**E4888.01-113-11-R0**
**ACOUSTICAL PERFORMANCE TEST REPORT**
**ASTM E90**

**Rendered to:**

**C.R. LAURENCE CO., INC.**

**Series/Model: 3000**

**Type: Sliding Glass Door**

| Summary of Test Results | | | |
|---|---|---|---|
| **Data File No.** | **Glazing (Nominal Dimensions)** | **STC** | **OITC** |
| E4888.01A | 1" IG (1/4" tempered, 1/2" air space, 1/4 tempered) | 28 | 25 |
| E4888.01B | 1-3/16" IG (1/2" laminated exterior, 3/8" air space, 5/16" laminated interior), Glass temperature 75°F | 31 | 29 |
| E4888.01C | 1-1/4" IG (1/8" tempered exterior, 7/16" air space, 1/8" tempered, 7/16" air space, 1/8" tempered interior) | 28 | 24 |

Reference should be made to Intertek-ATI Report No. E4888.01-113-11 for complete test specimen description. This page alone is not a complete report. Flanking limit tests and reference specimen tests are available upon request.

# Acoustical Performance Test Report

C.R. LAURENCE CO., INC.
2100 East 38th Street
Vernon, California 90058

| | |
|---|---|
| Report No | E4888.01-113-11 |
| Test Date | 03/19/15 |
| Report Date | 04/14/15 |

## Project Scope

Architectural Testing, Inc., a subsidiary of Intertek (Intertek-ATI), was contracted to conduct a sound transmission loss test. The complete test data is included as Appendix B of this report. The client provided the test specimen.

## Test Methods

Testing for this project was conducted in accordance with the following standards. The equipment listed in the attachments meets the requirements of the following standards.

ASTM E90-09, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*
ASTM E413-10, Classification for Rating Sound Insulation
ASTM E1332-10a, *Standard Classification for Rating Outdoor-Indoor Sound Attenuation*
ASTM E2235-04 (2012), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

## Test Procedure

All measurements were conducted in the HT test chambers at Intertek-ATI located in York, Pennsylvania. The sensitivity of the microphones was checked before measurements were conducted.

The transmission loss values were obtained for a single direction of measurement. Two background noise sound pressure level and twenty-five sound absorption measurements were conducted at each of five microphone positions.

Two sound pressure levels were made simultaneously in the receive and source rooms at each of five microphone positions.

The air temperature and relative humidity conditions were monitored and recorded during all measurements.

**Specimen Installation**
The specimen plug was removed from the filler wall assembly. The specimen was placed on a foam isolation pad in the test opening. Duct seal was used to seal the perimeter of the specimen to the test opening on both sides. The interior side of the specimen frame, when installed, was approximately 1/4" from being flush with the receive room side of the filler wall. A stethoscope was used to check for any abnormal air leaks around the test specimen prior to testing. Operable portions of the test specimen, if any, were cycled at least five times prior to testing.

**Test Calculations**
Transmission loss (TL) at each 1/3 octave frequency is the average source room sound pressure level minus the average receive room sound pressure level, plus, 10 times the log of the specimen area divided by the sound absorption of the receive room with the sample in place.

STC Rating
To obtain the Sound Transmission Class (STC), read the TL of the contour curve at 500 Hz. The sum of the deficiencies below the contour curve may not exceed 32. The maximum deficiency at any one frequency may not exceed 8.

OITC Rating
The Outdoor-Indoor Transmission Class (OITC) is calculated by subtracting the logarithmic summation of the TL values from the logarithmic summation of the A-weighted transportation noise spectrum stated in ASTM E1332.

**Specimen Descriptions**

| | Frame | Active Panel | Fixed Panel |
|---|---|---|---|
| **Size** | 78-3/4" by 78-3/4" | 40-3/4" by 76-1/8" | 39" by 76-1/8" |
| **Thickness** | 4-1/2" | 1-3/4" | 1-3/4" |
| Corners | Coped | Butted | Butted |
| Fasteners | Screws | Screws | Screws |
| Seal Method | Sealant | Sealant | Sealant |
| **Material** | Aluminum | Aluminum | Aluminum |
| Reinforcement | N/A | N/A | N/A |
| Thermal Break Material | Insulbar | Insulbar | Insulbar |
| **Daylight Opening Size** | N/A | 34-1/2" by 70-3/4" | 34-1/2" by 70-3/4" |

*N/A-Not Applicable*

## Specimen Descriptions (Continued)

### Option A Glazing

| | |
|---|---|
| **Measured Overall Insulation Glass Unit Thickness** | 0.944" |
| **Spacer Type** | Aluminum |

| | Exterior Sheet | Gap | Interior Sheet |
|---|---|---|---|
| **Measured Thickness** | 0.220" | 0.494" | 0.230" |
| **Muntin Pattern** | N/A | N/A | N/A |
| **Material** | Tempered | Air* | Tempered |
| **Laminate Material** | N/A | N/A | N/A |

| | |
|---|---|
| **Glazing Method** | Channel glazed, flexible wedge gasket |
| **Glazing Material** | Flexible wedge gasket |
| **Glazing Bead Material** | NA |

### Option B Glazing

| | |
|---|---|
| **Measured Overall Insulation Glass Unit Thickness** | 1.206" |
| **Spacer Type** | Aluminum |

| | Exterior Sheet | Gap | Interior Sheet |
|---|---|---|---|
| **Measured Thickness** | 0.220", 0.059", 0.220" | 0.402" | 0.122", 0.061", 0.122" |
| **Muntin Pattern** | N/A | N/A | N/A |
| **Material** | Laminated | Air* | Laminated |
| **Laminate Material** | PVB | N/A | PVB |

| | |
|---|---|
| **Glazing Method** | Channel glazed, flexible wedge gasket |
| **Glazing Material** | Flexible wedge gasket |
| **Glazing Bead Material** | NA |

