Intertek | Architectural Testing

TEST REPORT

Report No.: F7378.01-301-47

Rendered to:

CR LAURENCE CO., INC.
Vernon, California

PRODUCT TYPE: Store Front
SERIES/MODEL: FT601

Title	Summary of Results
Design Pressure	±960 Pa (±20.05 psf)
Air Infiltration	0.3 L/s/m^2 (0.06 cfm/ft^2)
Water Penetration Resistance Test Pressure	580 Pa (12.11 psf)
Uniform Load Structural Test Pressure	±1440 Pa (±30.08 psf)

Reference must be made to Report No. F7378.01-301-47, dated 05/10/16 for complete test specimen description and detailed test results.

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")
4 Rancho Circle
Lake Forest, California 92630
949-460-9600

3.0 Project Summary:

3.1 Product Type: Store Front

3.2 Series/Model: FT601

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

3.4 Test Dates: 04/07/16 – 04/12/16

3.5 Test Record Retention End Date: All test records for this report will be retained until April 12, 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.

3.8 Drawing Reference: The test specimen drawings are located in Appendix B.

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: 16.86 m^2 (181.49 ft^2)	**Width**		**Height**	
	millimeters	**inches**	**millimeters**	**inches**
Overall size	6147	242	2743	108

5.2 Frame Construction:

Frame Member	Material	Description
Head	Aluminum	Head compensation channel, Part No. RT63011.
Head	Aluminum	Header extrusion, Part No. FT77311.
Head	Aluminum	Glazing bead, Part No. RW62211, snap fit into head compensation channel at interior leg.
Head	Aluminum	Header extrusion, Part No. FT77311.
Horizontal mullion	Aluminum	Horizontal mullion, Part No. FT76311.
Head and horizontal mullion	Aluminum	Glass stop, Part No. M77311, snap fit into underside of head extrusion and horizontal mullion.
Sill	Aluminum	Sub sill, Part No. FF70011.
Sill	Aluminum	Sill extrusion, Part No. FT78211.
Sill	Aluminum	End dam, Part No. EC680, sealed to ends of sill with silicone sealant.

5.0 Test Specimen Description: (Continued)

5.2 Frame Construction: (Continued)

Frame Member	Material	Description
Jambs and mullion of small fixed lites	Aluminum	Vertical jamb mullion, Part No. FT75211.
Jamb	Aluminum	Flush filler, Part No. FT60011, snap fit into jamb edge of vertical jamb mullion.
Mullion of small fixed lites	Aluminum	Shallow pocket vertical mullion, Part No. RX81011, snap fit into vertical jamb mullion.
Vertical mullion	Aluminum	Female vertical extrusion, Part No. RT68111, intermediate mullion of unit glazed portion.
Vertical mullion	Aluminum	Male vertical extrusion, Part No. RT68911, snap fit into female vertical extrusion of unit glazed potion.
Vertical mullion	Aluminum	Expansion female mullion, Part No. RT76911, intermediate mullion of expansion mullion portion.
Vertical mullion	Aluminum	Expansion male mullion, Part No. FT76111, snap fit into expansion female mullion of expansion mullion portion.
Vertical mullions	Aluminum	Vertical mullion cap, Part No. CP550.

	Joinery Type	Detail
All corners	Flush	Secured through jambs at corner conditions with #10 x 1" Phillips washer head SMS screws.

5.3 Reinforcement:

Drawing Number	Location	Material
RW60111	Center Mullion Stiffener Plate	Aluminum

5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
Vinyl isolator (dual fin)	1 row	Full length of head receptor full length of the system at the exterior leg of the system.
Store front gasket	1 row	Rolled into the glazing channel of each fixed lite at the interior and exterior face.
Duro 70 EPDM glazing gasket	1 row	Rolled into the head receptor full length of the system at the interior leg of the system.
Vinyl isolator (dual fin)	1 row	Inserted into the interior leg and exterior leg of each of the frame expansion members.

5.5 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 set into system with neoprene setting blocks and secured with roll in gasket Part No. NP225.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Fixed lite at jamb	1	1447 x 2595	56-31/32 x 102-5/32	1/2"
Middle fixed lite	2	1460 x 2595	57-1/2 x 102-5/32	1/2"
Upper fixed lite at jamb	1	1460 x 1721	57-1/2 x 67-3/4	1/2"
Lower fixed lite at jamb	1	1460 x 813	57-1/2 x 32	1/2"

5.0 Test Specimen Description: (Continued)

5.6 Drainage:

Method	Size	Quantity	Location
Weep Hole	1-1/4" x 1/8"	10	12" from corners and 24" on center spacing.

