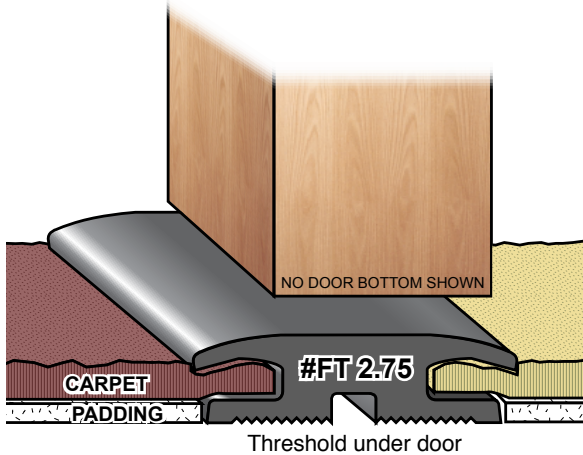
A complete range of solutions for Sealing Systems:

★ Use DHSI Architectural Details for submittals.

E-mail DHSI for requests of cut sheets and specification details. Combine the patented DHSI #105 "Cush 'N' Seal"® frame seals with the appropriate door bottom and a choice of fire rated thresholds including the economical and exclusive "carpet tuck" threshold (transition strip) shown below.

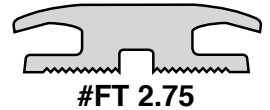
#FT 2.75 DHSI Threshold

PATENT #7,062,881
& PATENTS PENDING



- Solid color fire rated transition strip.
- Glue down, flexible recess with unique 'Carpet Tuck' feature. Does not "Pop Up" or lift up under weight.
- Eliminates seams, separates colors and patterns.
- Used in conjunction with any DHSI door bottom: Surface, Mortise, or Security.
- Stock colors Black and Grey - other colors available, contact DHSI
- 2 3/4" wide x 3/4" high

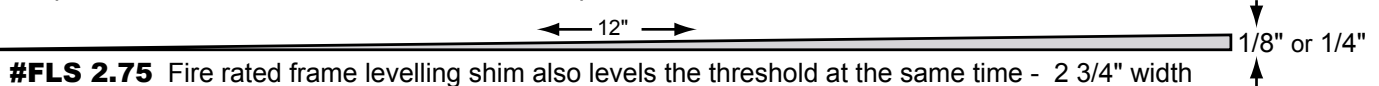
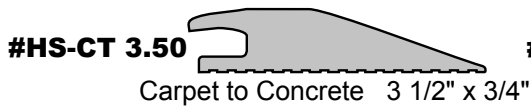
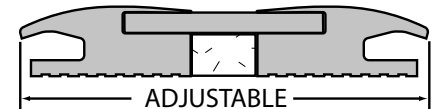
★ **ALLOWS DOOR DISTRIBUTOR TO CONTROL THE UNDERCUT OF A DOOR**



Other DHSI Thresholds/Transition Strips:

PATENT #7,062,881
& PATENTS PENDING

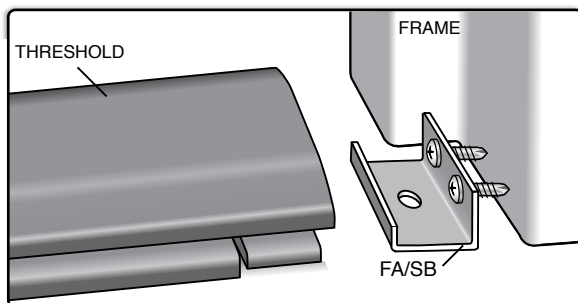
These thresholds can be used in conjunction with any of the DHSI door bottoms. **Other thresholds available.**



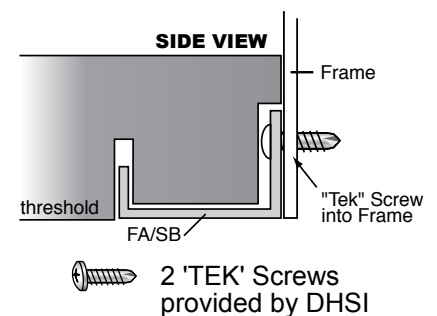
#FA/SB "Frame Alignment/Security Bracket"

PATENT #7,062,881
& PATENTS PENDING

★ The FA/SB assists the installer in establishing proper width and square. The FA/SB prevents spreading of frame at base to disengage the auxiliary latch (anti-pick) and allow carding of lock.



