

INSTALLATION INSTRUCTIONS

SERIES D900 HURRICANE RESISTANT TERRACE DOOR



Phone: (800) 262-5151 • Fax: (866) 262-3299
crlaurence.com • usalum.com • crl-arch.com

HANDLING, STORAGE, AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY.

All aluminum materials at job site must be stored in a safe place, well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

B. CHECK ARRIVING MATERIALS.

Check for quantity counts and keep records of where various materials are stored. Check for damages during shipping.

C. KEEP MATERIALS AWAY FROM WATER, MUD, AND SPRAY.

Prevent cement plaster or other materials from damaging the finish.

D. PROTECT THE MATERIALS AFTER ERECTION.

Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions, and acid based materials used to clean masonry are harmful to the finish. If any of these materials come in contact with the aluminum, immediately remove with water and mild soap.

ORDER OF ASSEMBLY AND INSTALLATION

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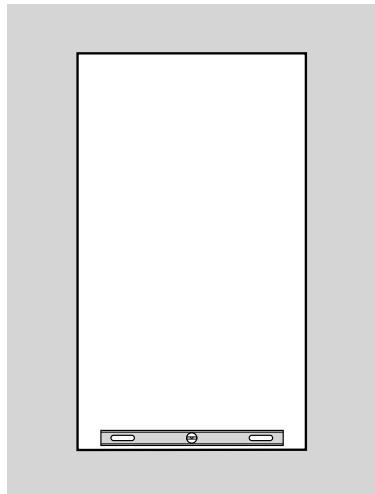
GENERAL INSTALLATION NOTES

Recommended guidelines for all installations:

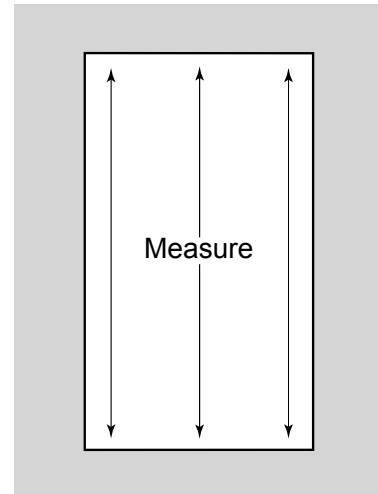
- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings, and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any **field verified** notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.
- 2. INSTALLATION.** All materials are to be installed plumb, level, and true. Install operable doors pre-glazed only.
- 3. BENCH MARKS.** All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
 - a) The plane of the wall in reference to offset lines provided on each floor.
 - b) The finish floor lines in reference to bench marks on the outer building columns.
 - c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Results will be unsightly and/or structurally unsound. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint. (CRL Cat. Nos. BC5GL or BC17A)
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning/priming, tooling, adhesion, etc. It is the responsibility of the **Glazing Contractor** to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.
- 8. FASTENING.** Within the body of these instructions "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.
- 9. BUILDING CODES.** Due to the diversity in state/provincial local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gaps between expansion members should be based on temperature at time of installation.
- 11. WATER HOSE TEST.** As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m²) a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. On all jobs the hose test should be repeated every 500 square feet (46.5 m²) during the glazing operation.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor any sequence of the installation that involves other trades in the project (i.e. framing, fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.).
- 13. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.

BEFORE INSTALLATION

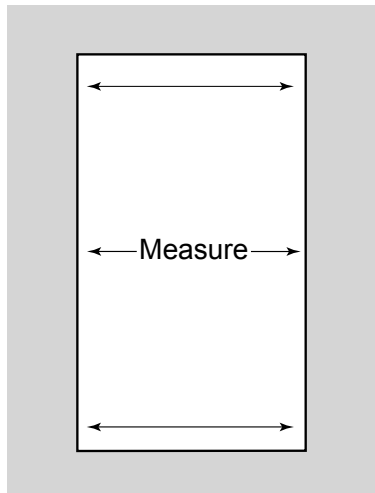
1. The rough opening should be checked for the correct size as determined by tolerances listed in the architectural specifications and the shop drawings. **See DETAIL A.**
2. Verify rough opening size has 1/2" (12.7 mm) clearance in both width and height to the frame. Verify framing is plumb, straight, and true around rough opening. Measure the opening at each end and at the center, vertically and horizontally. Make corrections to openings as required. Measure opening diagonally to check for square. Chip away concrete high points to create a clean, smooth, and level surface.
3. Establish the face of the door line at the head, sill, and jambs. This reference is to be arrived at by using the architectural plans, general contractor's reference lines, and shop drawings.



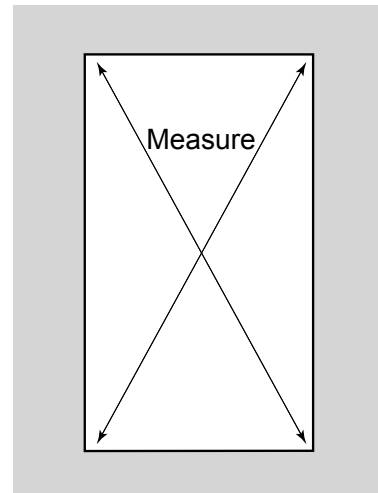
CLEAN, SMOOTH, AND LEVEL SURFACE



VERTICAL DIMENSION



HORIZONTAL DIMENSION



SQUARE

DETAIL A

NOTE: For proper door operation and drainage, it must be installed **PLUMB and LEVEL** on a **CLEAN and SMOOTH SURFACE**.

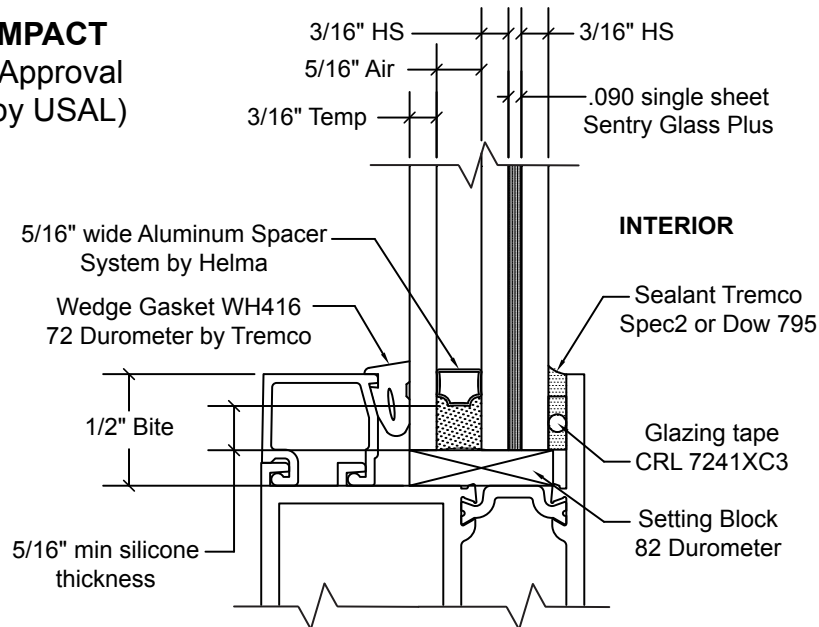
GLAZING INSTRUCTIONS

These instructions assume that the installer has adequate trade knowledge in aluminum glazing systems and aluminum entrance installation guidelines and procedures. This includes frame leveling and squaring techniques, surface cleaning for sealant application, and perimeter seal waterproofing. The following instructions give product specific installation information required to ensure proper product performance. In the event of adverse field installation conditions, it is the responsibility of the installer to contact U.S. Aluminum for recommendations and support prior to product installation.