5.7 Hardware: No hardware was utilized.

5.8 Screen Construction: No screen was utilized.

6.0 Installation:

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

Location	Anchor Description	Anchor Location
Through receptor into opening	1/4" x 2-1/2" lag bolt	6" from each end and 18" on center spacing.

7.0 Test Results: The temperature during testing was 22°C (72°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
Air Leakage, per ASTM E283 at 300 Pa (6.27 psf)	0.3 L/s/m^2 (0.06 cfm/ft^2)	0.3 L/s/m^2 (0.06 cfm/ft^2) max.	
Water Penetration, per ASTM E331 at 580 Pa (12.11 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E330 Deflections taken at vertical mullion			
+960 Pa (+20.05 psf)	7.1 mm (0.28")	15.0 mm (0.59") max.	
-960 Pa (-20.05 psf)	5.6 mm (0.22")	15.0 mm (0.59") max.	1, 2
Uniform Load Structural, per ASTM E330 Permanent sets taken at vertical mullion			
+1440 Pa (+30.08 psf)	0.3 mm (0.01")	10.7 mm (0.42") max.	
-1440 Pa (-30.08 psf)	1.0 mm (0.04")	10.7 mm (0.42") max.	1, 2

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

Note 1: Loads were held for 10 seconds.

Note 2: 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 tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For ARCHITECTURAL TESTING, INC.:

Digitally Signed by: Jarod Hardman

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 (22)

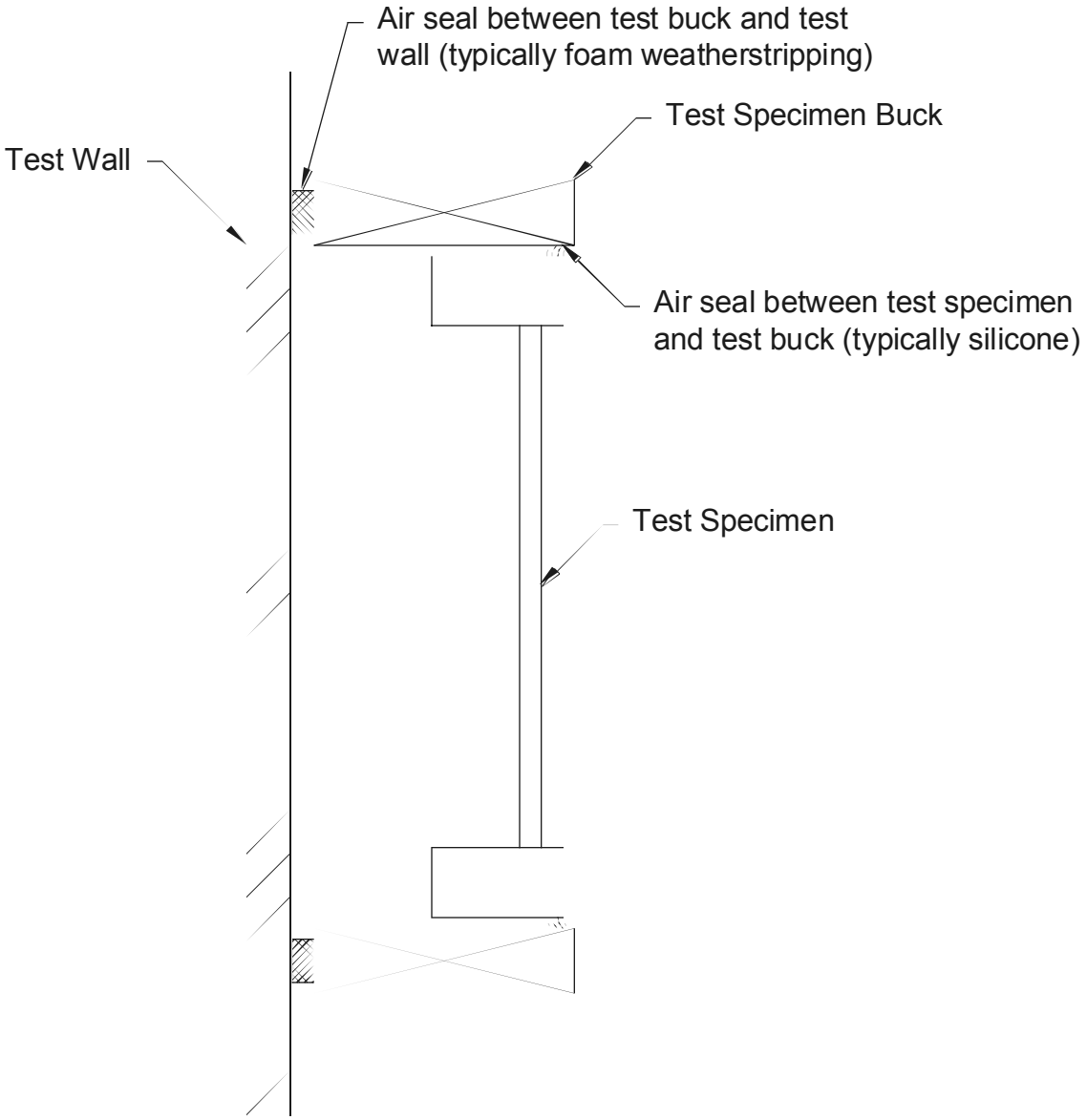
Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	05/10/16	N/A	Original report issue

