**TEST REPORT**

**Report No.**: G5257.01-301-47

**Rendered to**:

CR LAURENCE CO., INC.
Vernon, California

**PRODUCT TYPE**: Dual Side Hinged Door - Outswing
**SERIES/MODEL**: 400T

**Summary of Results**

| Title | Summary of Results |
|---|---|
| Design Pressure | ±960 Pa (±20.05 psf) |
| Air Infiltration | 3.0 L/s/m$^2$ (0.60 cfm/ft$^2$) |
| Water Penetration Resistance Test Pressure | 0 Pa (0.00 psf) |
| Uniform Load Structural Test Pressure | ±1440 Pa (±30.05 psf) |

**Test Dates:** **11/11/16**
**Through:** **11/23/16**
**Report Date:** **12/16/16**
**Revision 1 Date:** **12/16/16**

**1.0 Report Issued To**: CR Laurence Co., Inc.
2100 East 38th Street
Vernon, California 90058

**2.0 Test Laboratory**: Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
25800 Commercentre Drive
Lake Forest, California 92630
949-460-9600

**3.0 Project Summary**:

**3.1 Product Type**: Dual Side Hinged Door - Outswing

**3.2 Series/Model**: 400T

**3.3 Compliance Statement**: Results obtained are tested values and were secured by using the designated test method(s). Test specimen description and results are reported herein.

**3.4 Test Dates**: 11/11/16 – 11/23/16

**3.5 Test Record Retention End Date**: All test records for this report will be retained until November 23, 2020.

**3.6 Test Location**: CR Laurence Co., Inc. test facility in Vernon, California. Calibration of test equipment was performed by Intertek-ATI in accordance with AAMA 205-01 "In-Plant Testing Guidelines for Manufacturers and Independent Laboratories".

**3.7 Test Specimen Source**: The test specimen was provided by the client. Samples of the test specimen were retained by the customer.

**3.8 Drawing Reference**: The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen reported herein. Test specimen construction was verified by Intertek-ATI per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.

**3.9 List of Official Observers**:

| Name | Company |
|---|---|
| Garrett Osterode | CR Laurence Co., Inc. |
| Jarod S. Hardman | Intertek-ATI |

## 4.0 Test Methods:

ASTM E283-04 (2012), *Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors under Specified Pressure Differences across the Specimen*

ASTM E330/E330M-14, *Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*

ASTM E331-00 (2009), *Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*

## 5.0 Test Specimen Description:

### 5.1 Product Sizes:

| **Overall Area**: 4.2 m² (45.4 ft²) | **Width** | | **Height** | |
|---|---|---|---|---|
| | **millimeters** | **inches** | **millimeters** | **inches** |
| Overall Size | 1930 | 76 | 2184 | 86 |
| Primary Leaf | 914 | 36 | 2134 | 84 |
| Secondary Leaf | 914 | 36 | 2134 | 84 |

### 5.2 Frame Construction:

| Frame Member | Material | Description |
|---|---|---|
| Head and Jambs | Aluminum | Head jamb mullion, secured to opening with #10 x 3-1/2" Phillips screws, see attached drawing Part No. 1T442. |
| Head | Aluminum | Head sill block, inserted into head jamb mullion and secured with #10 x 1/2" flat head screws, see attached drawing Part No. 1P442. |
| Head and Jambs | Aluminum | Flush insert, snap fit into top of head jamb mullion, see attached drawing Part No. PS100. |
| Head and Jambs | Aluminum | Door stop, snap fit into underside of head jamb mullion, see attached drawing Part No. DS053. |
| Sill | Aluminum | Threshold, secured to opening with #10 x 2" Phillips wood screws, 3" from each corner and 12" on center spacing, see attached drawing Part No. TT245. |

**5.0 Test Specimen Description**: (Continued)

**5.2 Frame Construction**: (Continued)

| | Joinery Type | Detail |
|---|---|---|
| All Corners | Flush | Secured through corners of frame with #10 x 1-3/4" Phillips pan head sheet metal screws. |