** - Stated per Client/Manufacturer, N/A-Not Applicable*

**Specimen Descriptions** (Continued)

## Option C Glazing

| | |
|---|---|
| **Measured Overall Insulation Glass Unit Thickness** | 1.237" |
| **Spacer Type** | Aluminum |

| | **Exterior Sheet** | **Gap** | **Sheet** | **Gap** | **Interior Sheet** |
|---|---|---|---|---|---|
| **Measured Thickness** | 0.124" | 0.430" | 0.126" | 0.430" | 0.127" |
| **Muntin Pattern** | N/A | N/A | N/A | N/A | N/A |
| **Material** | Tempered | Air* | Tempered | Air* | Tempered |
| **Laminate Material** | N/A | N/A | N/A | N/A | N/A |

| | |
|---|---|
| **Glazing Method** | Channel glazed, flexible wedge gasket |
| **Glazing Material** | Flexible wedge gasket |
| **Glazing Bead Material** | NA |

| | **Type** | **Quantity** | **Location** |
|---|---|---|---|
| **Weatherstrip** | | | |
| | 0.210" by 0.190" Polypile with triple fin | 2 Rows | Perimeter of frame |
| | 0.210" by 0.170" Polypile | 1 Row | Sill and jambs |
| | Duel 1/4" leaf gasket | 1 Row | Perimeter of frame |
| | 1/8" Diameter rigid seal | 1 Row | Head |
| | 0.210" by 0.170" Polypile | 2 Rows | Active meeting stile |
| | 0.210" by 0.190" Polypile with triple fin | 1 Row | Fixed meeting stile |
| | 1/2" Leaf gasket | 1 Row | Fixed meeting stile |
| **Hardware** | | | |
| | Roller assembly set | 2 | Active bottom rail |
| | Handle with lock | 1 | Lock stile |
| | Keeper | 1 | Lock jamb |
| **Drainage** | | | |
| | 1-1/2" by 1/4" Weep slot with flap cover | 4 | Sill face |
| | 1-1/2" by 1/4" Weep slot | 4 | Sill track |

** - Stated per Client/Manufacturer, N/A-Not Applicable*

**Specimen Descriptions** (Continued)

| **Test Option** | **Total Weight** (lbs) | **Average Weight** (lbs/ft$^2$) |
|---|---|---|
| A | 312 | 7.24 |
| B | 480 | 11.1 |
| C | 320 | 7.42 |

**Comments**

Drawings of the test specimen are included in Appendix D. Intertek-ATI will store samples of test specimens for four years.

Intertek-ATI will service this report for the entire test record retention period. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period. The test record retention period ends four years after the test date.

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 tested. This report is intended to help in the client's quality assurance program, but it does not represent a continuous or exhaustive evaluation of the specimen tested or of other products or materials that were not evaluated. The statements and data provided herein do not constitute approval, disapproval, certification, or acceptance of performance or materials.



For INTERTEK-ATI:

Digitally Signed by: Daniel P. Platts

Daniel P. Platts
Senior Technician - Acoustical Testing

Digitally Signed by: Todd D. Kister

Todd D. Kister
Laboratory Supervisor – Acoustical Testing

DPP:jmcs

Attachments (pages): This report is complete only when all attachments listed are included.

- Appendix-A: Equipment description (1)
- Appendix-B: Complete test results (6)
- Appendix-C: Photographs (1)
- Appendix-D: Drawing (4)

## Revision Log

| Rev. # | Date | Page(s) | Revision(s) |
|---|---|---|---|
| R0 | 04/14/15 | N/A | Original Report Issue |

# Appendix A

## Instrumentation:

| Instrument | Manufacturer | Model | Description | ATI Number | Date of Calibration |
|---|---|---|---|---|---|
| Data Acquisition Unit | National Instruments | PXI-1033 | Data Acquisition card | 65127 | 04/14 * |
| Source Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64902 | 12/14 |
| Source Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64903 | 12/14 |
| Source Room Microphone | PCB Electronics | 378B20 | Microphone and Preamplifier | 65103 | 05/14 |
| Source Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64905 | 12/14 |
| Source Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64906 | 12/14 |
| Receive Room Microphone | PBC Piezotronics | 378B20 | Microphone and Preamplifier | 64907 | 11/14 |
| Receive Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64908 | 11/14 |
| Receive Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64909 | 11/14 |
| Receive Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64910 | 11/14 |
| Receive Room Microphone | PCB Piezotronics | 378B20 | Microphone and Preamplifier | 64911 | 11/14 |
| Receive Room Environmental Indicator | Vaisala | HMW92 | Temperature Humidity Sensor | 64286 | 06/14 |
| Source Room Environmental Indicator | Vaisala | HMW60Y | Temperature and Humidity Sensor | Y002653 | 06/14 |
| Microphone Calibrator | Norsonic | 1251 | Pistonphone Calibrator | 65105 | 04/14 |

**- Note: The calibration frequency for this equipment is every two years per the manufacturer's recommendation.*

## Test Chamber:

| | Volume | Description |
|---|---|---|
| Receive Room | 234 $m^3$ (8291.3 $ft^3$) | Rotating vane and stationary diffusers<br>Temperature and humidity controlled<br>Isolation pads under the floor |
| Source Room | 206.6 $m^3$ (7296.3 $ft^3$) | Stationary diffusers only<br>Temperature and humidity controlled |

| | Maximum Size | Description |
|---|---|---|
| TL Test Opening | 4.27 m (14 ft) wide by<br>3.05 m (10 ft) high | Vibration break between source and receive rooms |