- 1: FA/SB Attachment to frame
- 2: Use one threshold as template for setting all frames
- 3: Remove threshold during construction
- 4: Install glue down threshold over FA/SB bracket with carpet installation



ACTIVE LINK

For more info go to <http://dhsi-seal.com/roomsecurity.htm> and link to "Break-In"

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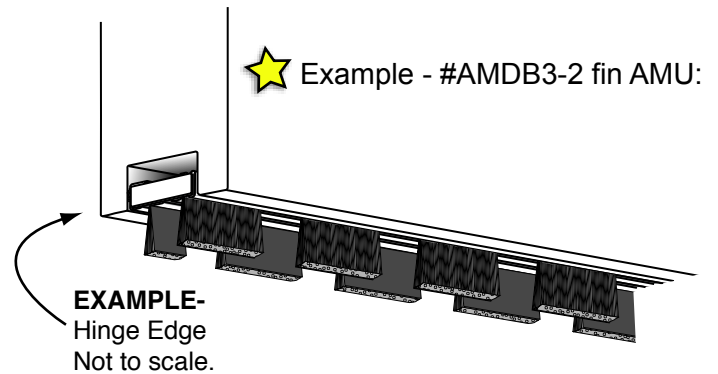
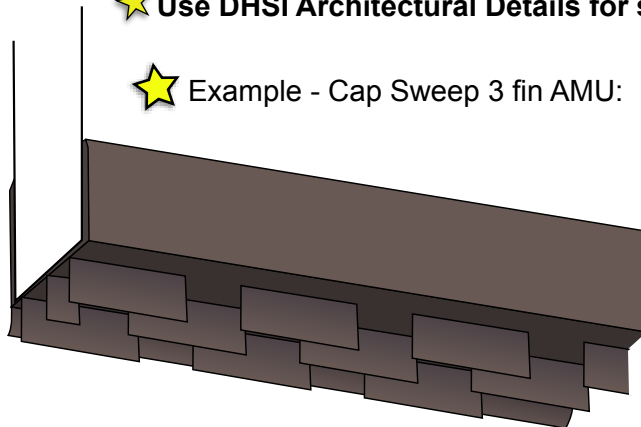
CAT-03 2-01-08 copyright

#AMU® "Allowance and Means for Undercut" Option

Patent #6,442,901 and Patents Pending.

All DHSI door bottom seals are available with the patented "AMU" option.

- Allows air to pass for positive pressure hallways with "air recovery" HVAC Design; or for bathroom fans and/or PTAC units requiring a non-ducted air supply.
 - Blocks light and offers sound attenuation.
 - Fins are notched such that there is a 1/2" overlap. See drawings below.
 - #CS Cap Sweep 3 fin notched standard. Available with 2, 3 or 4 notched fins.
 - #AMDB3 Mortise and #SSDB3 Surface door bottoms are notched similarly.
 - #SAS door bottom has elongated holes to facilitate airflow. Quantity of holes can vary.
- ★ Use DHSI Architectural Details for submittals.



Cap Sweep with AMU option:

- #CS 36 x AMU-3 = 35 3/4" Cap Sweep with 3 fin AMU

SAS with AMU option:

- #SAS 36 x AMU = 35 3/4" SAS with AMU

AMDB3 Mortise Door Bottom with AMU option:

- #AMDB3-2 x AMU = 35 3/4" AMDB3 with 2 fin AMU

SSDB3 Surface Door Bottom with AMU option:

- #SSDB3-2 x AMU = 35 3/4" SSDB3 with 2 fin AMU

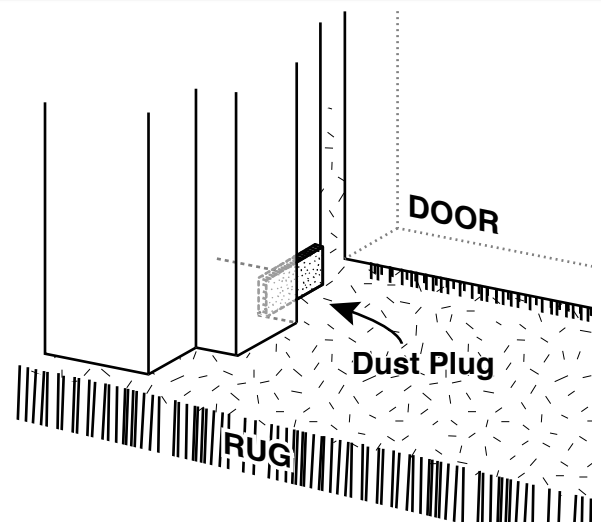
#DP Dust Plug

#DP.250 - 1/4"

#DP.375 - 3/8"