GLASS ORDERING INSTRUCTIONS

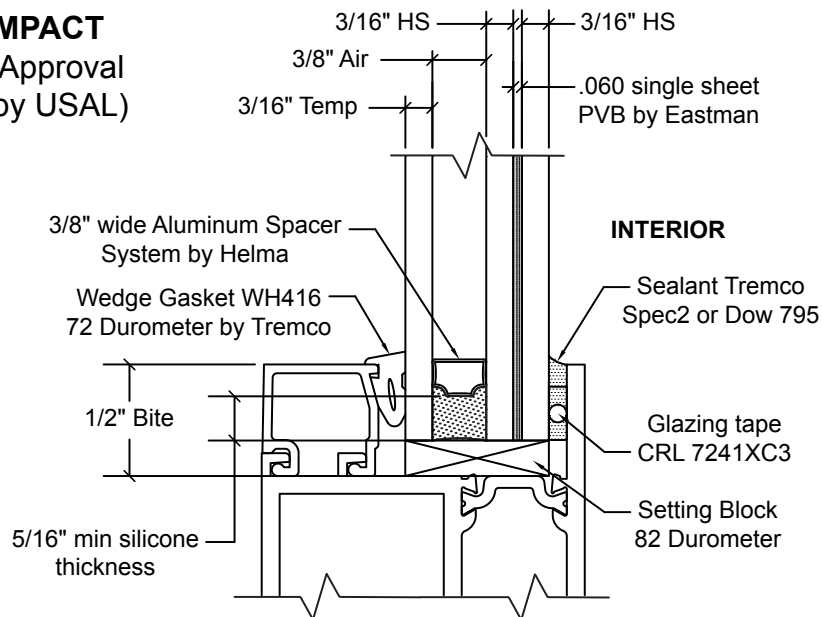
LARGE MISSILE IMPACT

LMI Florida Product Approval
Glass make-up (not by USAL)



SMALL MISSILE IMPACT

SMI Florida Product Approval
Glass make-up (not by USAL)



GLAZING THE DOOR

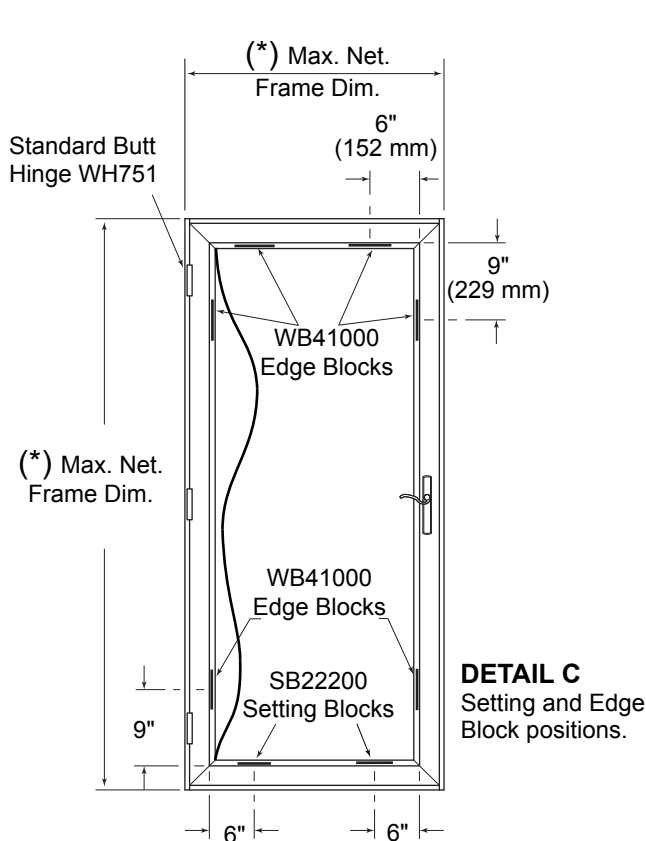
GLASS SIZE = Daylight Opening (D.L.O.) + 1" (25.4 mm)

NOTE: This formula does not take into account glass tolerances.

Consult glass manufacturer before ordering glass.

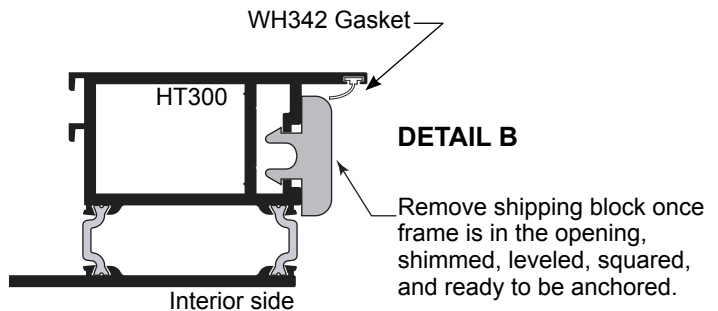
Inspect all received materials for damages during shipping prior to glazing or installation.

1. Remove temporary shipping blocks located at top and bottom rails and hinge and lock stiles.
See DETAIL B.
2. Clean glazing fins with IPA Cleaner using the 2 rag method, prior to applying pre-shimmed glazing tape.
3. Apply POLYshim II glazing tape, Cat. No. 7241XC3 1/8" X 3/8", to stiles. Tape should be cut 1/8" longer per foot. Inset 3/16" (4.8 mm) to allow for cap bead. Apply tape to the top and bottom rails, butting tight to the vertical tape, leaving an extra amount at each end to ensure a tight joint. **See DETAIL D.**
4. Place WB41000 Edge Blocks in door as shown in **DETAIL C.**
5. Cut wedge gasket to size. Gaskets should be cut 1/8" (3.2 mm) longer per foot of Daylight Opening to allow for shrinkage.
6. Place SB22200 Setting Block as shown in **DETAIL C.**

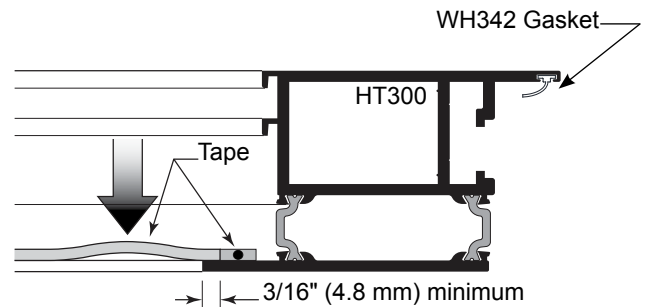


DETAIL C
Setting and Edge Block positions.