*N/A-Non Applicable*

# Appendix B

## Complete Test Results

Intertek | Architectural Testing

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# AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90

| | | | | | | |
|---|---|---|---|---|---|---|
| **Test Date** | 03/19/15 | | | | | |
| **Data File No.** | E4888.01A | | | | | |
| **Client** | C.R. Laurence Co., Inc. | | | | | |
| **Description** | Series/Model: 3000, Sliding glass door with 1" IG (1/4" tempered, 1/2" air space, 1/4" tempered) | | | | | |
| **Specimen Area** | 4.00 m² | Receive Temp. | 22.7 °C | | Source Temp. | 20.9 °C |
| **Technician** | James S. Butler | Receive Humidity | 49% | | Source Humidity | 47% |

| **Freq** (Hz) | **Background SPL** (dB) | **Absorption** (m²) | **Source SPL** (dB) | **Receive SPL** (dB) | **Specimen TL** (dB) | **95% Confidence Limit** | **Number of Deficiencies** |
|---|---|---|---|---|---|---|---|
| 80 | 40.2 | 5.6 | 104 | 85 | 19.1 | 2.92 | - |
| 100 | 40.7 | 4.7 | 105 | 79 | 26.4 | 1.72 | - |
| 125 | 40.6 | 4.6 | 105 | 80 | 25.0 | 1.27 | 0 |
| 160 | 42.7 | 4.6 | 106 | 79 | 26.2 | 0.79 | 0 |
| 200 | 39.1 | 4.7 | 106 | 87 | 18.1 | 1.02 | 0 |
| 250 | 34.6 | 5.0 | 106 | 84 | 20.8 | 0.72 | 0 |
| 315 | 28.3 | 5.6 | 101 | 77 | 22.4 | 0.32 | 2 |
| 400 | 25.1 | 5.7 | 101 | 72 | 26.9 | 0.32 | 0 |
| 500 | 21.3 | 6.0 | 100 | 71 | 27.3 | 0.46 | 1 |
| 630 | 19.6 | 5.7 | 101 | 73 | 26.0 | 0.14 | 3 |
| 800 | 18.5 | 6.2 | 101 | 74 | 25.1 | 0.33 | 5 |
| 1000 | 15.7 | 6.2 | 100 | 71 | 26.7 | 0.27 | 4 |
| 1250 | 13.2 | 6.9 | 98 | 65 | 29.8 | 0.21 | 2 |
| 1600 | 10.5 | 7.1 | 101 | 68 | 30.5 | 0.18 | 2 |
| 2000 | 7.7 | 7.6 | 99 | 66 | 30.6 | 0.24 | 1 |
| 2500 | 6.1 | 8.4 | 98 | 62 | 32.1 | 0.14 | 0 |
| 3150 | 5.6 | 9.9 | 98 | 59 | 35.3 | 0.18 | 0 |
| 4000 | 5.6 | 12.1 | 97 | 60 | 32.3 | 0.34 | 0 |
| 5000 | 6.2 | 15.2 | 94 | 51 | 37.2 | 0.25 | - |

**STC Rating** **28** *(Sound Transmission Class)*

Deficiencies 20 *(Sum of Deficiencies)*

**OITC Rating** **25** *(Outdoor-Indoor Transmission Class)*

***Notes:***

*1) Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.*

*2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.*

*3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied*

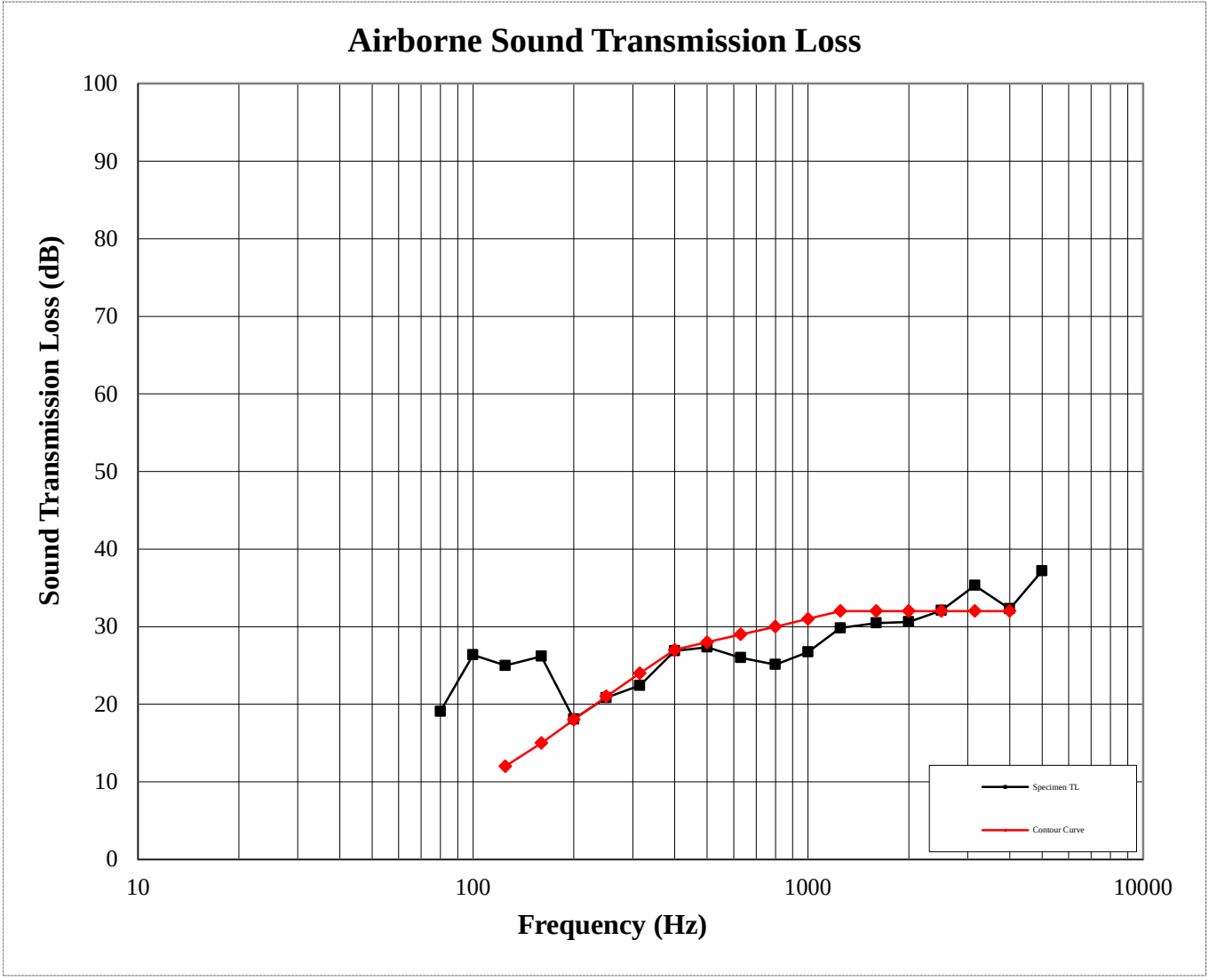
Intertek | Architectural Testing

ACCREDITED TL-144

# AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90

| | | | | | | |
|---|---|---|---|---|---|---|
| **Test Date** | 03/19/15 | | | | | |
| **Data File No.** | E4888.01A | | | | | |
| **Client** | C.R. Laurence Co., Inc. | | | | | |
| **Description** | Series/Model: 3000, Sliding glass door with 1" IG (1/4" tempered, 1/2" air space, 1/4" tempered) | | | | | |
| **Specimen Area** | 4.00 m² | Receive Temp. | 22.7 °C | | Source Temp. | 20.9 °C |
| **Technician** | James S. Butler | Receive Humidity | 49% | | Source Humidity | 47% |



# AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90

| | | | | | | |
|---|---|---|---|---|---|---|
| **Test Date** | 03/19/15 | | | | | |
| **Data File No.** | E4888.01B | | | | | |
| **Client** | C.R. Laurence Co., Inc. | | | | | |
| **Description** | Series/Model: 3000, Sliding glass door with 1-3/16" IG (1/2" laminated exterior, 3/8" air space, 5/16" laminated interior), Glass temperature 75°F | | | | | |
| **Specimen Area** | 4.00 m² | Receive Temp. | 23.9 °C | | Source Temp. | 23.9 °C |
| **Technician** | James S. Butler | Receive Humidity | 50% | | Source Humidity | 48% |

| **Freq** (Hz) | **Background SPL** (dB) | **Absorption** (m²) | **Source SPL** (dB) | **Receive SPL** (dB) | **Specimen TL** (dB) | **95% Confidence Limit** | **Number of Deficiencies** |
|---|---|---|---|---|---|---|---|
| 80 | 41.2 | 5.3 | 104 | 83 | 21.4 | 2.66 | - |
| 100 | 38.3 | 4.6 | 105 | 79 | 27.1 | 1.90 | - |
| 125 | 38.2 | 4.8 | 106 | 80 | 24.5 | 1.74 | 0 |
| 160 | 41.3 | 4.8 | 105 | 78 | 26.7 | 0.79 | 0 |
| 200 | 39.0 | 4.7 | 106 | 74 | 30.6 | 0.87 | 0 |
| 250 | 34.1 | 5.3 | 106 | 77 | 27.1 | 0.61 | 0 |
| 315 | 27.1 | 6.0 | 102 | 72 | 28.1 | 0.41 | 0 |
| 400 | 24.2 | 6.2 | 101 | 70 | 28.5 | 0.35 | 2 |
| 500 | 20.0 | 6.3 | 100 | 69 | 29.2 | 0.55 | 2 |
| 630 | 17.8 | 6.2 | 101 | 72 | 26.4 | 0.26 | 6 |
| 800 | 16.2 | 6.4 | 100 | 73 | 25.7 | 0.32 | 7 |
| 1000 | 14.2 | 6.5 | 100 | 70 | 27.4 | 0.25 | 7 |
| 1250 | 11.2 | 7.4 | 97 | 63 | 31.3 | 0.17 | 4 |
| 1600 | 10.3 | 7.7 | 101 | 65 | 32.7 | 0.23 | 2 |
| 2000 | 6.7 | 8.0 | 99 | 61 | 34.8 | 0.21 | 0 |
| 2500 | 6.0 | 8.8 | 98 | 56 | 37.9 | 0.15 | 0 |
| 3150 | 5.7 | 10.2 | 98 | 55 | 39.2 | 0.16 | 0 |
| 4000 | 5.6 | 12.1 | 97 | 59 | 33.5 | 0.29 | 2 |
| 5000 | 6.2 | 15.0 | 95 | 51 | 38.1 | 0.19 | - |

| | | |
|---|---|---|
| **STC Rating** | **31** | *(Sound Transmission Class)* |
| Deficiencies | 32 | *(Sum of Deficiencies)* |
| **OITC Rating** | **29** | *(Outdoor-Indoor Transmission Class)* |

***Notes:*** *1) Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.*
*2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.*
*3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied*

# AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Test Date** | 03/19/15 | | | | | | |
| **Data File No.** | E4888.01B | | | | | | |
| **Client** | C.R. Laurence Co., Inc. | | | | | | |
| **Description** | Series/Model: 3000, Sliding glass door with 1-3/16" IG (1/2" laminated exterior, 3/8" air space, 5/16" laminated interior), Glass temperature 75°F | | | | | | |
| **Specimen Area** | 4.00 m² | Receive Temp. | 23.9 °C | | Source Temp. | 23.9 °C | |
| **Technician** | James S. Butler | Receive Humidity | 50% | | Source Humidity | 48% | |

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# AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90

| | | | | | | |
|---|---|---|---|---|---|---|
| **Test Date** | 03/19/15 | | | | | |
| **Data File No.** | E4888.01C | | | | | |
| **Client** | C.R. Laurence Co., Inc. | | | | | |
| **Description** | Series/Model: 3000, Sliding glass door with 1-1/4" IG (1/8" tempered exterior, 7/16" air space, 1/8" tempered, 7/16" air space, 1/8" tempered interior) | | | | | |
| **Specimen Area** | 4.00 m² | Receive Temp. | 23.7 °C | | Source Temp. | 22.5 °C |
| **Technician** | James S. Butler | Receive Humidity | 53% | | Source Humidity | 53% |