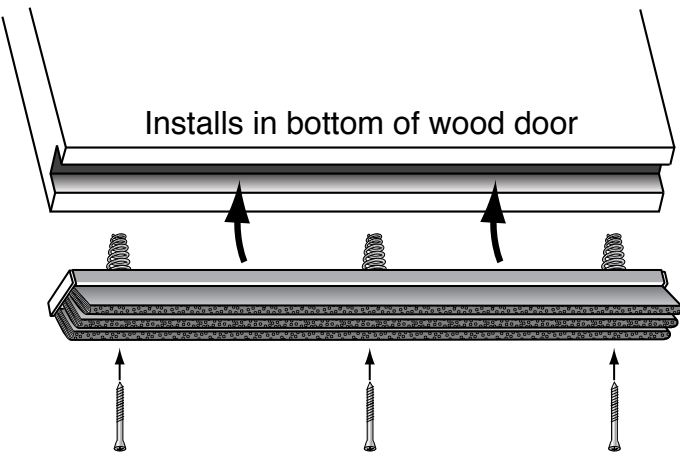
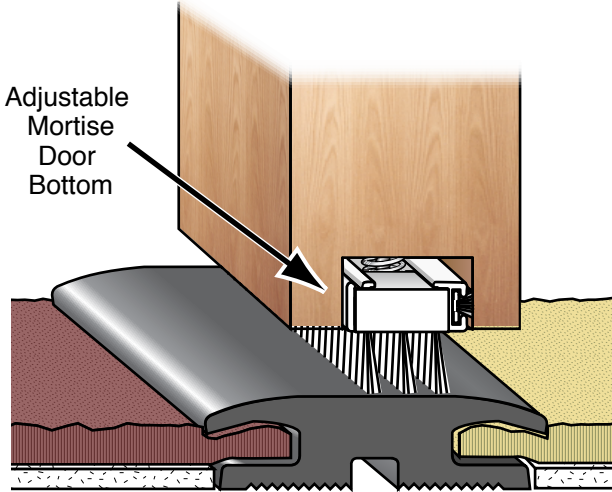
Used to seal the bottom corners of the door.

- Used primarily at connecting rooms in hotels, where a higher STC rating is desired, and exterior applications.
- For use with all standard DHSI Door Bottoms
- Seal from the bottom of the door to the flooring surface on the rabbet of the frame.
- Sold in 12" lengths. One seals approximately 12 doors.
- Cut the dust plug to length- the distance from rug to bottom of door, touching the bottom of the door.



#AMDB3 Adjustable Mortise Door Bottom

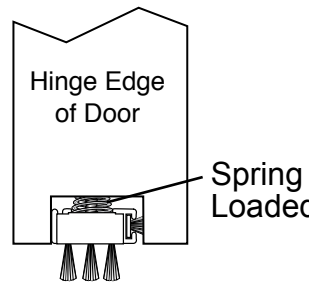
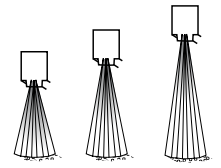
Listed with ITS (Warnock Hersey) for use on fire doors



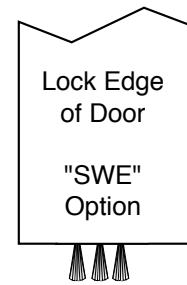
- ★ #AMDB3-3 ————— 3 standard inserts
- #AMDB3-2 ————— 2 standard inserts
- #AMDB3-2 x AMU — 2 AMU inserts

Designed with unique features:

- ★ Fully Adjustable 1/4" for out of level floors
- ★ 1/2" standard flexible and durable inserts **Replaceable** pile for up to 1 1/4" gaps to extend range of sealing to match ANY undercut.
- Excellent replacement for worn out spring loaded automatic door bottoms.
- **Double** or **Triple** seal for sound or weather.
- Uses Standard Bottom Rail - with mortise. Custom 5" rail may not be required.



- Twist-Lok conical springs stay in place. Stainless Steel corrosion resistance



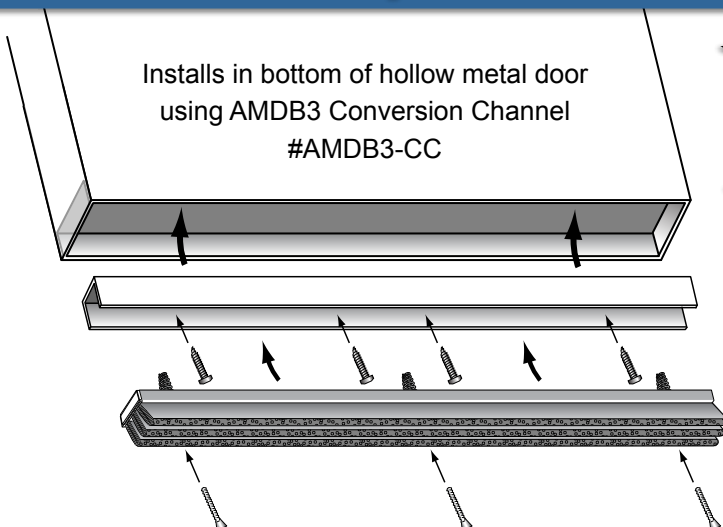
- "SWE- Solid Wood Edge" Mortise does not have to go through the lock edge of door.