**5.3 Leaf Construction**:

| Leaf Member | Material | Description |
|---|---|---|
| Top Rail | Aluminum | See attached drawing Part No. HT101. |
| Bottom Rail | Aluminum | See attached drawing Part No. JT650. |
| Bottom Rail | Aluminum | Weather strip assembly, secured to bottom interior face of bottom rail and secured with #10 x 1/2" Phillips flat head screws, see attached drawing Part No. BW200. |
| Jamb Stiles | Aluminum | See attached drawing Part No. JT500. |
| Secondary Leaf Lock Stile | Aluminum | See attached drawing Part No. JT400. |
| Primary Leaf Lock Stile | Aluminum | See attached drawing Part No. JT350. |
| Primary Leaf Lock Stile | Aluminum | Adjustable astragal, secured to primary leaf lock stile with #10 x 1-3/4" Phillips flat head screws, see attached drawing Part No. DN350. |

| | Joinery Type | Detail |
|---|---|---|
| All Corners | Flush | Secured through corners of leaf with #10 x 1-3/4" Phillips pan head sheet metal screws. |

**5.4 Reinforcement**: No reinforcement was utilized.

**5.0 Test Specimen Description**: (Continued)

**5.5 Weatherstripping**:

| Description | Quantity | Location |
|---|---|---|
| Bulb Gasket | 1 row | Channel inserted at interior face of jambs and head into door stop, see attached drawing Part No. WH349. |
| Plain Pile Weatherstrip | 1 row | Channel inserted into bottom rail of leafs, see attached drawing Page No. 2. |
| Plain Pile Weatherstrip | 2 rows | Channel inserted into lock stile of primary leaf in adjustable astragal, see attached drawing Page No. 3. |

**5.6 Glazing**: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

| Glass Type | Spacer Type | Interior Lite | Exterior Lite | Glazing Method |
|---|---|---|---|---|
| 1" IG | Aluminum spacer – dual seal (A1-D) | 1/4" clear tempered | 1/4" clear tempered | Dry glazed with wedge glazing gaskets on neoprene setting blocks, see attached drawing Part Nos. SB245, NP252, and NT252. Top and bottom rails of leafs secured with glass stop, see attached drawing Part No. HE751. |

| Location | Quantity | Daylight Opening | | Glass Bite |
|---|---|---|---|---|
| | | millimeters | inches | |
| Leaf | 2 | 694 x 1819 | 27-5/16 x 71-5/8 | 1/2" |

**5.7 Drainage**: No drainage was utilized.

**5.0 Test Specimen Description**: (Continued)

**5.8 Hardware**:

| Description | Quantity | Location |
|---|---|---|
| Stainless Steel Butt Hinges | 6 | Three hinges secured to each jamb and leaf, see attached drawing Part No. BB55NR. |
| Handle Assembly and Push Bar | 1 | Secured to primary leaf, see attached drawing Part Nos. PR032 and PR034. |
| Hook Bolt Lock and Cylinder | 1 | Secured to primary leaf, see attached drawing Part Nos. DH129 and DH004. |

**5.9 Screen Construction**: No screen was utilized.

**6.0 Installation**:

The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/8" shim space. The exterior and interior perimeter of the door were sealed with structural silicone sealant.

| Location | Anchor Description | Anchor Location |
|---|---|---|
| Through head and jambs | #10 x 3-1/2" Phillips wood screws | 3" from each corner and 12" on center spacing. |
| Through sill | #10 x 2" Phillips wood screws | 3" from each corner and 12" on center spacing. |

**7.0 Test Results**: The temperature during testing was 23°C (74°F). The results are tabulated as follows:

**Test Specimen #1**:

| Title of Test | Results | Allowed | Note |
|---|---|---|---|
| **Air Leakage,** per ASTM E283 at 75 Pa (1.57 psf) | 3.0 L/s/m$^2$ (0.60cfm/ft$^2$) | Report Only | 1 |
| **Water Penetration,** per ASTM E331 at 0 Pa (0.00 psf) | Pass | No leakage | |
| **Uniform Load Deflection,** per ASTM E330 Deflections taken at lock stile<br>+960 Pa (+20.05 psf)<br>-960 Pa (-20.05 psf) | <br>13.5 mm (0.53")<br>19.3 mm (0.76") | <br>Report Only | <br>2, 3 |
| **Uniform Load Structural,** per ASTM E330 Permanent sets taken at lock stile<br>+1440 Pa (+30.05 psf)<br>-1440 Pa (-30.05 psf) | <br>6.1 mm (0.24")<br>4.6 mm (0.18") | <br>Report Only | <br>2, 3 |