| **Freq** (Hz) | **Background SPL** (dB) | **Absorption** (m²) | **Source SPL** (dB) | **Receive SPL** (dB) | **Specimen TL** (dB) | **95% Confidence Limit** | **Number of Deficiencies** |
|---|---|---|---|---|---|---|---|
| 80 | 39.2 | 5.5 | 104 | 85 | 19.3 | 2.83 | - |
| 100 | 40.4 | 4.9 | 105 | 81 | 24.2 | 1.80 | - |
| 125 | 40.7 | 4.7 | 106 | 82 | 22.9 | 1.43 | 0 |
| 160 | 41.2 | 4.6 | 106 | 84 | 21.2 | 0.74 | 0 |
| 200 | 38.2 | 4.7 | 106 | 90 | 14.8 | 0.93 | 3 |
| 250 | 34.9 | 4.9 | 105 | 84 | 20.6 | 0.59 | 0 |
| 315 | 29.0 | 5.6 | 101 | 78 | 21.4 | 0.30 | 3 |
| 400 | 26.3 | 5.9 | 101 | 76 | 22.8 | 0.30 | 4 |
| 500 | 24.2 | 6.0 | 100 | 72 | 25.9 | 0.48 | 2 |
| 630 | 22.8 | 5.8 | 101 | 74 | 25.7 | 0.23 | 3 |
| 800 | 21.6 | 6.0 | 101 | 74 | 25.2 | 0.35 | 5 |
| 1000 | 16.1 | 6.3 | 100 | 70 | 27.5 | 0.27 | 4 |
| 1250 | 17.0 | 6.9 | 98 | 64 | 31.2 | 0.24 | 1 |
| 1600 | 12.8 | 7.2 | 101 | 65 | 32.5 | 0.23 | 0 |
| 2000 | 7.7 | 7.5 | 99 | 61 | 35.4 | 0.21 | 0 |
| 2500 | 7.1 | 8.3 | 97 | 55 | 38.9 | 0.16 | 0 |
| 3150 | 5.3 | 9.8 | 98 | 56 | 38.3 | 0.26 | 0 |
| 4000 | 5.5 | 11.7 | 97 | 61 | 31.1 | 0.20 | 1 |
| 5000 | 6.3 | 14.7 | 95 | 54 | 34.8 | 0.18 | - |

**STC Rating** **28** *(Sound Transmission Class)*

Deficiencies 26 *(Sum of Deficiencies)*

**OITC Rating** **24** *(Outdoor-Indoor Transmission Class)*

***Notes:***

*1) Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.*

*2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.*

*3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied*

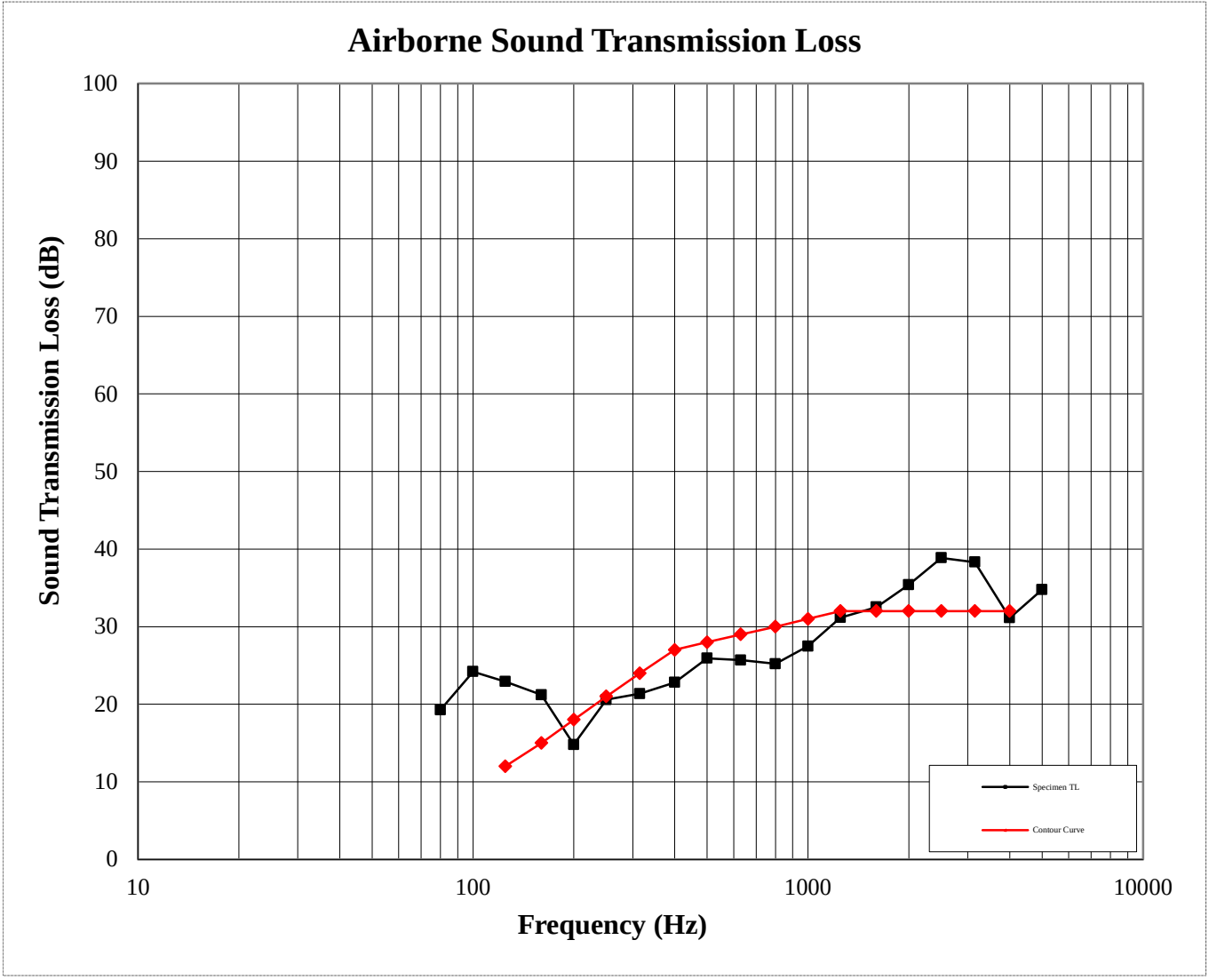
Intertek | Architectural Testing

ACCREDITED TL-144

# AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90

| | | | | | | |
|---|---|---|---|---|---|---|
| **Test Date** | 03/19/15 | | | | | |
| **Data File No.** | E4888.01C | | | | | |
| **Client** | C.R. Laurence Co., Inc. | | | | | |
| **Description** | Series/Model: 3000, Sliding glass door with 1-1/4" IG (1/8" tempered exterior, 7/16" air space, 1/8" tempered, 7/16" air space, 1/8" tempered interior) | | | | | |
| **Specimen Area** | 4.00 m² | Receive Temp. | 23.7 °C | | Source Temp. | 22.5 °C |
| **Technician** | James S. Butler | Receive Humidity | 53% | | Source Humidity | 53% |