- ★ Available with the patented "AMU - Allowance and Means for Undercut" option: Allows air to pass. Still blocks light and offers sound attenuation.

Patent #6,442,901 & Patents Pending. Consult DHSI

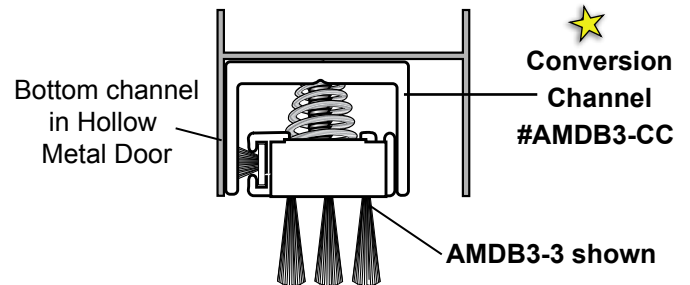
- ★ Use DHSI Architectural Details for submittals.

#AMDB3-CC Adjustable Mortise Door Bottom Conversion Channel



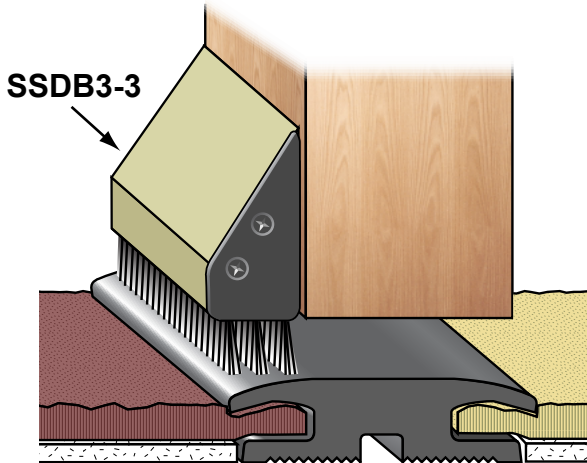
- ★ Conversion channel for installation in inverted channel in bottom of hollow metal doors. Door bottom and channel can be **factory precut** and **preassembled**. 3 'TEK' Screw installation. Screws provided by DHSI.

- ★ Use DHSI Architectural Details for submittals.



#SSDB3 Surface Door Bottom

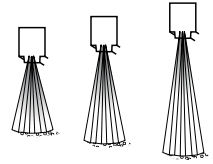
Listed with ITS (Warnock Hersey) for use on fire doors



- #SSDB3-3 ————— 3 standard inserts
 - #SSDB3-2 ————— 2 standard inserts
 - #SSDB3-2 x AMU — 2 AMU inserts
- ★ Use DHSI Architectural Details for submittals.

Designed with unique features:

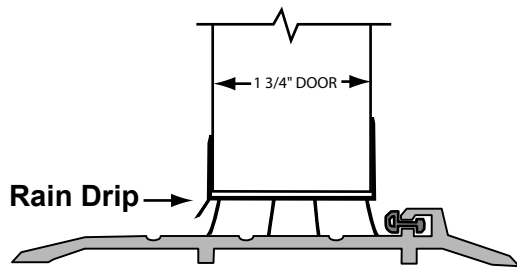
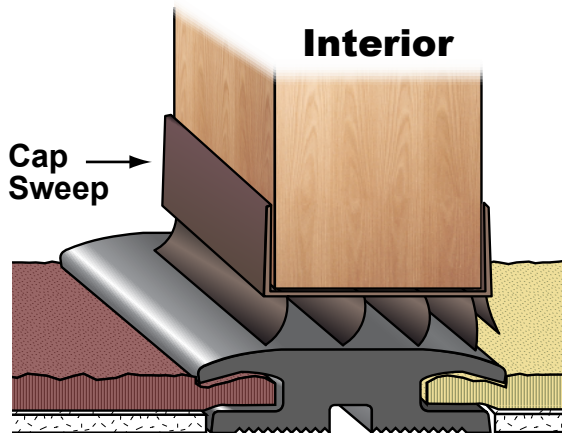
- ★ With Slide Cover, available in various finishes
- ★ Fully Adjustable
 - For wood, hollow metal or Aluminum door applications.
 - Can be mounted on hall side or room side.
 - **1/2" standard flexible and durable inserts. Replaceable** pile to extend range of sealing, to match **ANY** undercut
- **Double or Triple** seal for sound or weather.
- Slim Profile - projection, Clean appearance
- Gives looks and strength similar to a kickplate.
- End caps secure inserts and create a "neat" edge.
- ★ Available with the patented "AMU - Allowance and Means for Undercut" option: Allows air to pass. Still blocks light and offers sound attenuation.



