

# DHSI

## DOOR AND HARDWARE SYSTEMS, INC.

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Website: dhsi-seal.com e-mail: info@dhsi-seal.com

**Call DHSI to request the proper Architectural Details for downloading or incorporating in your specs.**

### **08710 NEW CONSTRUCTION OR COMPLETE RENOVATION SPECIFICATION GASKETING OF DOORS AND FRAMES (02-13-23)**

The spec writer needs to clarify which products are being used.

#### 1.04 QUALITY ASSURANCE:

- A. Substitutions: Manufacturers and model numbers listed are to establish a standard of quality and design. The architect must approve all product substitutions. Any request for substitutions must be submitted 10 days before bid date, to allow sufficient time for addendum to be added to the bid document. In accordance with Section 016000, required data and physical samples must be provided.
- C. Manufacturer's Qualifications for sealing systems:  
To ensure and validate the proper closing, latching, sealing and securing of a door, the manufacturer of gasketing shall provide a written program of Field Quality Assurance. This program will include (but not be limited to) the appropriate architectural details required for submittals. Photocopies of sales literature are unacceptable. Only architectural details provided by DHSI are acceptable.

In order to validate a Performance Based Warranty, the distributor shall include architectural details for the purpose of establishing an audit trail of responsibility during submittals. The details will serve as a means of control for the proper installation of gasketing and verification of the door bottom clearances prior to the machining of doors. These measures support the field operational performance of the sealing system as required by code. The warranty for components shall include a 12-year Warranty for self adhesive on frame seals, surface astragals and mullion seals; and "Lifetime Warranty" for inserts in mortise (AMDB) and surface door bottoms (SSDB), and mortise astragals (AMA).

The gasketing manufacturer must provide certified evidence by an accredited NVLAP facility of operational STC ratings as specified and/or required by local code. The documentation shall verify STC compliance and requirements for smoke gasketing can be maintained under industry allowable tolerances for warp (AWI) and plumb (SDI) and not exceed 15 inch pounds torque on the lever (NFPA 101).

Where a positive pressure label is required, only Category A doors are acceptable. Only Category H frame seals are acceptable.

Anti-microbial option, when specified, shall be homogeneously extruded into the product, and shall be warranted to meet an efficacy level of 99.9%, and maintain 99.9% efficacy life of the installation. Manufacturer shall provide appropriate testing certification. Surface coatings are unacceptable.

Where the "AMU" air-return option is selected on a door bottom, provide testing certification satisfying cfm requirements proposed by HVAC engineer.

Bevel both vertical edges on HM and wood doors.

- D. Qualification of Installers of the Components of Life Safety Products:  
The site supervisor shall be responsible for informing each component installer, or their supervisor, of the requirements in this specification and those parts of the DHSI "Program of Field Quality Assurance" and the DHSI forms and architectural details that are applicable. The site supervisor must be informed of any condition that is beyond tolerance and/or adversely affects the operating assembly

prior to proceeding with installation. Any conditions that are not within tolerance must be acknowledged in writing to the architect before proceeding. The architect will inform the GC as to corrective course of action. See 3.01 Examination for inspection forms.

See Section 2.02.A.2.a for installation procedures using transition strip and frame alignment brackets for proper setting of frames.

E. Mock-ups: Unless otherwise specified by the architect:

Hospitality: The General Contractor shall provide operating assemblies for 2 complete entry and 1 connecting room opening.

A sample of the carpet with pad or substrate, or transition strip where shown, per the architectural details, shall be installed at the frame.

The General Contractor shall adjust the door bottom and demonstrate express checkout procedure.

Other: Provide mock up openings as required by the architect.

The opening system shall operate within the criteria and standards established.