(*) Refer to test report



DETAIL B



DETAIL D

NOTE:

Butt the horizontal tape into vertical tape and unite by pressing a tool or coin into the joint. Daub the butted joint with CRL RTV408 Sealant to eliminate gaps.

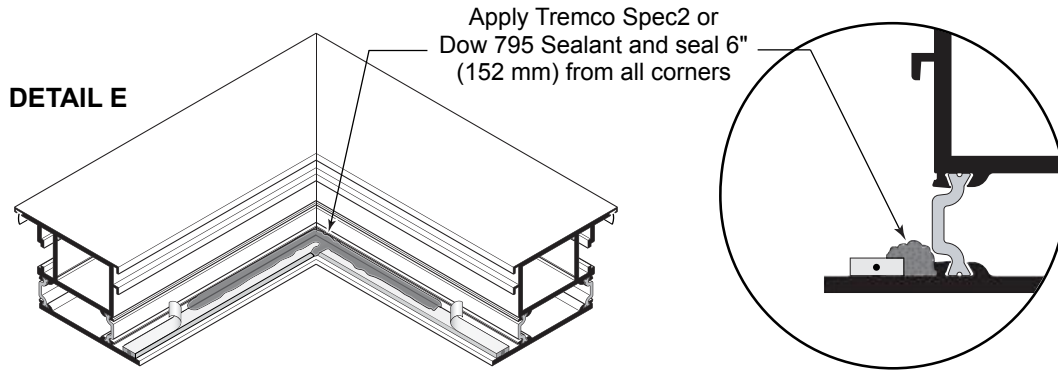
GLAZING THE DOOR (CONTINUED)

7. Clean glass edges with IPA Cleaner and wipe clean with the 2 rag method. Avoid touching edges after cleaning.
8. Prior to glazing, peel protective paper from the glazing tape. **DO NOT TOUCH** exposed tape surfaces with fingers or any tool, **See DETAIL E.**

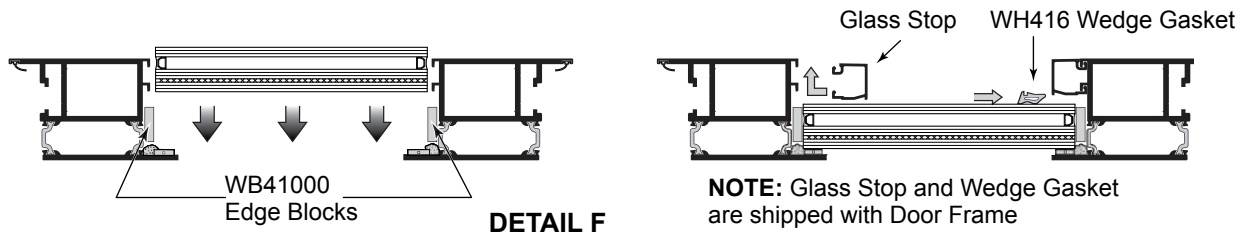
NOTE: Do not leave glazing tape surface unprotected, remove paper just prior to setting glass.

9. Apply a 6" (152 mm) bead of Tremco Spec2 or Dow 795 Sealant at each corner of glazing tape. Sealant should fill reveal and cover approximately half of inside edge of tape as shown in **DETAIL E.**

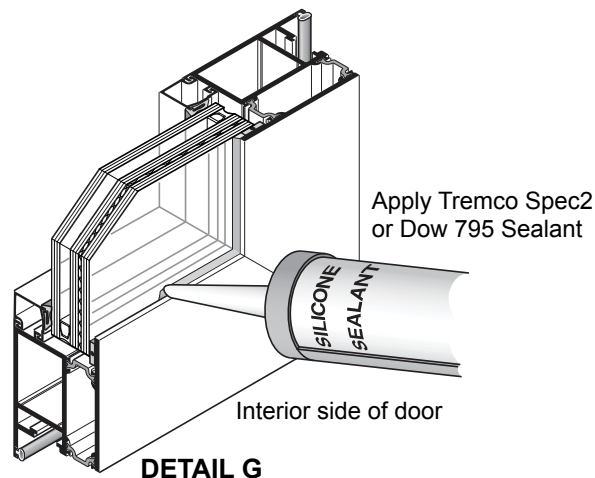
NOTE: Door MUST be glazed while sealant is wet.



10. Place glass square into opening, pressing firmly against glazing tape.
11. Install Glass Stops and Wedge Gaskets immediately, **See DETAIL F.**