Patent #6,442,901 & Patents Pending. Consult DHSI

#CS Cap Sweep Door Bottom

Listed with ITS (Warnock Hersey) for use on fire doors



Exterior - outswing
Use with 1/4" Flat Threshold standard
1/2" Lo-Rise Latch track optional

Designed with unique features:

- ★ Fully Adjustable for out of level floors
- ★ 1/2" fins and 1/2" adjustment. Available with 1/4" and 3/8" fins.
 - Excellent for variable job conditions and excessive gaps on renovation work where thresholds are used.
 - Eliminates need for spring loaded automatic door bottom when threshold detail rises above carpet (within ADA - as detailed).
 - Quadruple seal for sound or weather seal.
 - Reduces service call-backs and complaints.
 - Available in Off-White and Dark Brown.
 - Request DHSI specific threshold detail for height, undercut and clearance dimensions.
 - Use with DHSI half saddle threshold at typical stairwell details.
- ★ Available with the patented "AMU - Allowance and Means for Undercut" option: Allows air to pass. Still blocks light and offers sound attenuation.

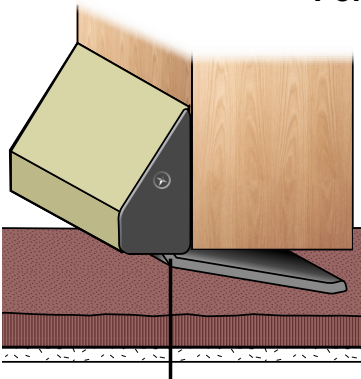
Patent #6,442,901 & Patents Pending. Consult DHSI

- #CS 36 ————— 35 3/4"
- #CS 48 ————— 47 3/4"
- #CS 36 x AMU-3 — 35 3/4" with 3 AMU fins

★ Use DHSI Architectural Details for submittals.

SECURITY DOOR BOTTOM: Combining security, smoke and STC requirements

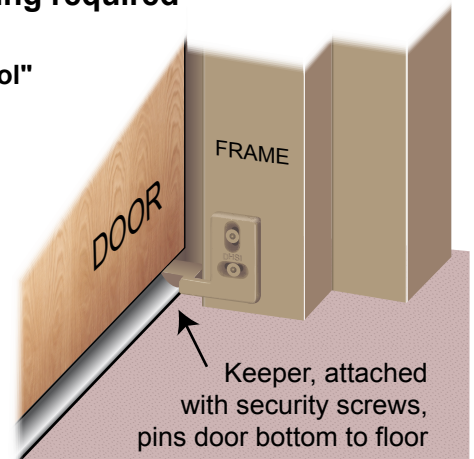
For new and existing construction • NO mortising required



"Secur-A-Seal"

- #SAS 36
- #SAS 36 x AMU-3
- Other sizes available

- Guards against fiber optic cameras
- Guards against illegal entry from the "Hook Tool"
See info at dhsi-seal.com/hooktool.html
- Seals out light, noise, odor, smoke
- Allows express checkout at hotels
- ★ Available with the patented "AMU - Allowance and Means for Undercut" option: Allows air to pass. Still blocks light and offers sound attenuation.
- Also used on access control and secured openings at computer rooms
- Excellent for rodent control in food storage areas
- Slide covers available in various finishes
- Prevents vacuum cleaner damage to face of door
- ★ Use DHSI Architectural Details for submittals.