#### 1.05 DELIVERY, STORAGE AND HANDLING:

C. Storage:

1. Store DHSI products in a flat, not upright condition.

#### PART 2 - PRODUCTS:

##### 2.01 MANUFACTURERS:

A. List of manufacturers represented in this section:

Door and Hardware Systems Inc. – [www.dhsi-seal.com/brochure.htm](http://www.dhsi-seal.com/brochure.htm)

17 Silver Street

Rochester, New York 14611

TEL: 585-235-8543 or 800-836-8085

FAX: 585-235-0431

e-mail: [info@dhsi-seal.com](mailto:info@dhsi-seal.com)

contact: Robert Rissone, President

##### 2.02 MATERIALS:

A. Transition Strips, Weather strip and Gasket:

2. Interior transition strips where specified:

- a. Where specified, provide a solid color, fire rated material, in matte finish resistant to scuffing, which can be rejuvenated easily. Shiny finishes are unacceptable. Top of transition strip shall be 1/8" higher than flooring height. When carpet is separate from padding, transition strips shall allow the carpet to be secured within the transition strip and eliminate tack strips. Transition strips shall allow enhanced carpet, carpet tile or tile to be secured under the leading edge. Transition strips shall be pre-cut by the manufacturer for exact width of frame opening and, where specified, machined to accept the frame alignment/security brackets. A transition strip shall be used as a template to ensure proper width of frame. Transition strips shall be removed during construction and replaced prior to installing carpet. Brackets attached to the frame within the 5/8" stop projection and interlocking with the transition strip, shall be furnished by the manufacturer at the time of setting the frame and will ensure proper frame alignment and avoid twist. Any transition strips that do not interlock with the brackets at the time of final installation shall serve as quality assurance that the frames and doors need to be adjusted or reset.

- 1) Provide DHSI #FT 2.75, CTT 2.75, TTT 2.75 or LP 2.75 (Low-Profile).

- 2) Provide DHSI #FA/SB frame alignment /security brackets.

- b. Construction: Transition strips of PVC composition shall meet requirements of ADA for change of level. Transition strips #FT and CTT shall incorporate a carpet acceptance

cove of a minimum of 3/8" of carpet and be contoured downward from its top of level a minimum of 1/16" to the distal point of contact with the carpet so as to "grip and encapsulate" the carpet, when carpet is separate from pad. The carpet pad shall not be part of the recess. Design and durometer shall eliminate use of carpet tack at door opening.

The #CTT or #TTT transition strips shall be installed to cover leading edge of enhanced carpet or tile.

The #LP transition strips shall be installed to cover leading edge of flooring material.

The overall height of the transition strip shall be determined by the thickness of the pad and the carpet.

c. Product Performance and Technical Data:

Hardness: ASTM D 2240 - not less than 85 Shore A - FT series

Abrasion Resistance: ASTM D 3389- 0.22 mg/cycle

Slip Resistance: ASTM D 2047 - meet or exceed ADA requirements

Fire Resistance: ASTM E 648/NFPA 253(Critical Radiant Flux) Class 1

3. Connecting room details for Hospitality:

Provide door bottom selected and as detailed by the architect.

a. Provide DHSI #AMDB4-4 or #CS36 door bottom as selected by the architect. #SSDB3-3 may be used.

b. If code or property standards require a transition strip to be the full depth of the frame, use the DHSI #CTC-ADJ or #TTT-ADJ "Adjustable" transition strips (up to 12 3/8") and list depth of frame. Transition strip is to be pre-cut to proper size by the manufacturer. Consult DHSI for alternatives.

c. For low profile transition provide the DHSI #LP-ADJ "Adjustable" transition strip.

4. Weather strip and Gasket (see also section 3.03 FIELD QUALITY CONTROL):

a. Provide DHSI #105 "Cush 'N' Seal".

b. Provide CNS PLUS for STC 35 to 45 range

c. To avoid self-adhesive failure, due to stretching during installation, self-adhesive frame seals shall be inelastic and shall not be subject to stretching. Failure of a smoke seal voids the Listing of the opening.