***General Note**: All testing was performed in accordance with the referenced standard(s).*

***Note 1:*** Test Date 11/11/16 / Time: 9:00 AM

***Note 2:*** *Loads were held for 10 seconds.*

***Note 3:*** *Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.*

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For ARCHITECTURAL TESTING, INC.:


Jarod S. Hardman
Laboratory Manager

JSH:ms

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix A: Location of air seal (1)
Appendix B: Drawings (3)

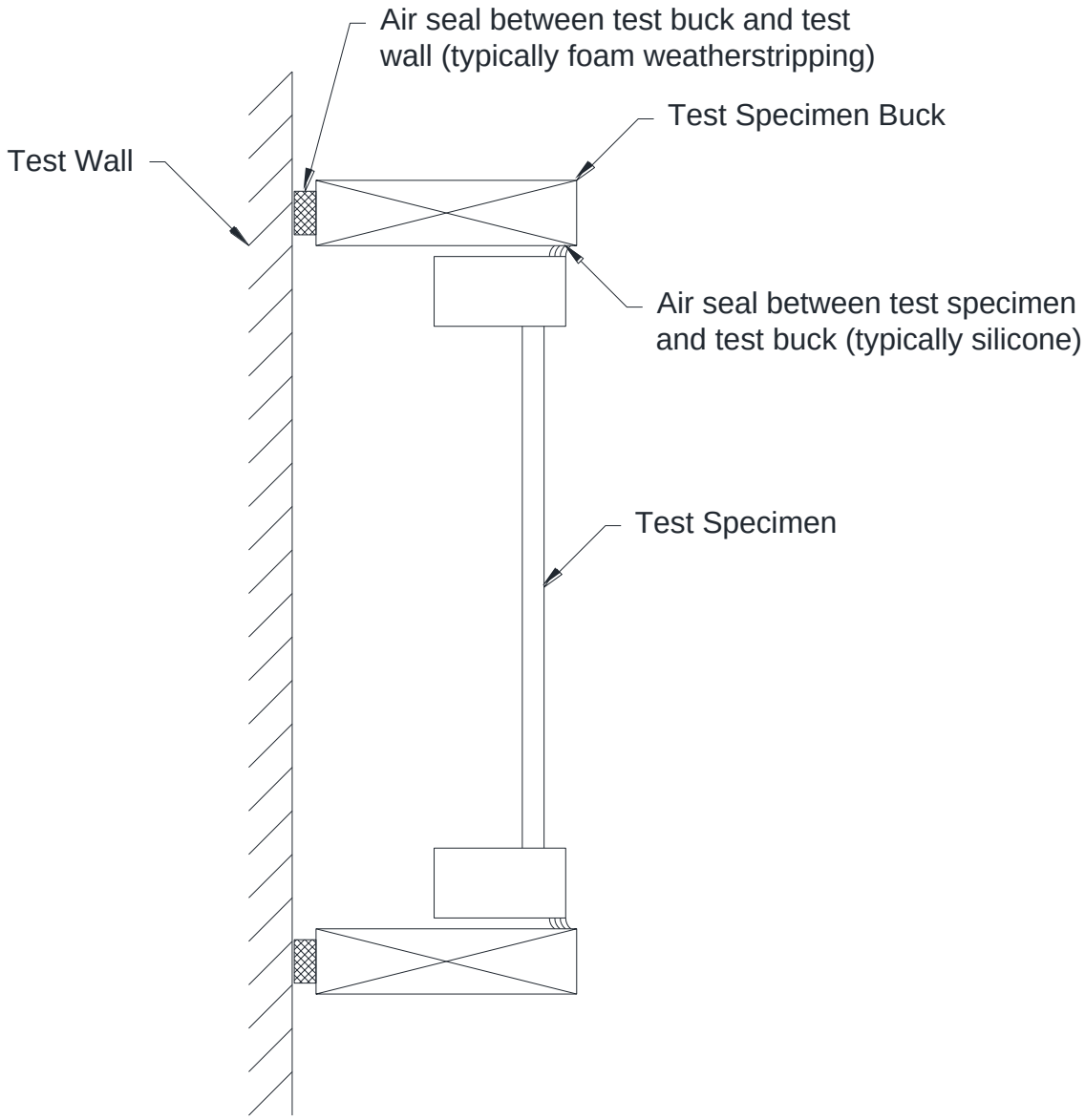
## Revision Log

| Rev. # | Date | Page(s) | Revision(s) |
|---|---|---|---|
| 0 | 12/16/16 | N/A | Original report issue |
| 1 | 12/16/16 | Cover, 3, 5, 6, 8, 9, drawings | Separation of units into individual test reports. |

This report produced from controlled document template ATI 00479, revised 06/19/15.