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

Appendix A

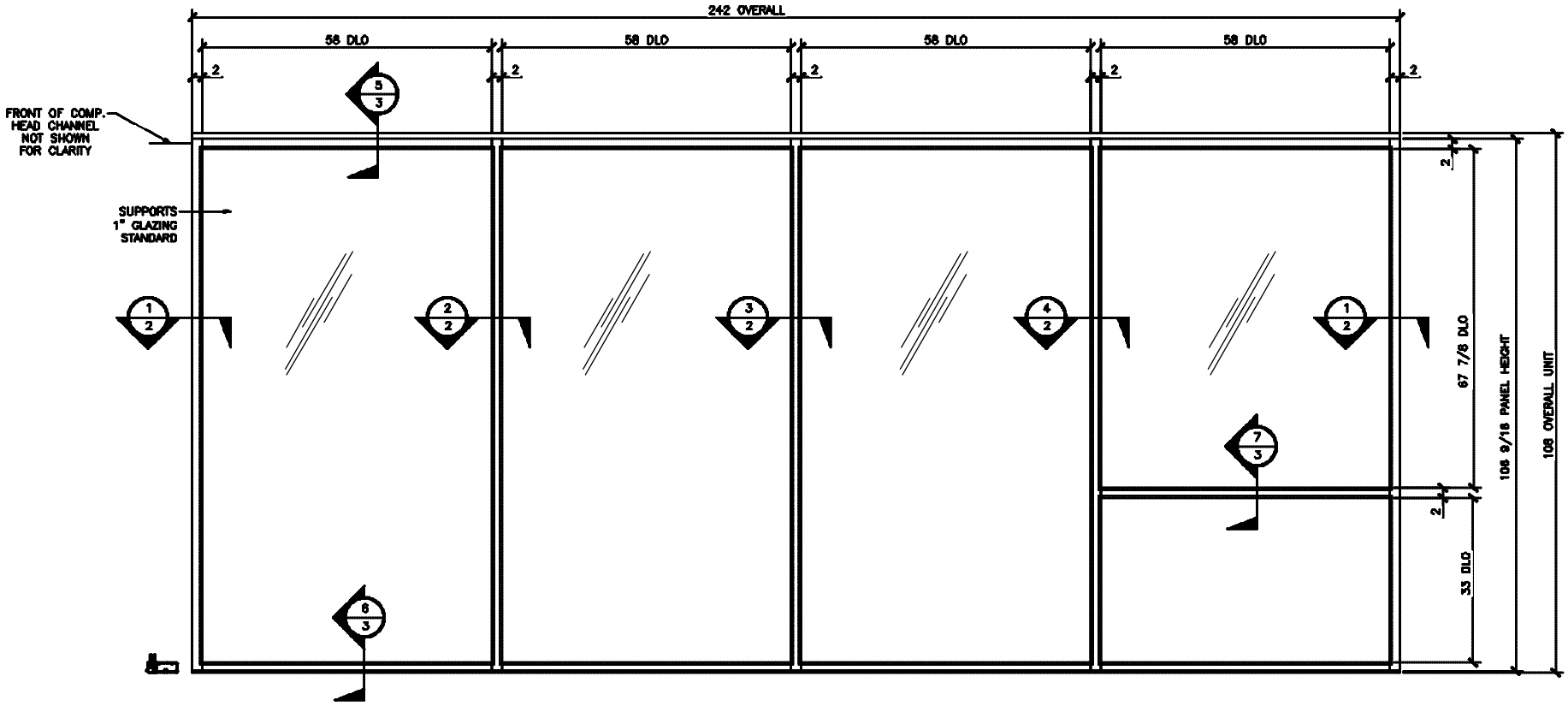
Location of Air Seal: The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping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