5. Door Bottoms: Where door bottom seals are to be used, as listed in the hardware sets, provide DHSI #AMDB4-4, #CS-36, #SSDB3-3 as selected and detailed in the hardware sets. Where corridor air transfer is desired between the bottom of the door and the flooring surface for HVAC design, provide the "AMU" option, "Allowance and Means for Undercut" and suffix the DHSI door bottom with "x AMU". If a "Solid Wood Lock Edge" is desired on a mortise door bottom, suffix part # with "x SWE".

6. Meeting Stile Gasket: When a metal astragal is not permitted due to the operation of hardware or by code restrictions, provide a self-adhesive seal at the meeting stiles. Provide DHSI #SA surface astragal. Where a mortise astragal is listed provide a DHSI #AMA3 adjustable mortise astragal. Provide DHSI #105 "Cush 'N' Seal" if a "Z" or flat metal astragal is used. For pairs active with a mullion, provide DHSI mullion seal #MS-SA75.

7. Where positive pressure labeling is required, surface applied intumescent, on either the door or frame is unacceptable. Only category A doors are acceptable.

8. Screw-on type weather stripping on frames is unacceptable.

9. Where DHSI frame seals, door bottoms and/or transition strips are listed, it is intended that all openings requiring similar products be DHSI products.

10. Where the Antimicrobial option is selected by architect and/or spec writer: Antimicrobial is warranted life of installation with proven efficacy of 99%. Surface Coatings are unacceptable.

11. Where the DHSI "Breakaway" Anti-ligature option is specified it is intended that all products on the same opening, seals, door bottom and astragal inserts, mullion seals, be anti-ligature. Where an STC rating is specified, evidence shall be provided that no degradation in the STC performance will occur.
- B. Privacy Guards
1. Provide only a product that cannot be used to hold open a fire door. Only provide a privacy guard that automatically and quietly disengages upon the closing of the door, is engaged and released by "Touch to Engage, Touch to release". Only Auto Release is acceptable. It shall maintain its disengaged position upon the door closing, preventing the privacy from re-engaging from door slamming.  
Privacy guard shall enable bypass for emergency ingress, without the use of specialized tools by a manufacturer or special knowledge. Interlocking swing bar type products are not acceptable.
    - a. Provide DHSI #SAL "Secur-A-Latch".
    - b. Finish must match lockset finish.
    - c. A self-adhesive screw cover with same finish shall be furnished
    - d. Dual purpose finishes are unacceptable
  2. Provide a deadbolt silencer with matching architectural finish insert.
    - a. Provide DHSI #CNB "Cush N Bolt"
    - b. Finish must match lockset
- C. Door Viewers and Door Viewer Covers
1. Provide only a door viewer with minimum 190 degree field of view, with inside viewer cover with matching architectural finish insert. Cover of inside door viewer shall not bend and shall defy attempts to remove by hand. Cover shall reset when released.
    - a. Provide DHSI #DV Door Viewer
    - b. Provide DHSI #DVC Door Viewer Cover
    - c. Finish must match lockset.
    - d. Viewer shall be UL Listed for 90 minute

PART 3 - EXECUTION:

3.01 EXAMINATION:

- A. Examination of openings shall use the "Inspection Forms" provided by DHSI. Where a problem is encountered the forms shall be faxed, scanned or completed online and forwarded to DHSI with any appropriate comments. If defects or errors cannot be corrected do not proceed with installation. Written authorization from the architect shall be requested. Field modifications to fire, smoke and sound tested components are unacceptable.
- B. GC and installers shall download the DHSI Installation Checklist forms for inspecting related products for satisfactory tolerances before installation of doors; and for satisfactory clearances after hanging and prior to installation of gasketing products. Forms include industry guidelines and recommendations for inspecting and maintaining the requirements required in NFPA 80, NFPA 101, ADA and other applicable codes: only installers with working knowledge of these requirements shall be utilized.  
<http://dhsi-seal.com/inspectionforms.htm>

3.02 INSTALLATION:

- A. Frames shall be prepared to receive gasketing per the manufacturer's installation instructions and using the #50 grit sand paper in order to ensure proper adhesion. Frames not prepared properly shall void the "Listing" and the "Warranty". New material shall be installed at no cost to the owner and in a timely manner.
- B. Where DHSI transition strips are specified, installer shall not further cut to width or trim the transition strips to compensate for frames set improperly.