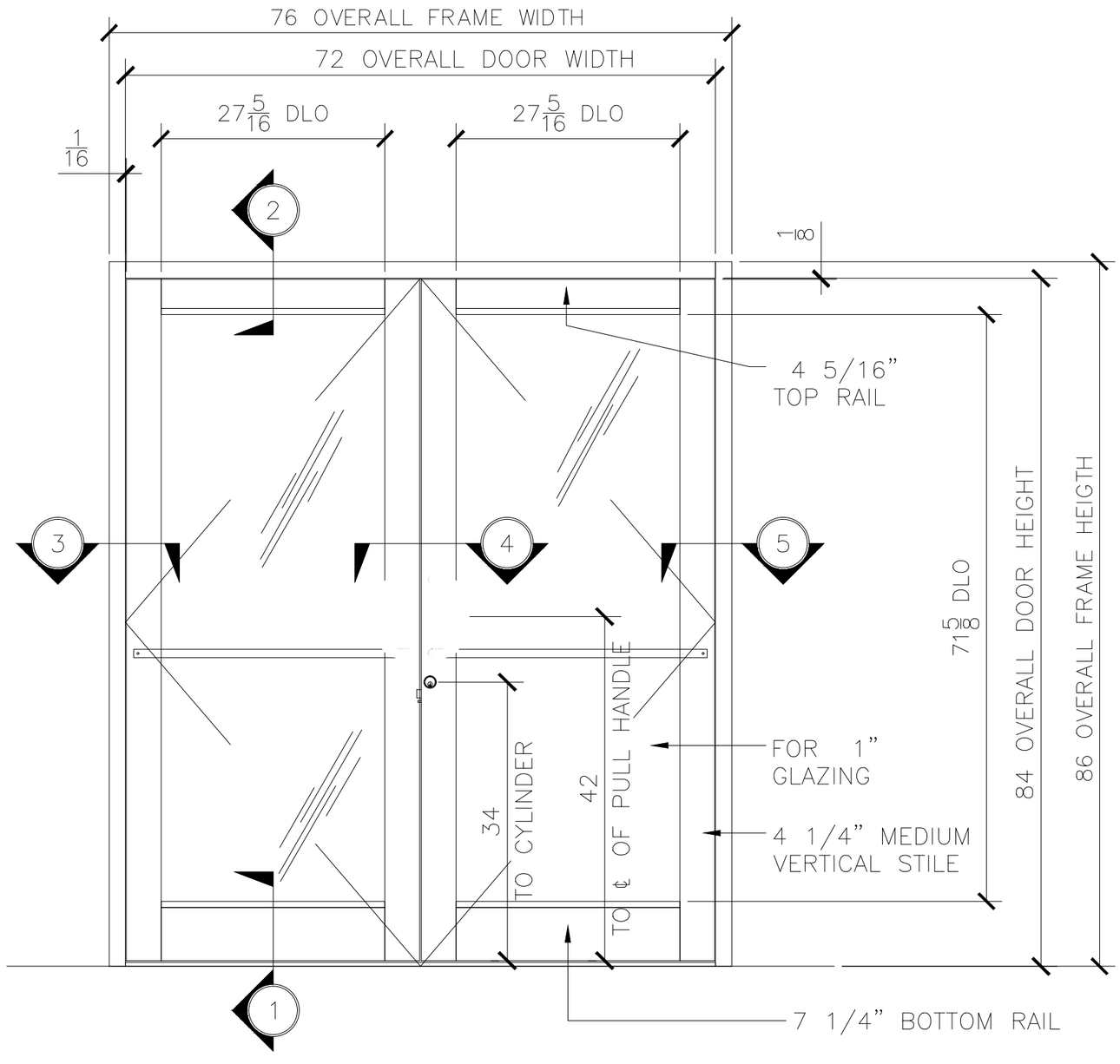
## Appendix A

**Location of Air Seal**: The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.



# Appendix B

## Drawings




| ITEM | | PT. NO. | PART DESCRIPTION | |
|---|---|---|---|---|
| C1 | FRAME COMPONENTS | 1T442 | HEAD JAMB MULLION | |
| C2 | | 1P442 | HEAD SILL BLOCK W/SCREWS | |
| C3 | | DS053 | DOOR STOP | |
| C4 | | HE751 | GLASS STOP | |
| C5 | | PS100 | FLUSH INSERT | |
| C6 | | TT245 | THRESHOLD | |
| C7 | | JT650 | BOTTOM DOOR RAIL | |
| C8 | | BW200 | WEATHER STRIP ASSY | |
| C9 | | HT101 | TOP DOOR RAIL | |
| C10 | | JT500 | DOOR JAMB HINGE STILE | |
| C11 | | | | |
| C12 | | JT400 | MEETING STILE – HINGE STILE | |
| C13 | | JT350 | MEETING STILE – LOCK STILE | |
| C14 | | DN350 | ADJUSTABLE ASTRAGAL | |
| | | | | |
| | | | | |
| | | | | |
| W1 | WTHR STRIP | NP252 | GLASS GASKET (INTERIOR) | |
| W2 | | NT252 | GLASS GASKET (EXTERIOR) | |
| W3 | | WH349 | BULB GASKET | |
| | | | | |