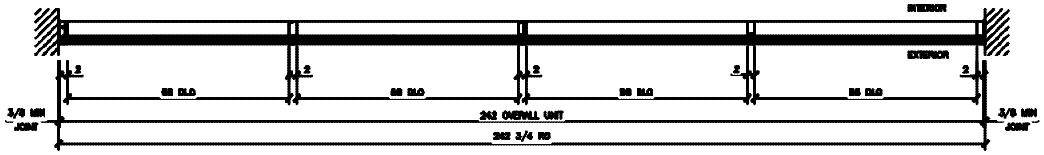


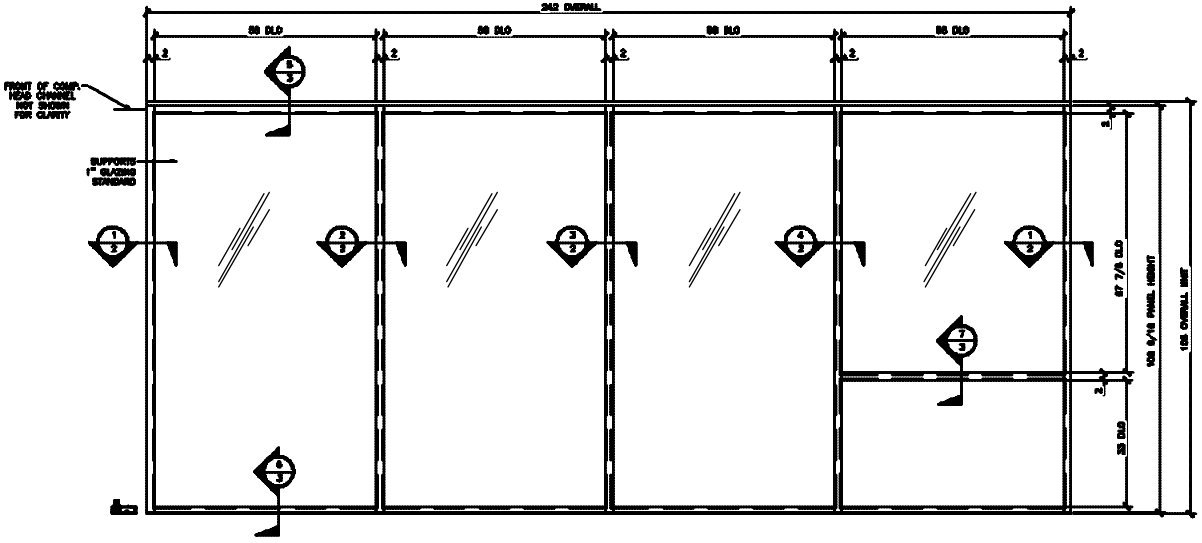
Appendix B

Drawings

ITEM		PT. NO.	PART DESCRIPTION	
C1	FRAME COMPONENTS	FT76111	CRL U.S. ALUMINUM EXPANSION MALE MULLION	
C2		FT78211	CRL U.S. ALUMINUM SILL EXTRUSION	
C3		FT77311	CRL U.S. ALUMINUM HEADER EXTRUSION	
C4		M77311	CRL U.S. ALUMINUM GLASS STOP	
C5		FT76311	CRL U.S. ALUMINUM HORIZONTAL MULLION	
C6		FT75211	CRL U.S. ALUMINUM VERTICAL JAMB MULLION	
C7		RT68111	CRL U.S. ALUMINUM FEMALE VERTICAL EXTRUSION	
C8		RT68911	CRL U.S. ALUMINUM MALE VERTICAL EXTRUSION	
C9		RT63011	CRL U.S. ALUMINUM HEAD COMPENSATION CHANNEL	
C10		RW60111	CRL U.S. ALUMINUM STIFFENER PLATES	
C11		EC680	CRL U.S. ALUMINUM END DAMS	
C12		CP550	CRL U.S. ALUMINUM VERTICAL MULLION CAPS	
C12		FT60011	CRL U.S. ALUMINUM FLUSH FILLER	
C13		FF70011	CRL U.S. ALUMINUM SUB SILL EXTRUSION	
C14		RW62211	CRL U.S. ALUMINUM GLAZING BEAD	
C15		RT76911	CRL U.S. ALUMINUM EXPANSION FEMALE MULLION	
C16		RX81011	CRL U.S. ALUMINUM SHALLOW POCKET VERTICAL MULLION	
W1	WTHR STRIP	VS302	CRL VINYL ISOLATOR (@HEAD RECEPTOR)	
W2		NP225	CRL STOREFRONT GASKET	
W3		NP825	CRL EXT. GLAZING GASKET DURO 70 EDPM	
W4		VS200	CRL VINYL ISOLATOR	
G1	GLASS		.025 X .050 X .025 INSULATED GLASS (TEMPERED) ALUMINUM SPACER DUAL GLAZED	
G2				
G3		SB200	NEOPRENE SETTING BLOCK	
G4		SB240	NEOPRENE SETTING BLOCK	
	HARDWARE			
H2		EF12	CRL CLOSED CELL 1/2" DIA. BACKER ROD	
H3		95C	SILICONE BUILDING SEALANT	
H4		RTV408C	CRL CLEAR RTV408 NEUTRAL CURE SILICONE	
H5		----	1/4" X 2 1/2" LAG BOLT ASME B15.2.1 ZINC COATED ASTM 153	
H6				
S1		ST251	#10X1" PHILLIPS WASHER HEAD SMS TYPE AB	
S2		ST19011	#8X5/8" PHILLIPS OH. TEK. ZP.	
WD1	WTR. DIVRTR.	WD150	WATER DAM	
WD2		WD210	WATER DAM	
WD3		WD200	WATER DAM	
WD3		WD160	WATER DAM	


242 OVERALL
58 DLO
58 DLO
58 DLO
58 DLO
2
2
2
2
2