- C. Where #FA/SB "Frame Alignment/Security Brackets" are furnished, installer shall not modify transition strip factory pre-cuts. If transition strip does not align with brackets, or if tolerances for the frame are found to be defective, corrective procedures shall be made prior to proceeding.
- D. See 1.04 Qualification of Site Superintendents and Qualification of Installers.
- E. Doors and frames are to be installed to maintain clearance requirements of NFPA 80.

3.03 FIELD QUALITY CONTROL (see also section 2.02.A.4 Materials):

- A. After installation has been completed, obtain the services of a qualified hardware consultant, certified as a fire door inspector, to check for proper application of finish hardware, according to the finish hardware schedule and check all hardware for adjustment and proper operation.
- B. Inspection:
  1. Any light passing the frame perimeter shall be cause for rejection (NFPA 80).
  2. Door shall close from 70 degrees and latch freely without latch or hinge bind (NFPA 101).
  3. The closing speed for ADA shall not exceed 3 seconds to within 3 inches of the latch position. Lever torque shall not exceed ADA (NFPA 101 Life Safety) of 15 inch pounds.
  4. Filing of strike plates to relieve lock bind is unacceptable (as per NFPA 80 = no field modifications of fire tested components is allowable).
  5. If issues with door bind are encountered, the "Industry Standards and Recommended Guidelines For Installation" shall be used to govern field inspection and the forms shall be completed by the installer for specific openings and submitted to the GC and distributor prior to requesting assistance.  
<http://dhsi-seal.com/inspectionforms.htm>
  6. Field inspection and acceptance of sealing product and any related hardware will be based upon the criteria of "Nationally Referenced Standards (including NFPA 80)."
  7. If a problem with the sealing of doors and hardware occurs the contractor and/or distributor shall first contact DHSI and provide a written report of the problem. A DHSI consultant will attempt to determine the cause of the problem and determine to what extent it is a manufacturing error, such as door machining for hinge backset or depth of mortise, or an out of tolerance condition for plumb, or installation error. DHSI will recommend solutions.
  8. The distributor shall coordinate the "Inspection Forms" and written reports for the field inspection procedures provided by the manufacturer. Documentation of inspection shall be submitted to the manufacturer before any requests for field assistance.
  9. If DHSI elects to provide field inspection and if a problem with the sealing of doors and hardware turns out not to be caused by DHSI product, DHSI may assess a charge for consulting. Accordingly, a conditional purchase order subject to these conditions shall be issued prior to requesting field services by the GC. The GC may assign charges as to the cause.
  10. If the field inspection procedures are not followed and if the manufacturer, architect or owner are not satisfied with the installation, all manufacturer warranties are voided.

3.06 SAMPLE HARDWARE SCHEDULE:

- A. Hardware items listed in the hardware sets are listed in the catalogs of the following manufacturers:
 

Weather strip	DHSI (DHS)
Frame Seal Gasket	DHSI (DHS)
Transition Strips	DHSI (DHS)
Door Bottoms	DHSI (DHS)
Security Door Guards	DHSI (DHS)
Door Viewers	DHSI (DHS)

NOTE: Architectural Details are furnished with every quotation and should be forwarded by the estimating department to the detail department to be included in the submittal package.

NOTE: Where frame seals, door bottoms and/or transition strips are listed, it is intended that all openings requiring similar products be DHSI products.

NOTE: Some products and details listed are a guideline for hotels. Request typical sets for hospitals and other commercial projects. Choices of door bottoms, colors and details selected from DHSI drawings will vary by job.

Request "typical" hardware sets for reference from DHSI. Please consult with DHSI for a referral to a Door and Hardware Institute accredited specification writer.

END OF SECTION.

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