| G1 | GLASS | | .025 X .050 X .025<br>INSULATED GLASS (TEMPERED)<br>ALUMINUM SPACER<br>DUAL GLAZED | |
| G2 | | SB245 | NEOPRENE SETTING BLOCK | |
| | | | | |
| | | | | |
| H1 | HARDWARE | DL2210A316 | FLUSH BOLTS | |
| H2 | | ST25200 | #10ABX1-3/4.PHL.PH.SMS.ZP | |
| H3 | | ST24200 | #10 X ½" FH SCREW | |
| H4 | | BB55NR | STAINLESS STEEL BUTT HINGES | |
| H5 | | DH129 | HOOK BOLT LOCK | |
| H6 | | DH004 | CYLINDER | |
| H7 | | PR032 | PULL HANDLE | |
| H8 | | PR034 | PUSH BAR | |
| H9 | | ---- | #10 X 3 1/2" WOOD SCREWS | |
| | | | | |
| | | | | |
| S1 | | EF38C | 3/8" CLOSED CELL BACKER ROD | |
| S2 | | DOW795 | DOW CORNING STRUCTURAL BUILDING SILICONE | |
| | | | | |
| | | | | |
| | | | | |

## TEST REQUIREMENTS

AIR INFILTRATION:
1.57 PSF

STATIC WATER:
LIMITED

DESIGN PRESSURE:
20 PSF

STRUCTURAL OVERLOAD:
30 PSF (0.2% permenant set)

TESTING SEQUENCE:
Air
Water Limited
Design Pressure
Structural Overload

# MEDIUM STILE SERIES 400-T DOOR TYP. ELEVATION

(DOUBLE DOOR @ UP / OVER FRAME )