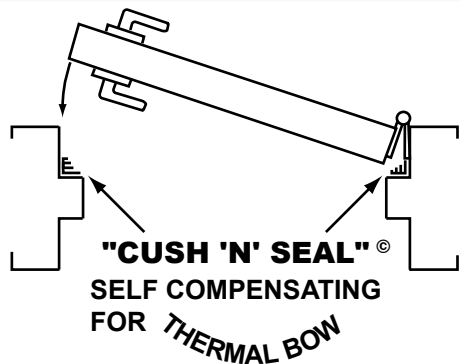


ACTIVE LINK

For more info link to <http://dhsi-seal.com/securaseal.htm> and see the "Hook Tool"

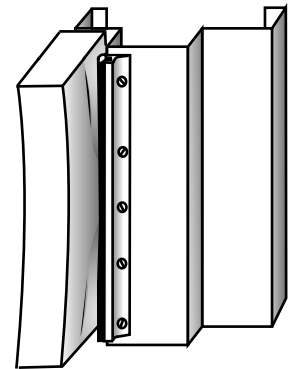
Is Weatherstripping a Problem?

PATENTS #5,577,349, #6,058,654,
#6,266,924, #6,381,905, and #6,442,901

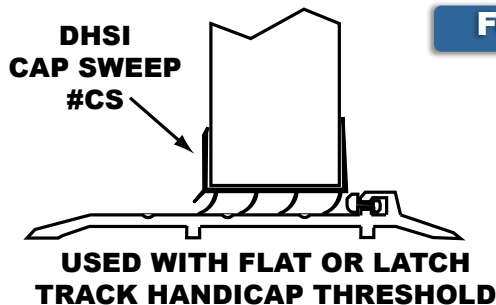


★ Use DHSI #105 "CUSH 'N' SEAL"![®]

- Teardrop and straight seals do not compensate for thermal bow and out-of-plumb conditions.
- How can a stop applied seal **possibly** compensate when a door moves? →
- See the illustration of teardrop problem for sealing.

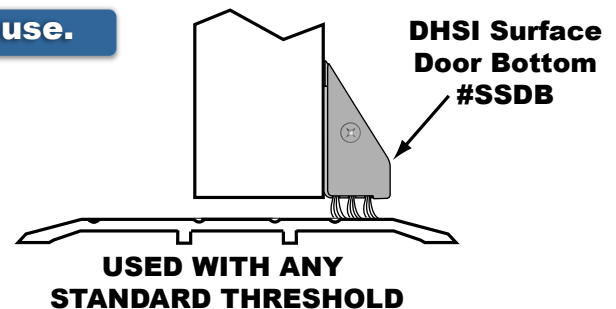


"Cush 'N' Seal"® offers the least resistance for closing, latching and locking.
Complete the openings with a choice of door bottoms and mortise or surface astragals.



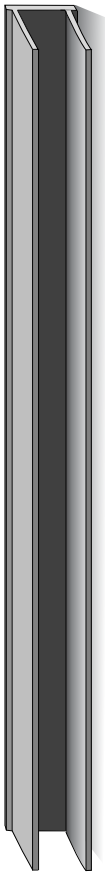
- #CS provides quadruple seal
- 1/2" Adjustability
- Provides rain drip on exterior outswing

For interior or exterior use.

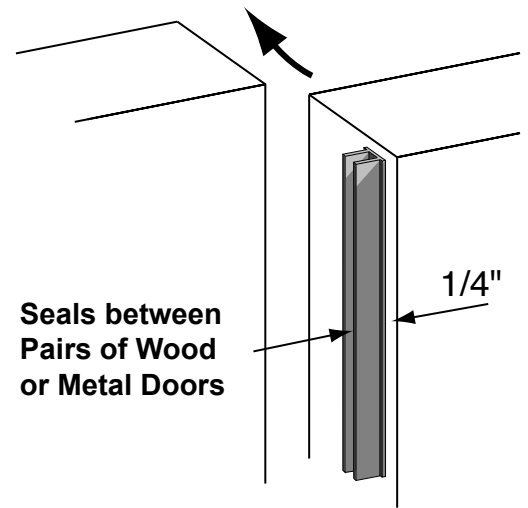


- #SSDB mounts either side, or both.
- Attractive slide covers conceal fasteners
- Door protection: push side, Rain drip: pull side