# Appendix C

## Photographs

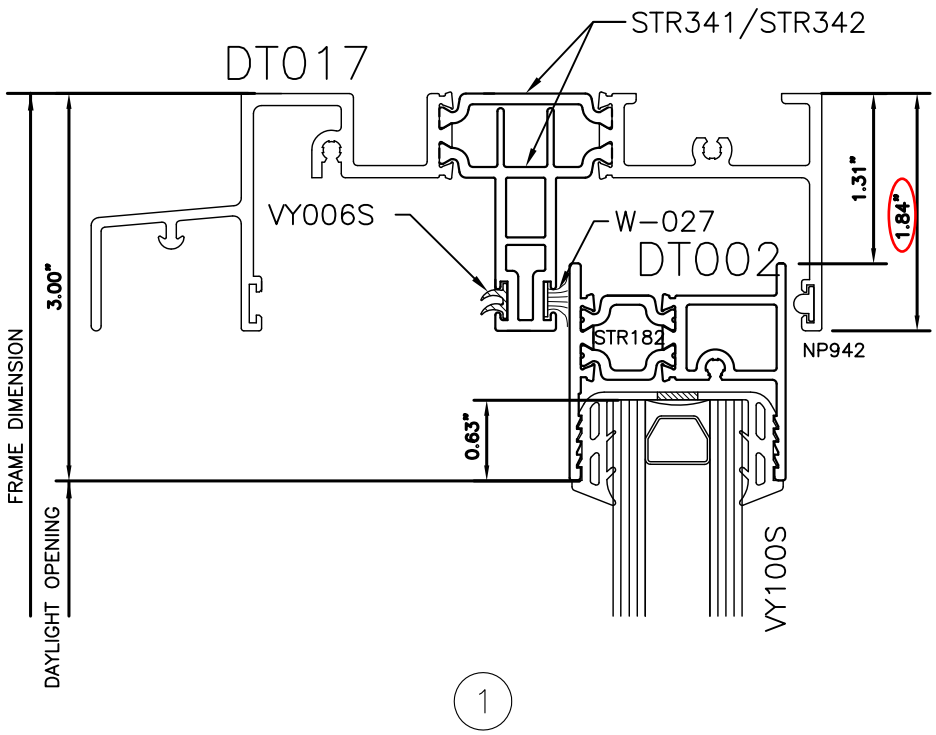
**Receive Room View of an Installed Test Specimen**

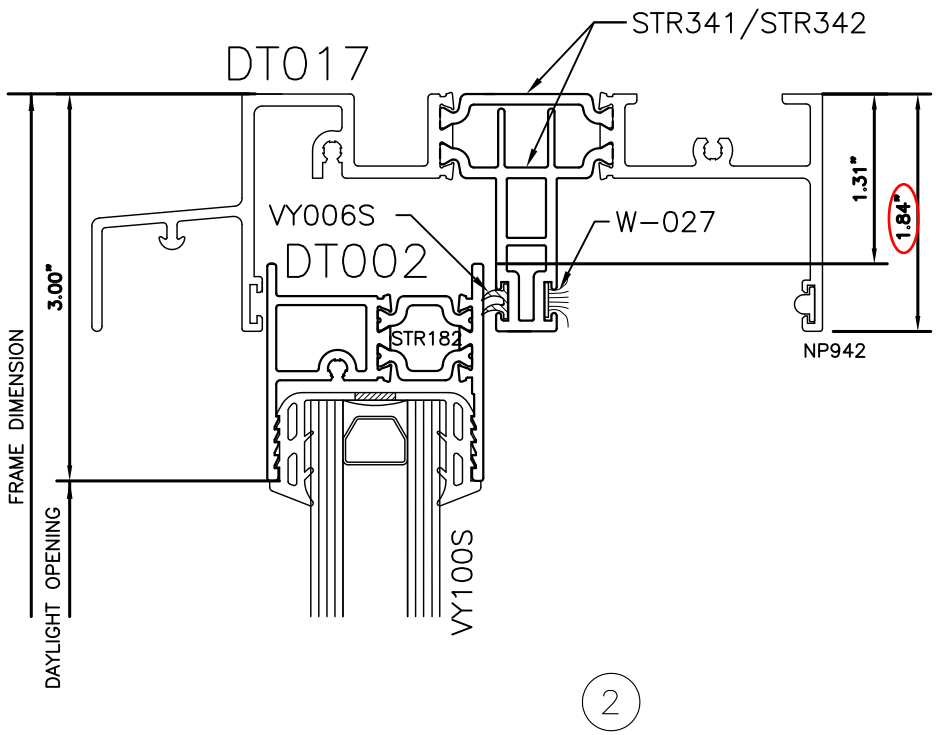
**Source Room View of an Installed Test Specimen**