FRONT OF COMP. HEAD CHANNEL NOT SHOWN FOR CLARITY
SUPPORTS 1" GLAZING STANDARD
5/3
1/2
2/2
3/2
4/2
1/2
6/3
7/3
2
67 7/8 DLO
2
33 DLO
108 9/16 PANEL HEIGHT
108 OVERALL UNIT





ITEM		PT. NO.	PART DESCRIPTION	
C1	FRAME COMPONENTS	FT76111	CRL U.S. ALUMINUM EXPANSION MALE MULLION	
C2		FT78211	CRL U.S. ALUMINUM SILL EXTRUSION	
C3		FT77311	CRL U.S. ALUMINUM HEADER EXTRUSION	
C4		M77311	CRL U.S. ALUMINUM GLASS STOP	
C5		FT76311	CRL U.S. ALUMINUM HORIZONTAL MULLION	
C6		FT75211	CRL U.S. ALUMINUM VERTICAL JAMB MULLION	
C7		RT68111	CRL U.S. ALUMINUM FEMALE VERTICAL EXTRUSION	
C8		RT68911	CRL U.S. ALUMINUM MALE VERTICAL EXTRUSION	
C9		RT63011	CRL U.S. ALUMINUM HEAD COMPENSATION CHANNEL	
C10		RW80111	CRL U.S. ALUMINUM STIFFENER PLATES	
C11		EC680	CRL U.S. ALUMINUM END DAMS	
C12		CR550	CRL U.S. ALUMINUM VERTICAL MULLION CAPS	
C12		FT60011	CRL U.S. ALUMINUM FLUSH FILLER	
C13		FF70011	CRL U.S. ALUMINUM SUB SILL EXTRUSION	
C14		RW62211	CRL U.S. ALUMINUM GLAZING BEAD	
C15		RT78911	CRL U.S. ALUMINUM EXPANSION FEMALE MULLION	
C16		RX81011	CRL U.S. ALUMINUM SHALLOW POCKET VERTICAL MULLION	
W1	WTHR STRIP	VS302	CRL VINYL ISOLATOR (BHEAD RECEPTOR)	
W2		NP225	CRL STOREFRONT GASKET	
W3		NP825	CRL EXT. GLAZING GASKET DURO 70 EDPM	
W4		VS200	CRL VINYL ISOLATOR	
G1	GLASS		.025 X .050 X .025 INSULATED GLASS (TEMPERED) ALUMINUM SPACER DUAL GLAZED	
G2				
G3		SB200	NEOPRENE SETTING BLOCK	
G4		SB240	NEOPRENE SETTING BLOCK	
HZ	HARDWARE	EF12	CRL CLOSED CELL 1/2" DIA. BACKER ROD	
H3		95C	SILICONE BUILDING SEALANT	
H4		RTV40BC	CRL CLEAR RTV40B NEUTRAL CURE SILICONE	
H5		----	1/4" X 2 1/2" LAC BOLT ASME B15.2.1 ZINC COATED ASTM 153	
H6				
S1		ST251	#10X1" PHILLIPS WASHER HEAD SMS TYPE AB	
S2		ST19011	#8X5/8" PHILLIPS OH. TEK. ZP.	
WD1	WTR. DAMMING	WD150	WATER DAM	
WD2		WD210	WATER DAM	
WD3		WD200	WATER DAM	
WD3		WD150	WATER DAM	