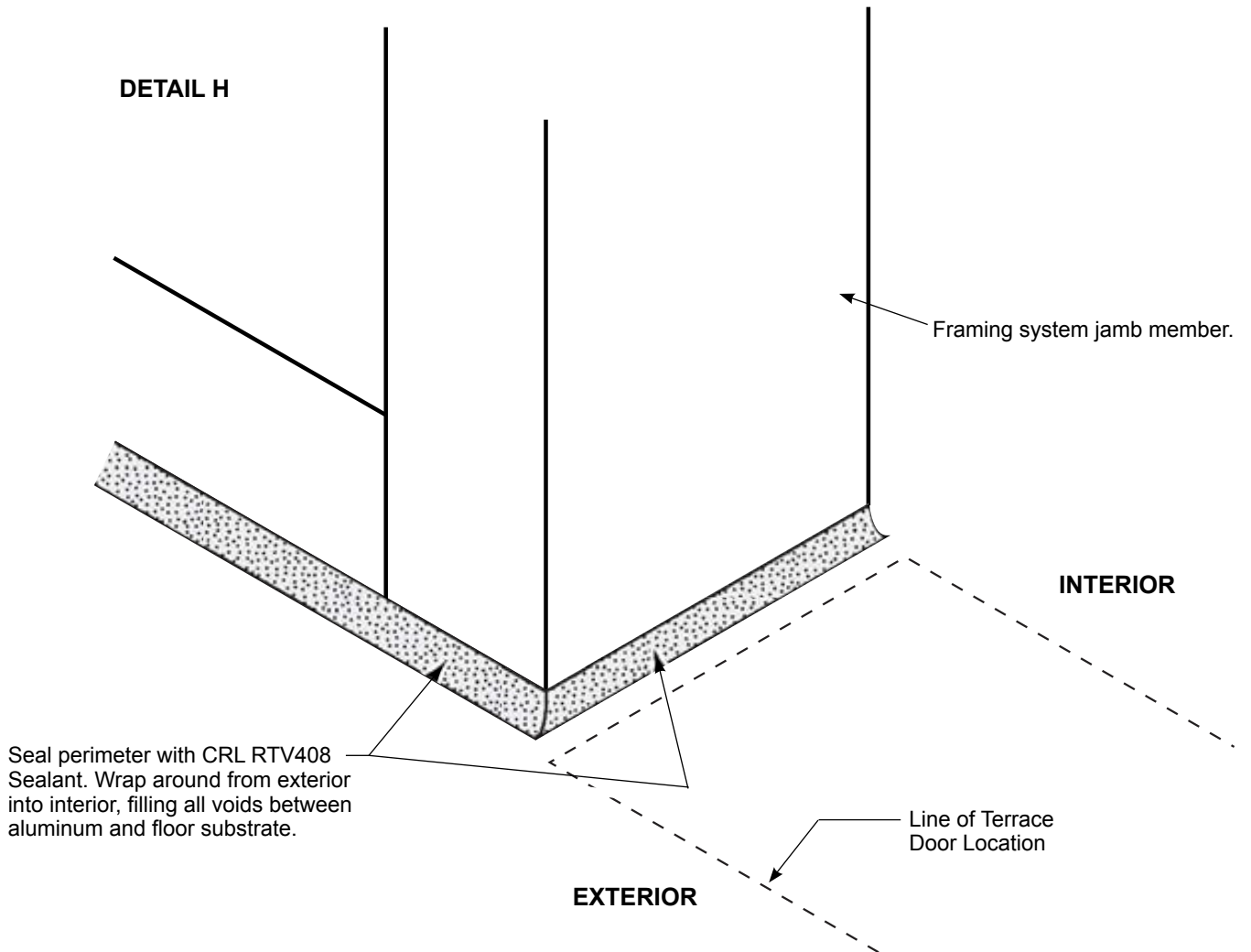
12. Apply a continuous cap bead of Tremco Spec2 or Dow 795 Sealant a full perimeter between glazing fin and glass. Be sure to inject sealant full depth of recess, **See DETAIL G.** Consult the sealant manufacturer for curing time.



INSTALLATION PREPARATION

1. If installing within a framing system, installer must make sure the perimeter sealant of the framing system is properly sealed. The perimeter seal must have full coverage from exterior to interior and be compatible with sealant to be used with terrace door installation, **See DETAIL H.**

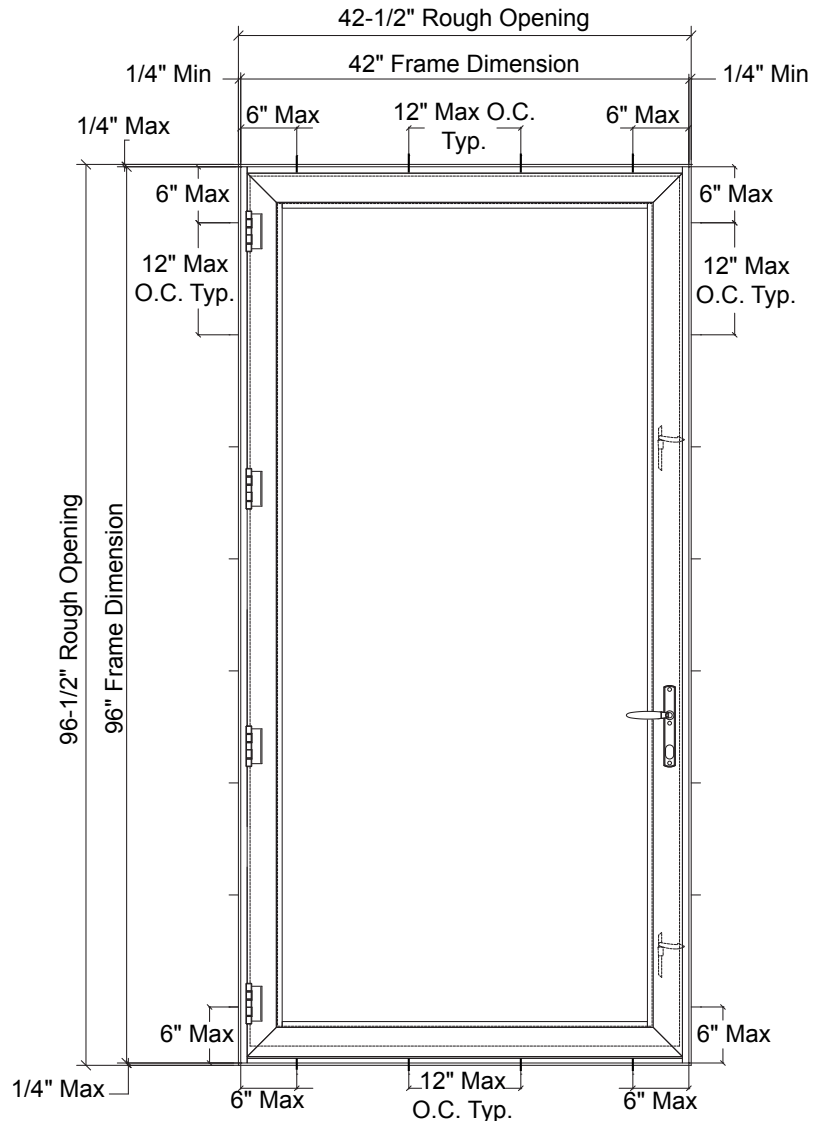
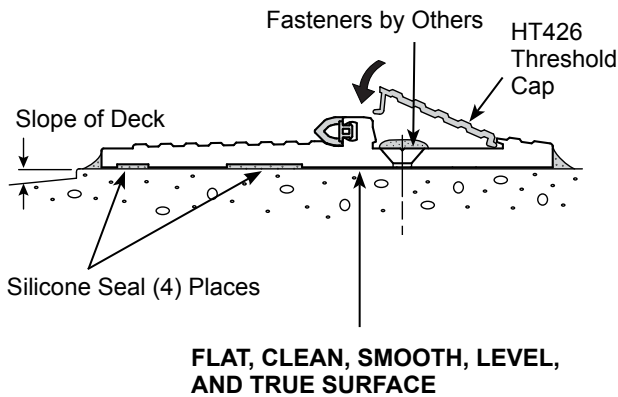
NOTE: Some conditions may require sill pan flashing within door and sidelite opening. Consult approved shop drawings for any flashing installation requirements.