#SA Self Adhesive Door Astragal Seals



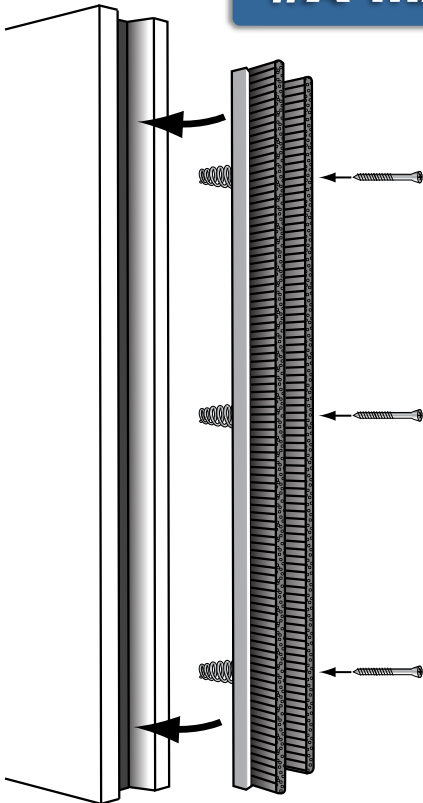
- ★ Self Adhesive seal for weather, sound and smoke
- ★ For pairs of doors, both active, including wood and hollow metal
- Excellent for HM Double Egress and wood or metal doors with Concealed Vertical Rod Panics.
- Excellent for weatherstripping of HM pairs active.
- Mounts on the high and/or low side
- Excellent for Hospitals and Rescue Pivot Hardware
- Adhesive defies removal by normal finger strength
- 7'-0" standard, with 8'-0" available
- Seals from 0" to over 1/4" gaps
- No mortising required.
- Combines with "Cush 'N' Seal" frame seals that seal a door over 1/4" out of plumb.
- Part #SA x length x color
- Available in Off-White, Duronodic or Light Brown (OAK)
- ★ Use DHSI Architectural Details for submittals.



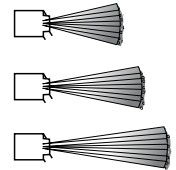
ACTIVE LINK

View more information online at <http://dhsi-seal.com/astragals.htm>

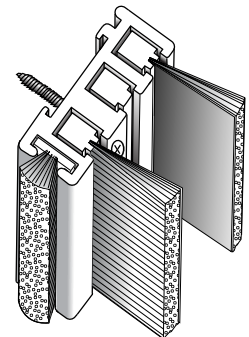
#A-MA3-2 Adjustable Mortise Astragal



- ★ Mortise seal for weather, sound and smoke
- ★ For pairs, both active, interior or exterior wood doors
- Adjustable for 0" to 3/8" gaps standard, plus
- Double or triple seal for sound or weather.
- Stainless Steel Twist-Lok conical springs stay in place
- No service call-backs and complaints.
- 7'-0" standard with 1/2" black pile, up to 10'-0" available
- Shallow Mortise: 29/32" wide x 5/8" deep
- Excellent for Hospitals and Rescue Pivot Hardware
- Part # A-MA3-2 x length
- ★ Use DHSI Architectural Details for submittals.



Replaceable Pile
Longer lengths available



Seals between Pairs of Wood Doors

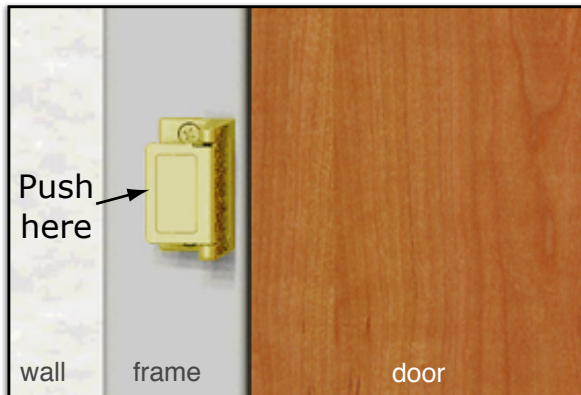
Are hotel guest complaints and door damage caused by doors hitting a privacy guard a problem?

- Keep guests from (illegally) propping open entry fire doors
- Prevent Accidental Lock Out from the Conventional Flip-Latch
- Still allow guests to see 1/2" past the door into the hallway

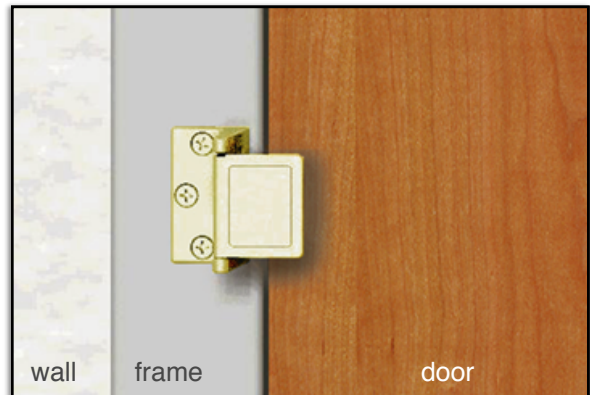
#SAL "Secur-A-Latch"® Privacy Keeper PATENT #6,244,636