# Appendix D

## Drawings

MU2014-097-01




Intertek

Report #: E4888-113-11
Date: 04/08/15
Verified by: DPP

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| | | | |



C.R. LAURENCE CO., INC.
CRL MANUFACTURING
2100 E. 38TH STREET
LOS ANGELES, CA 90058

DRAWN BY: GHK
DATE: 04.07.14
SCALE: FULL

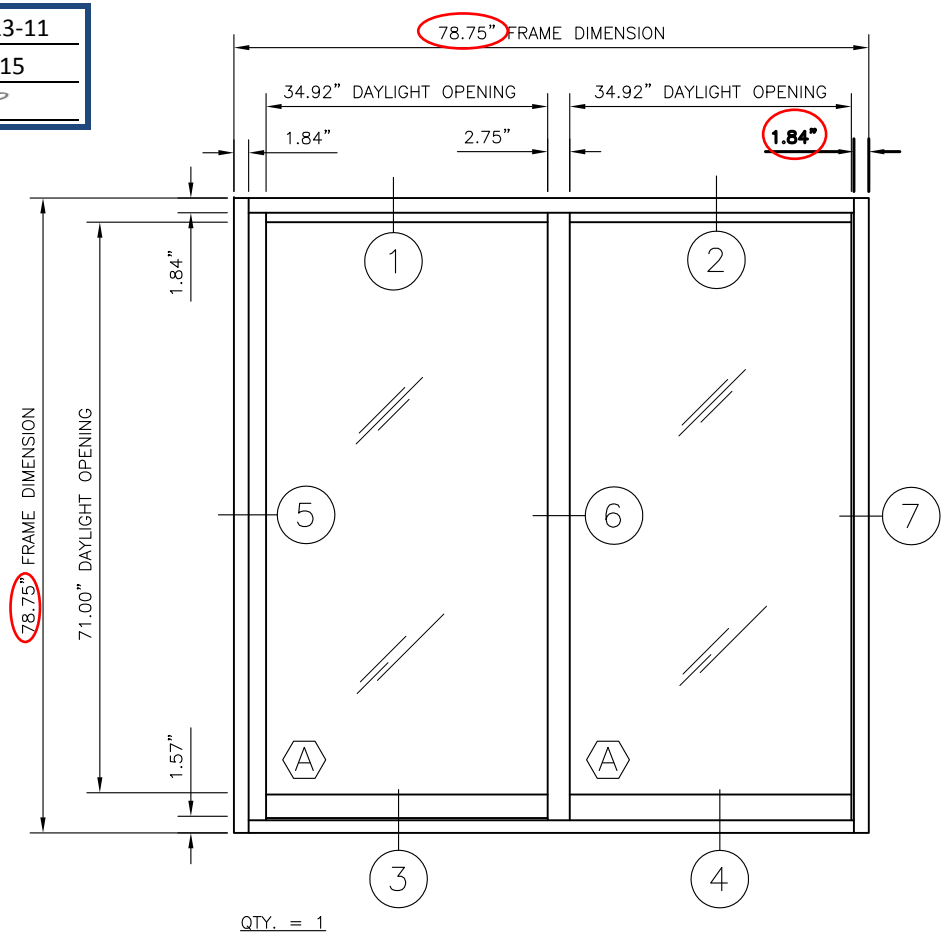
TITLE:
NFRC FRAMING PRODUCT VALIDATION
HORIZONTAL SECTION
PRODUCT: 3000 SERIES SLIDING DOOR

DRAWING NO.
MU2014-097-01

MU2014–097–01

Intertek

Report #: E4888-113-11
Date: 04/08/15
Verified by: DPP




QTY. = 1

| SYMBOL KEY | | |
|---|---|---|
| SYMBOL | DESCRIPTION | QTY. |
| A | 1" INSULATED GLASS 36.165 X 72.250<br>.250 CLR, TEMPERED<br>.500 MILL ALUM SPACER, AIR<br>.250 PPG SOLARBAN 70XL,<br>LOW–E #3 SURFACE, SILICONE | 2 |

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
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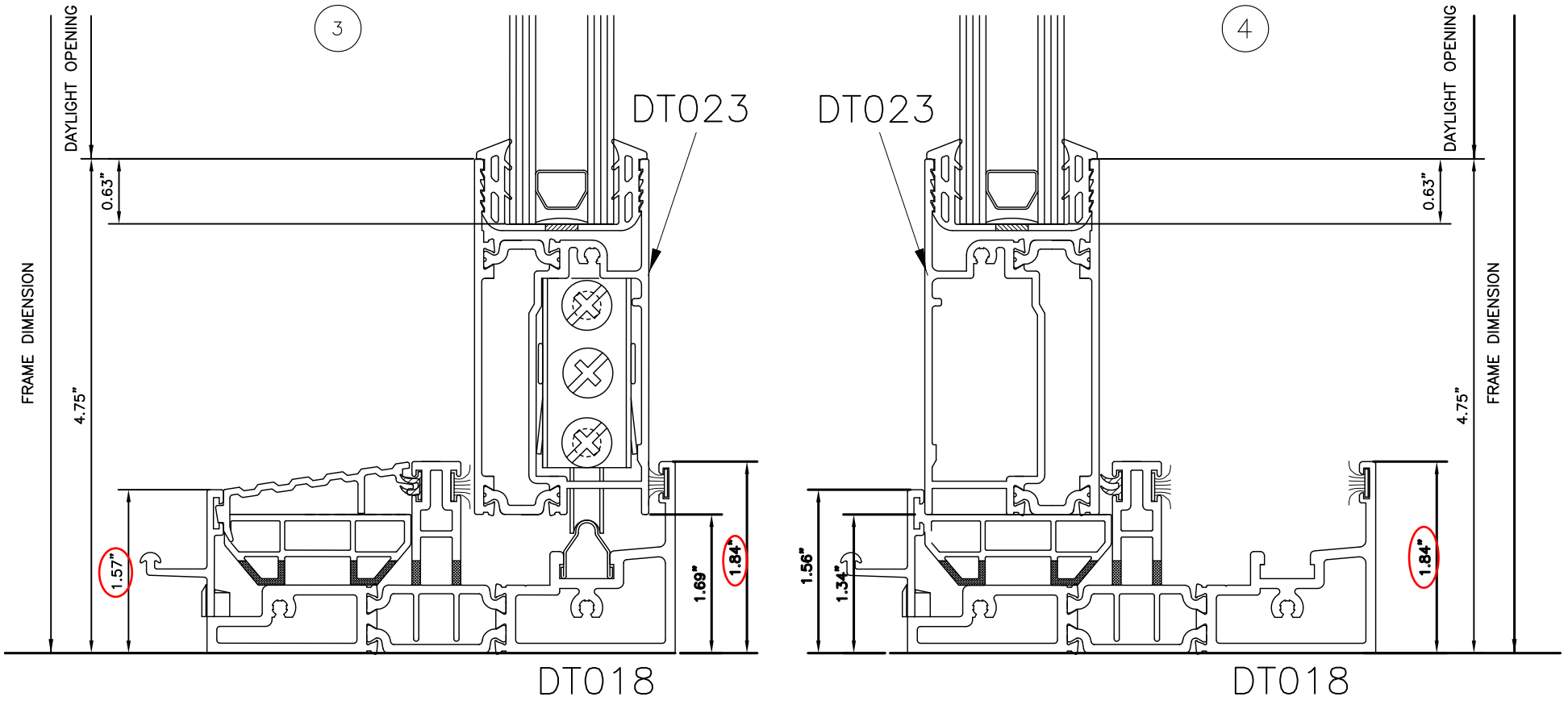
C.R. LAURENCE CO., INC.
CRL MANUFACTURING
2100 E. 38TH STREET
LOS ANGELES, CA 90058