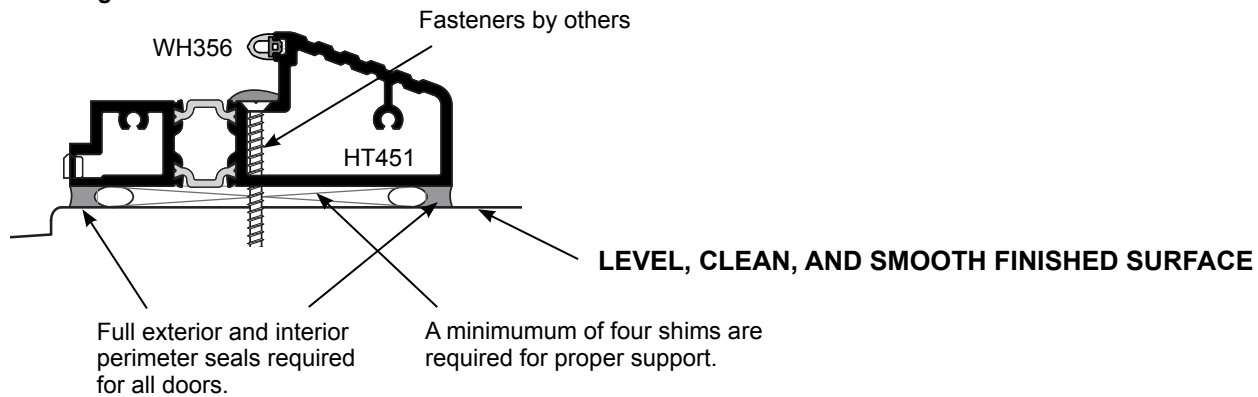
INSTALLATION

ANCHORING NOTE: Fasteners, substrate, and any surrounding system components that are to structurally support loads imposed on this product must be adequate in strength and workability. Consult approved shop drawings for anchoring recommendations.

Low Profile Threshold



Out-Swing Threshold



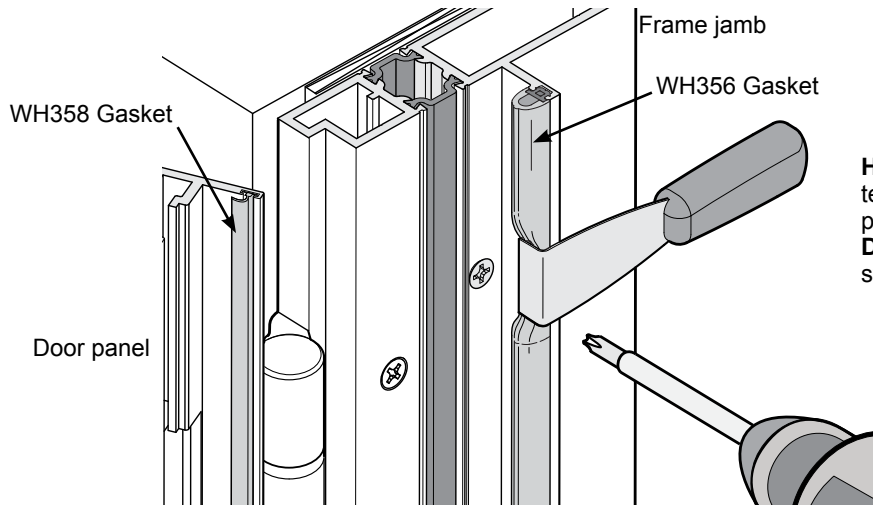
INSTALLATION (continued)

Note:

1. The product shown herein is designed and manufactured to comply with requirements of the Florida building code, including the HVHZ.
2. Wood framing and masonry opening to be designed and anchored to properly transfer all loads to structure. Framing and masonry opening is the responsibility of the architect or engineer of record.
3. 1X buck over masonry/concrete is optional.
4. Where shim or buck thickness is less than 1-1/2", door units must be anchored through the frame in accordance with manufacture's published installation instructions. Anchors shall be securely fastened directly into masonry, concrete or other structural substrate material.
5. Where wood buck thickness is 1-1/2" or greater, buck shall be securely fastened to masonry, concrete or other structural substrate. Door units may be anchored through frame to secured wood buck in accordance with manufacture's published installation instructions.
6. Where 1X buck is not used dissimilar materials must be separated with approved coating or membrane. Selection of coating or membrane is the responsibility of the architect or engineer of record.
7. Buck shall extend beyond door interior face so that full frame support is provided.
8. For block installation shim as needed. For frame installation shim as required at each anchor location with load bearing shim. Shim where space of 1/16" or greater occurs. maximum allowable shim stack to be 1/4".
9. Shims shall be located, applied and made from materials and thickness capable of sustaining applicable loads.
10. Wind load duration factor $C_d=1.6$ was used for wood anchor calculations.
11. Frame material: Aluminum 6063-T6.
12. Units must be glazed per ASTM E1300-04/09.
13. Approved impact protective system is not required for this product in wind borne debris regions.
14. For anchoring through frame into wood framing or 2X buck use #10 wood screws (by others) with sufficient length to achieve a 1-7/16" minimum embedment into substrate. Locate anchors as shown in elevations and installation details.
15. For anchoring through frame into masonry/concrete use 3/16" Tapcons (by others) with sufficient length to achieve a 1-1/4" minimum embedment into substrate with 2-1/2" minimum edge distance. Locate anchors as shown in elevations and installation details.
16. For anchoring through frame into metal structure, use #10 SMS (by others) or self drilling screws with sufficient length to achieve 3 threads minimum beyond structure interior wall. Locate anchors as shown in elevations and installation details.
17. All fasteners to be corrosion resistant.
18. Installation anchors shall be installed in accordance with anchor manufacturer's installation instructions and anchors shall not be used in substrates with strengths less than the minimum strength specified below:
 - A. Wood: Minimum specific gravity of $G=0.42$.
 - B. Concrete: minimum compressive strength of 2,000 PSI.
 - C. Masonry: Hollow/filled block per ASTM C90 with $F_m=2.000$ PSI minimum.
 - D. Metal structure: Steel 18GA (.048") $FY=33KSI/FU=52KSI$ or aluminum 6063-T5 $FU=30KSI$.048" thick minimum.