ACTIVE LINK

View animated demonstration online at <http://dhsi-seal.com/securelatch.htm>

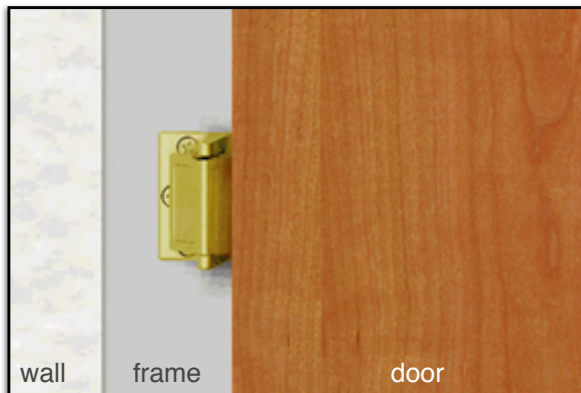


Spring holds "SAL" in unlocked position
Push to engage and secure.



Viewed From Inside Room

Magnet holds "SAL" in locked position.
Prevents door from opening.



"Touch release"® to disengage magnet.
Also disengages quietly upon door closing.
Spring resets "SAL".

Eliminate the biggest "problem product" in the industry:

The Conventional Flip Latch Privacy Keeper is **not compliant** per new updates and changes in NFPA 80.

This applies to new **and** existing openings.

"Secur-A-Latch" eliminates door damage, edge guards, noise complaints, adjustments and is **CODE COMPLIANT**.

★ Makes a door code compliant - for fire code and ADA ★

★ Can't prop door open - for NFPA 80 code compliance

★ Touch release for ADA

- Quietly Disengages- If guests try to prop door open
- No damage to door face or edge, or adjacent closet doors
- Available in various Architectural Finishes:
US3, US4, US10, US10B, US15, US26, US26D

- Fast Retrofit
- Compact Size: 2 5/8" x 1 1/2"
- Decals available to cover retrofit holes
- #SAL-HO temporary hold-open available

- Specify with DHSI Patented "Cush 'N' Seal" Frame Seals and Door Bottoms

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17 Silver St., Rochester, NY 14611 T: (585) 235-8543 F: (585) 235-0431 E: info@dhsi-seal.com W: dhsi-seal.com

Performance based specifications and Field Quality Assurance

Specifications should require compliance with the field quality assurance criteria enforceable by NFPA 80 and Nationally Referenced Standards and Codes seen below. DHSI 's patented frame seals, door bottoms and thresholds are a sealing system that can show evidence of compliance to these criteria now required for inspection of fire doors by building inspectors and fire marshals:

1. We are the only company that warrants our products as an operating system, field compliant with NFPA 80.
2. DHSI warrants no light shall pass the frame perimeter (per the integrity requirement of NFPA 80).
3. DHSI warrants no filing of a strike plate will be required to relieve binding of the lever and reduce torque (per NFPA 80 =no field modifications of fire tested components is allowable).
4. Tests conclude DHSI sealing systems do not exceed torque on the lever to exceed 15 inch pounds (per Life Safety 101 and ADA).
5. DHSI has the highest STC ratings, as a field verified operating system, and meets codes such as California Title 24.
6. DHSI warrants the adhesive will not fail and the frame seals will not come off the frame.

**ACTIVE
LINK**

View entire CSI based specifications at <http://dhsi-seal.com/specifications.htm>

DHSI Program of Field Quality Assurance

Use DHSI Architectural Details for submittals to confirm the options and sizing for your hardware as well as your doors. Two sets of educational forms are available, creating an audit trail of installation and code compliance, reducing punchlist items and costly callbacks for the GC.

"Examination" Section 3.01 in Specifications:

1. How to inspect for clearances required by "Industry Standards".
2. How to detect errors in machining prior to hanging: installation techniques to avoid common errors causing problems or violate codes as found in NFPA 80, NFPA 101, ADA.

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View the forms complete at <http://dhsi-seal.com/inspectionforms.htm>

The DHSI "Quiet Latch Sealing System", as found on our website:

- A complete sealing system with all component products warranted as field compliant to the inspection guidelines of NFPA 80 2007 as an operating system.
- Products Designed to work under industry allowable field conditions

Architects, Spec Writers, Designers:
E-mail DHSI your Specifications & Hardware Schedules and they will be edited for "Performance Specifications" and be returned with changes highlighted in **yellow** for your review.

Other products are available. Consult DHSI.

**ACTIVE
LINK**

***Go online for full color brochure at <http://dhsi-seal.com/brochure.htm>
From the cover page, quickly navigate the **ACTIVE LINKS** shown.***

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