DRAWN BY: GHK
DATE: 04.07.14
SCALE: $\frac{3}{4}$"=1'–0"

TITLE:
NFRC FRAMING PRODUCT VALIDATION ELEVATION
PRODUCT: 3000 SERIES SLIDING DOOR

DRAWING NO.
MU2014–097–01

MU2014-097-01




Intertek

| | |
|---|---|
| Report #: | E4888-113-11 |
| Date: | 04/08/15 |
| Verified by: | DPP |



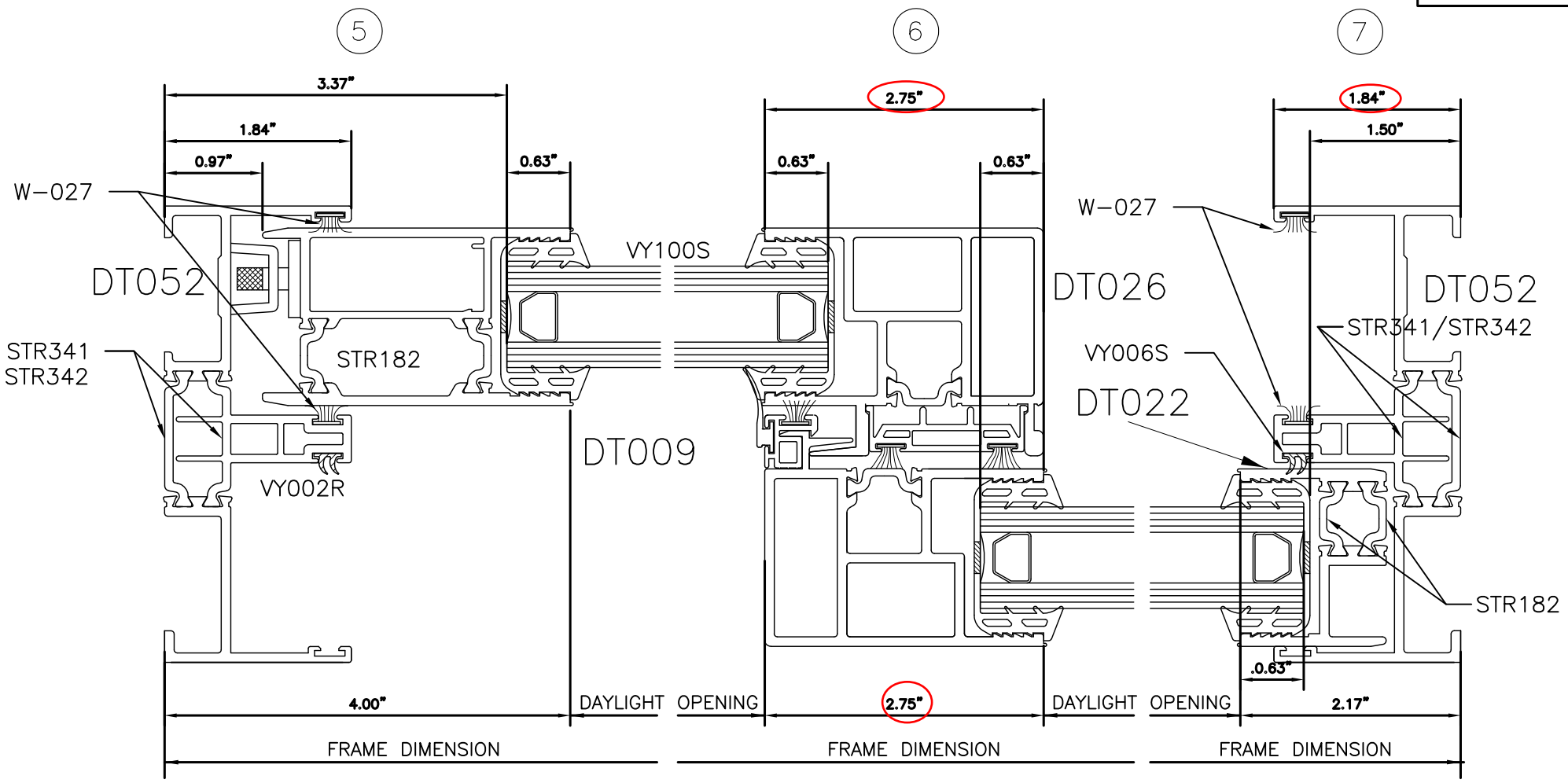
C.R. LAURENCE CO., INC.
CRL MANUFACTURING
2100 E. 38TH STREET
LOS ANGELES, CA 90058

DRAWN BY: GHK
DATE: 04.07.14

TITLE: NFRC FRAMING PRODUCT VALIDATION HORIZONTAL SECTION

DRAWING NO. MU2014-097-01

MU2014-097-01




Intertek

Report #: E4888-113-11
Date: 04/08/15
Verified by: DPP

| REV. | DESCRIPTION | DATE | BY |
|---|---|---|---|
| | | | |



C.R. LAURENCE CO., INC.
CRL MANUFACTURING
2100 E. 38TH STREET
LOS ANGELES, CA 90058

DRAWN BY: GHK
DATE: 04.07.14
SCALE: FULL

TITLE:
NFRC FRAMING PRODUCT VALIDATION
VERTICAL SECTION
PRODUCT: 3000 SERIES SLIDING DOOR

DRAWING NO.
MU2014-097-01