INSTALLATION (continued)

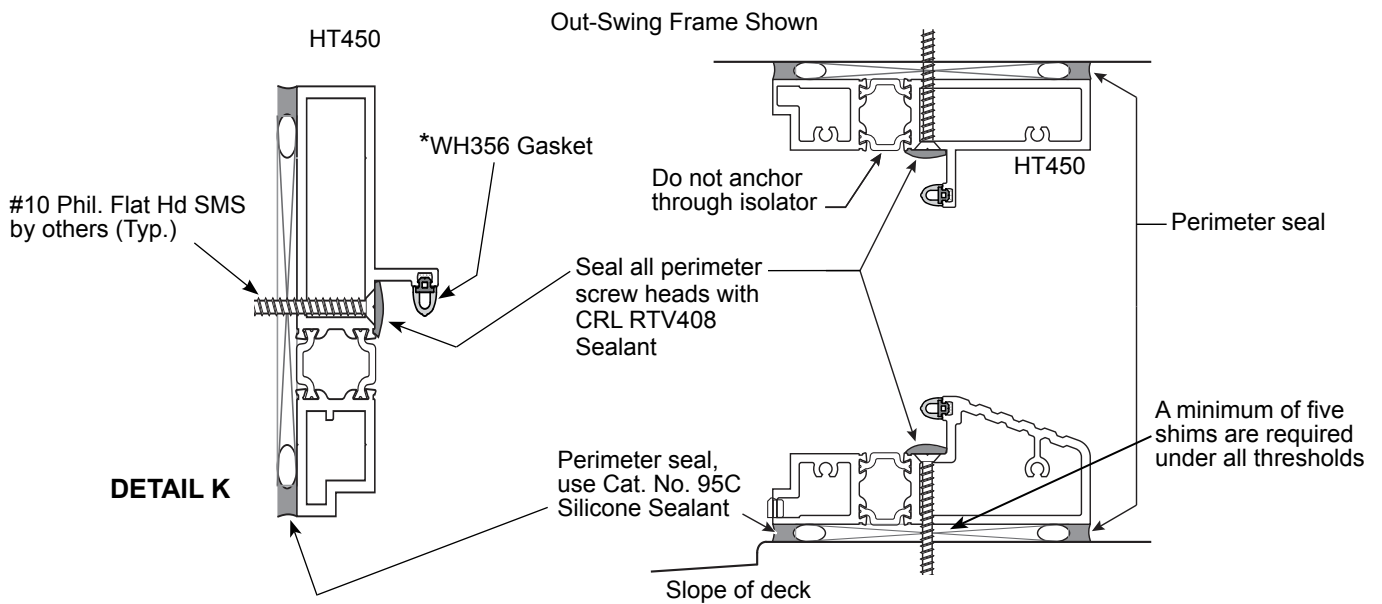
1. Install frame plumb and square. Shim frame as required. Shims are to be positioned at each fastener and hinge location.



HELPFUL HINT: Compress gasket temporarily while installing fasteners to prevent damage to the gasket as seen in **DETAIL J**. Use caution not to mar the door stop gasket or the frame members.

DETAIL J

2. Seal over heads of each anchor screw and tool sealant smooth. **See DETAIL K.**
3. Apply perimeter seals continuously to the full perimeter of interior and exterior of door frame. Sealant must be compatible with perimeter sealant of any adjacent framing system. Refer to approved shop drawing for any job specific sealant requirements. Follow sealant manufacturer's guidelines for cleaning, surface preparation, and application.

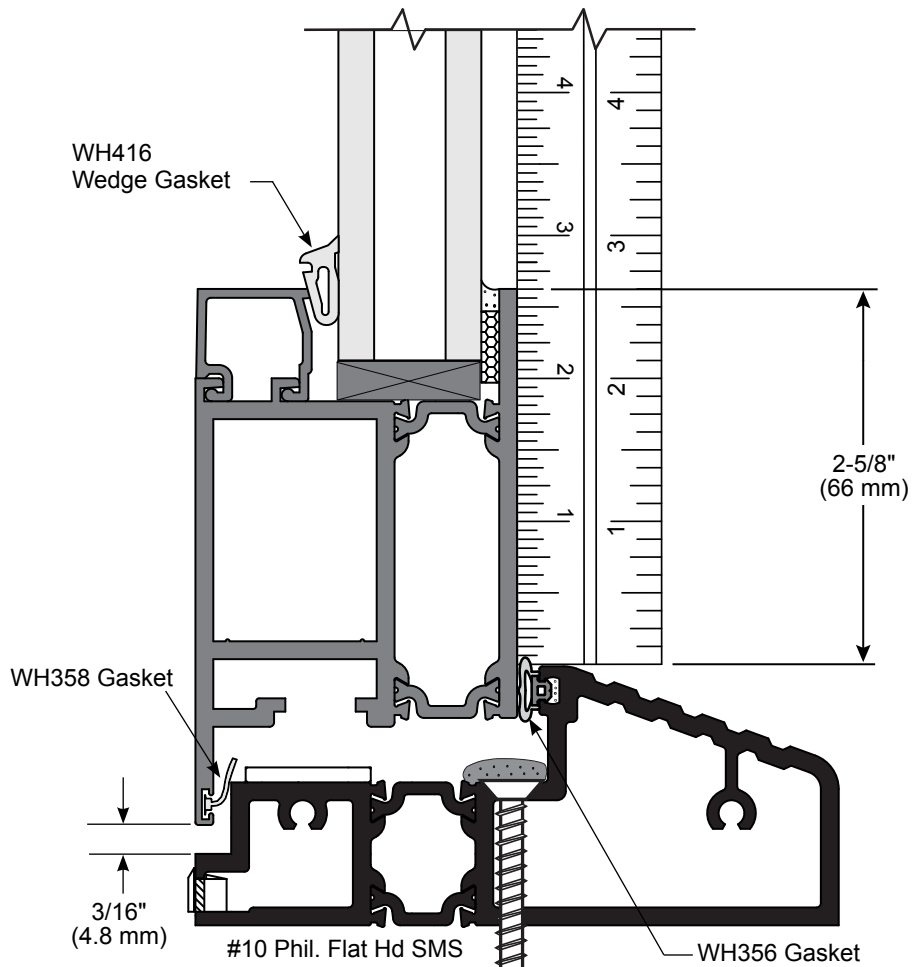


DETAIL K

* In the event a replacement gasket is required, the full door perimeter seal should be replaced.

INSTALLATION (continued) - FRAME ALIGNMENT

Proper compression on the surrounding bulb gasket is crucial in keeping water out. There should be an 3/16" (4.8 mm) gap between the door leaf and the frame opening on all four sides. Check the height of the bottom rail with the threshold. (See **DETAIL L**)