REVISIONS

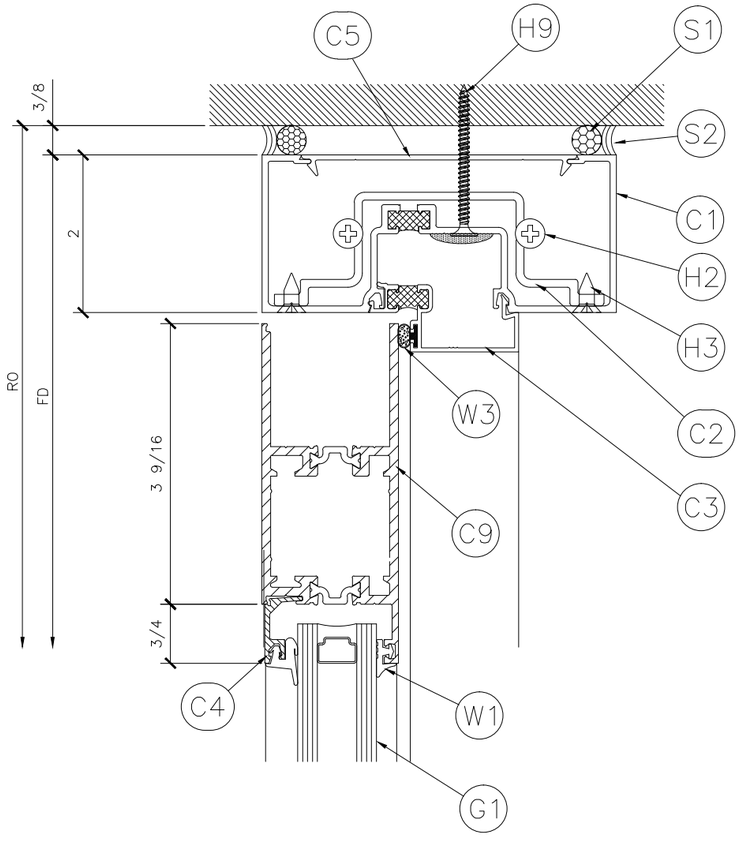

CERTIFIED ISO9000 COMPANY
C.R.LAURENCE CO.
ARCHITECTURAL PRODUCTS
2100 E. 38TH Street, Los Angeles, CA 90058
www.crlaurence.com


Job Name: 400-T DOUBLE DOOR 72" x 84"

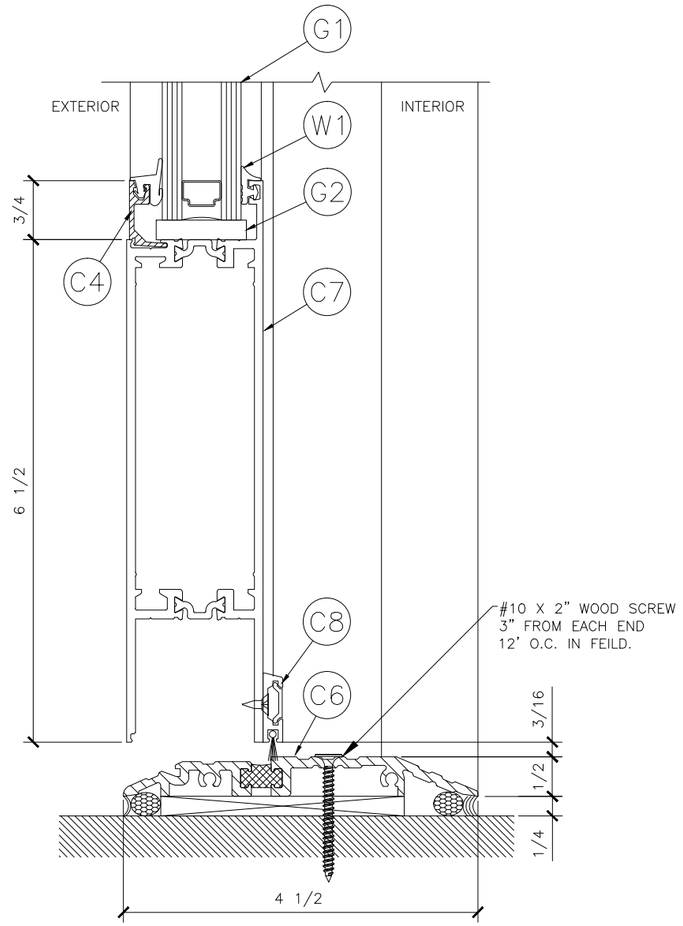
Glazing Contractor:

DATE: 4.13.2016
DRAWN BY: GDO
CHECKED BY: XX
SCALE: AS SHOWN
JOB #: PTC

SHT 1 OF 3




2 SECTION DETAIL @ DOOR HEAD




1 SECTION DETAIL @ 4 5/16" DOOR SILL

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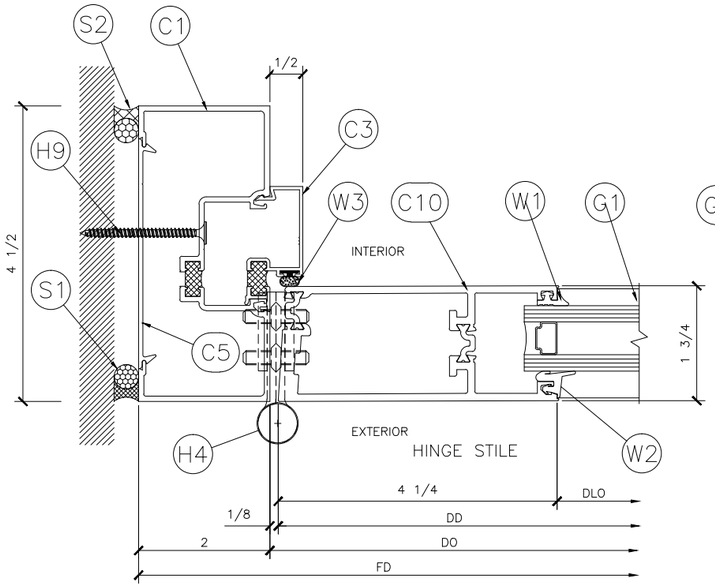
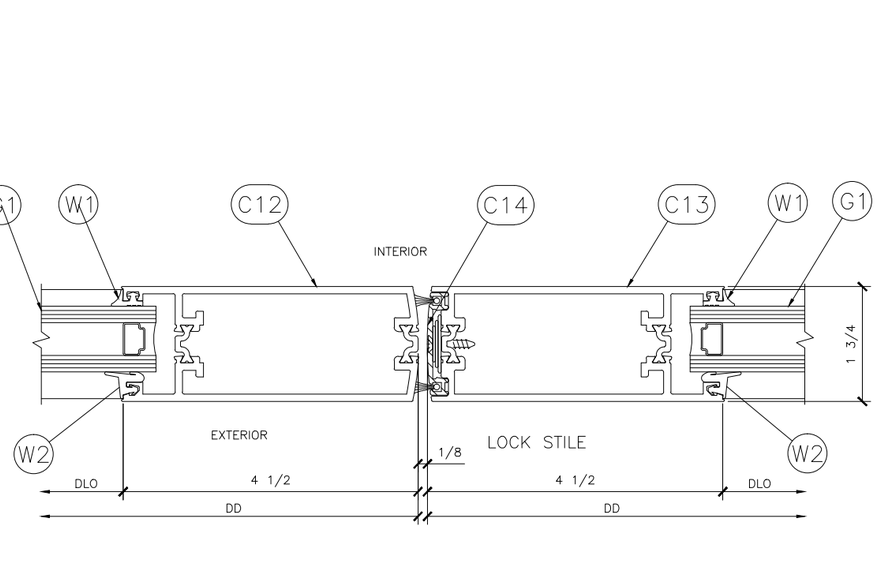
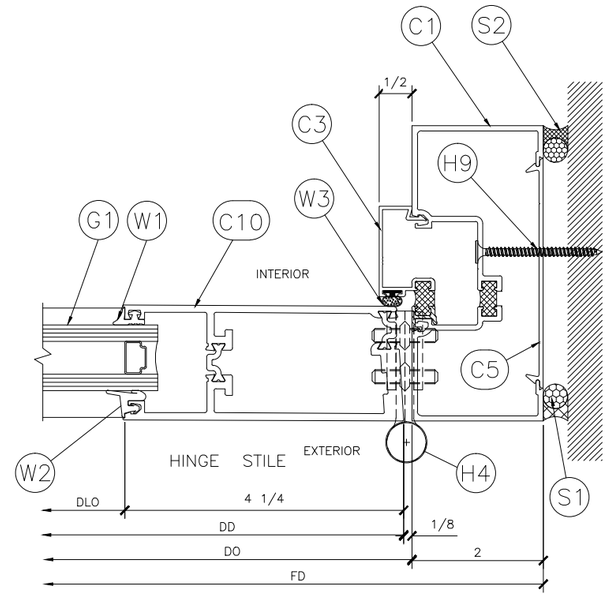
SHT 2 OF 3




3 SECTION DETAIL @ DOOR JAMB




4 SECTION DETAIL @ MEETING STILES




5 SECTION DETAIL @ DOOR JAMB

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SHT 3 OF 3