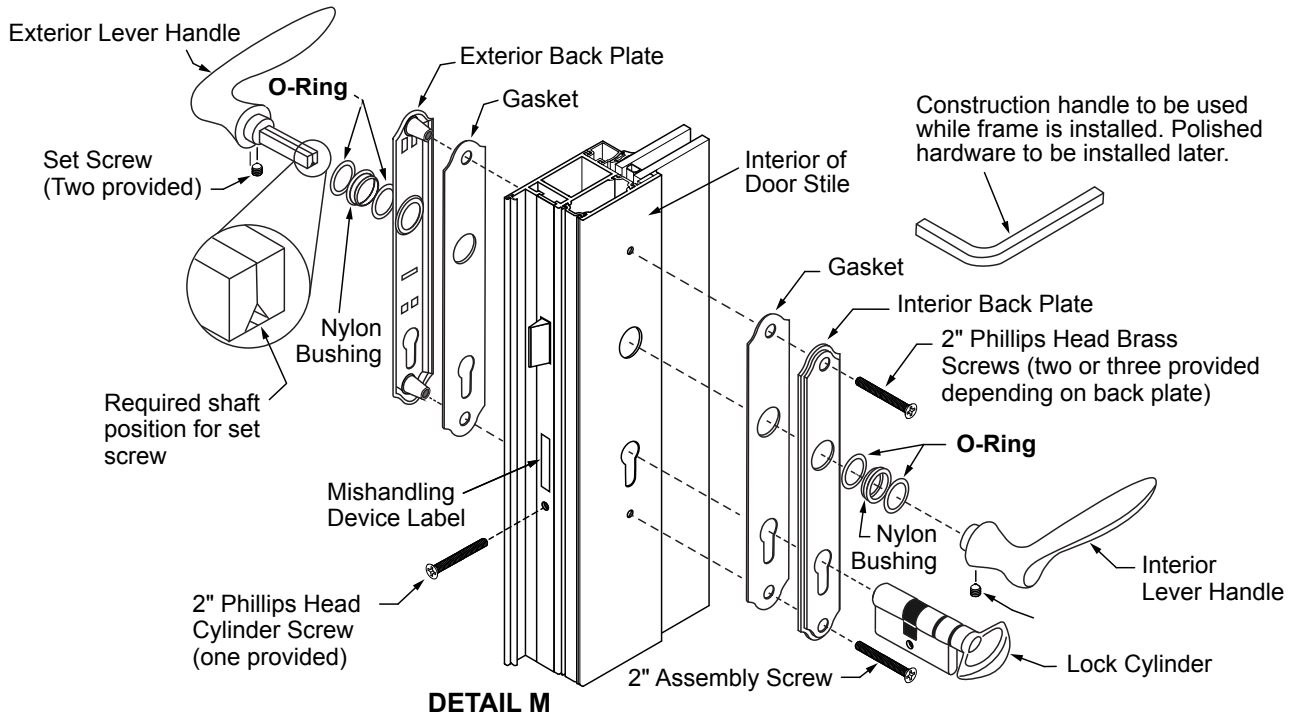


Threshold for Out-Swing Doors

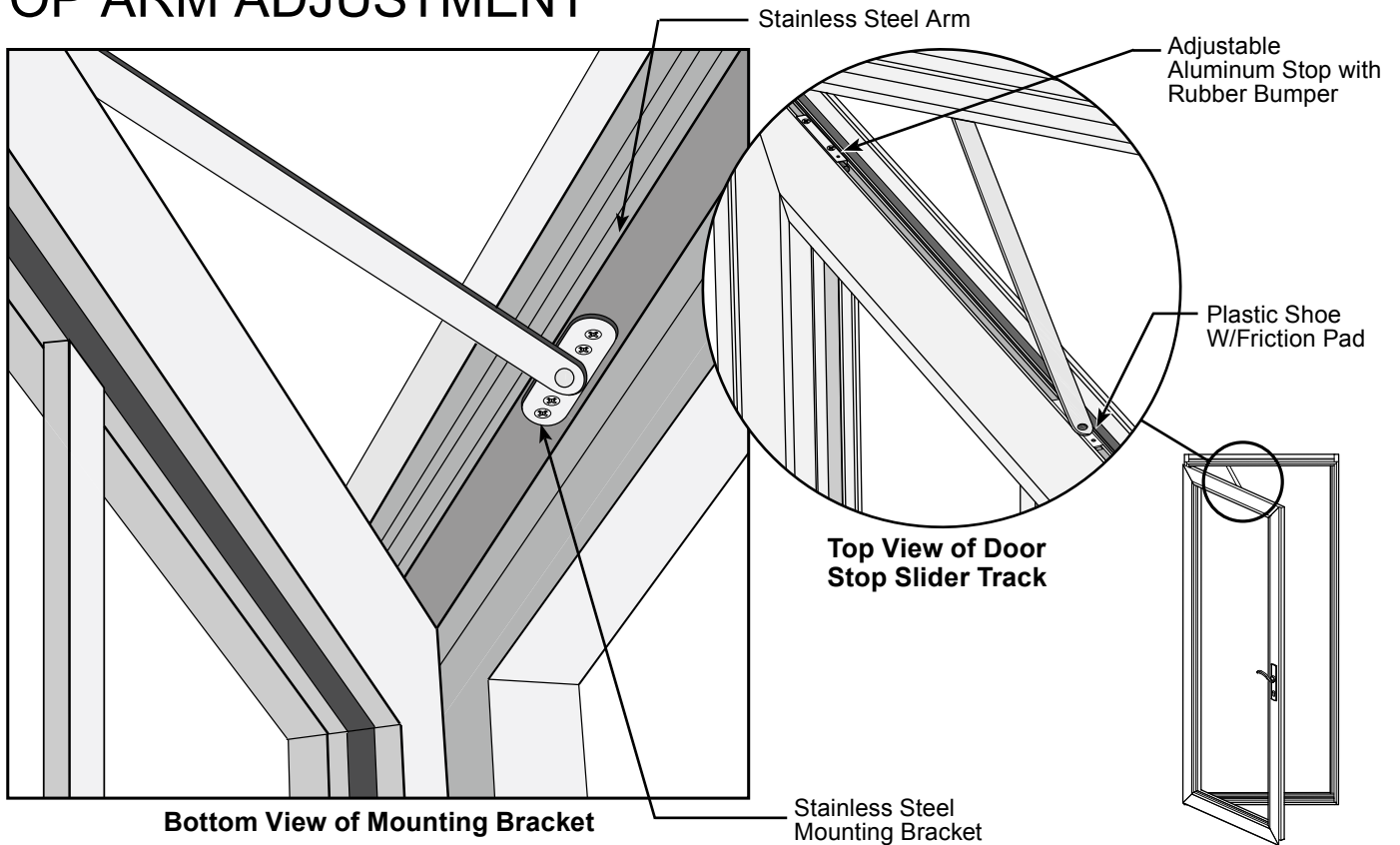
DETAIL L

DOOR HANDLE INSTALLATION

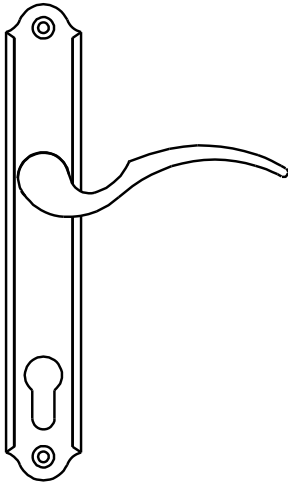
1. Install Lever Handle and Cover Plates as directed per hardware manufacturer's Service Installation Booklet included within hardware package. **DETAIL M** shows exploded view.



TOP ARM ADJUSTMENT



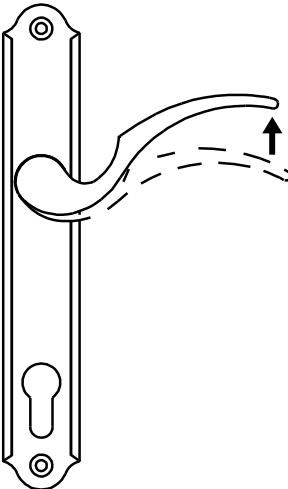
SWING DOOR HANDLE OPERATION



TO LOCK AN AUTOMATIC SYSTEM

Make sure that the door is fully shut and latched. Multi-points will engage automatically when the auto-release pin hits the strike plate mounted on the jamb.

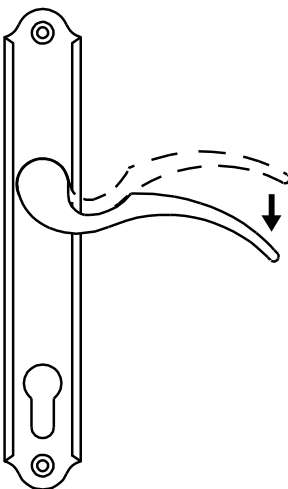
Use a key or the thumbturn to engage the deadbolt after the multi-points are engaged.



TO LOCK A MANUAL SYSTEM

After the door is fully closed and latched, lift the handle to engage the multi-points before engaging the deadbolt.

Use a key or the thumbturn to engage the deadbolt after the multi-points are engaged.



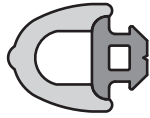
TO OPEN BOTH SYSTEMS

Disengage the deadbolt with a key or the thumbturn, push the handle down until multi-points are retracted, and then open door.

Handles and back plates vary in style.

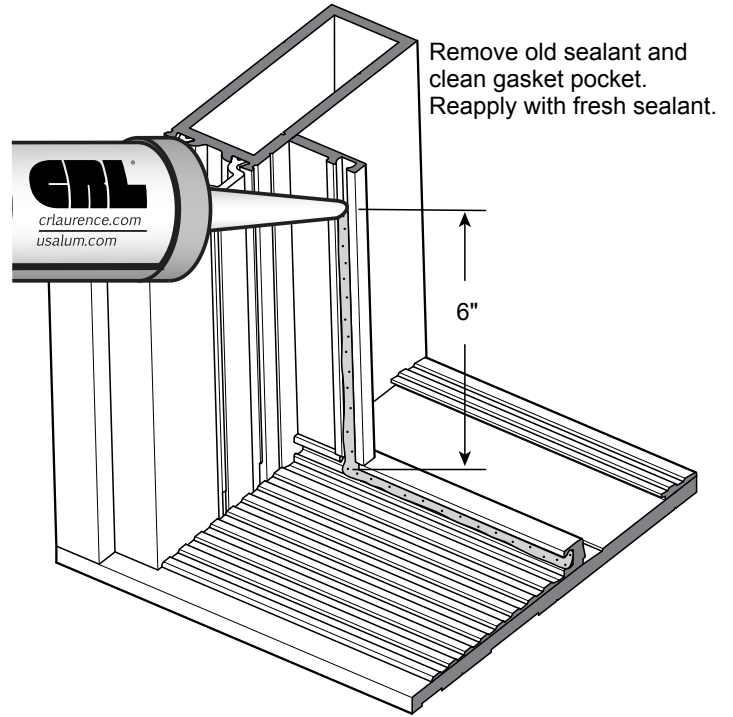
[Click here to watch Video](#)

REPLACING THE WH356 INTERIOR GASKET

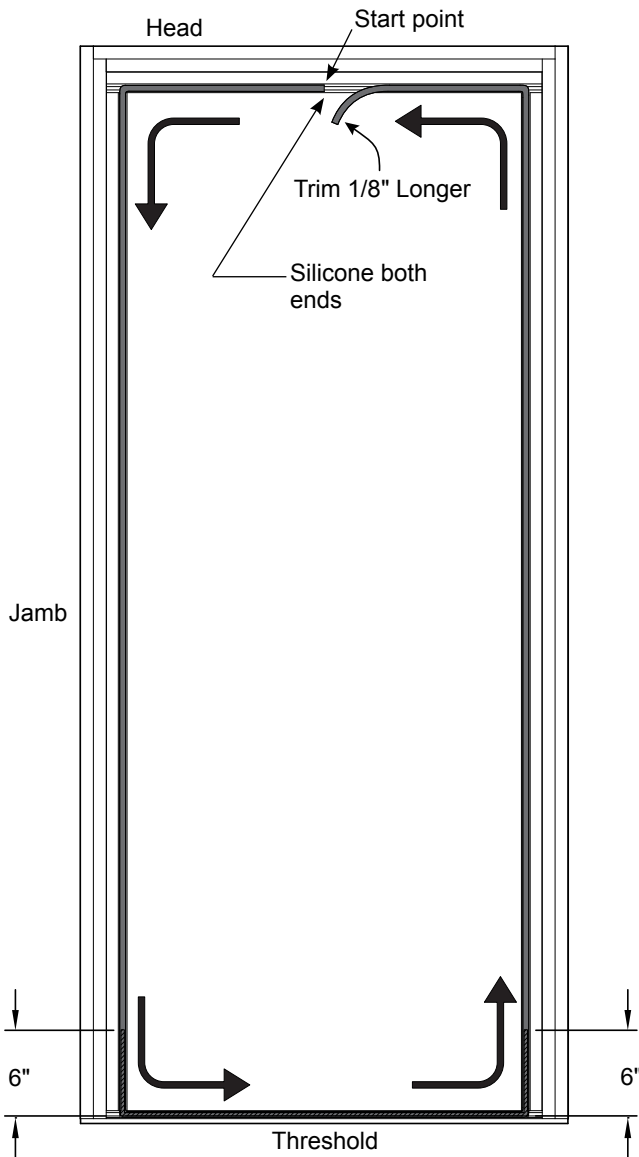


WH356

1. Remove existing gasket.
2. Remove old sealant and clean corner.



DETAIL N



DETAIL O

3. Run a continuous bead of silicone in the threshold's gasket pocket the length of the threshold and 6" up each jamb from the corners. **(DETAIL N)**
4. Insert the replacement WH356 gasket into the frame Head gasket pocket. Start in the middle of the Head and run a CONTINUOUS length of gasket, (Do Not Cut Gasket), around each corner, ending up back at the center of the Head. Apply silicone to the ends of the gasket and join together, see **DETAIL O**.