TEST REQUIREMENTS

AIR INFILTRATION:
<.06 CFM/SQ.FT. @ 6.24 PSF

STATIC WATER:
12 PSF

STRUCTURAL DEFLECTION:
20 PSF (0.2% permenant set)

STRUCTURAL OVERLAOD:
30 PSF (0.2% permenant set)

TESTING SEQUENCE:
Static Air
Static Water 12lbs
Structural Deflection
Structural Overload

REVISIONS

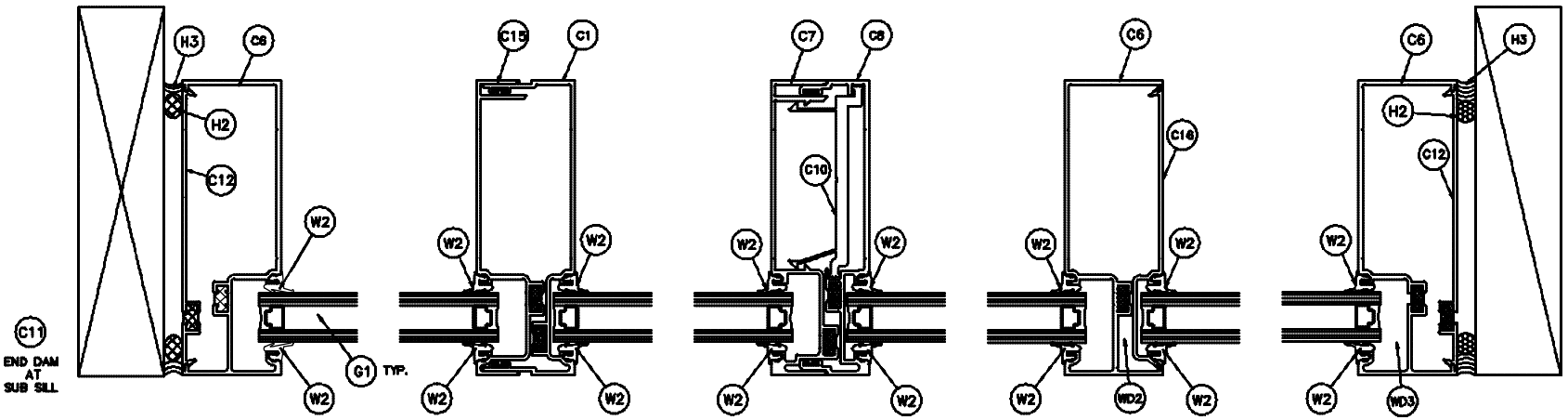
C.R.LAURENCE CO.
ARCHITECTURAL PRODUCTS
2100 E. 208TH Street, Los Angeles, CA. 90249
www.crlaurence.com

Job Name: FT601 STORE FRONT

Glazing Contractor:

DATE: 3/8/2016
DRAWN BY: GDO
CHECKED BY: XX
SCALE: AS SHOWN
JOB #: PTC544738

SHT 1 OF 3



1 Jamb | 2 Expansion Mull. | 3 Unit Glazing | 4 Store Front-FT601 | 1 Jamb

REVISIONS

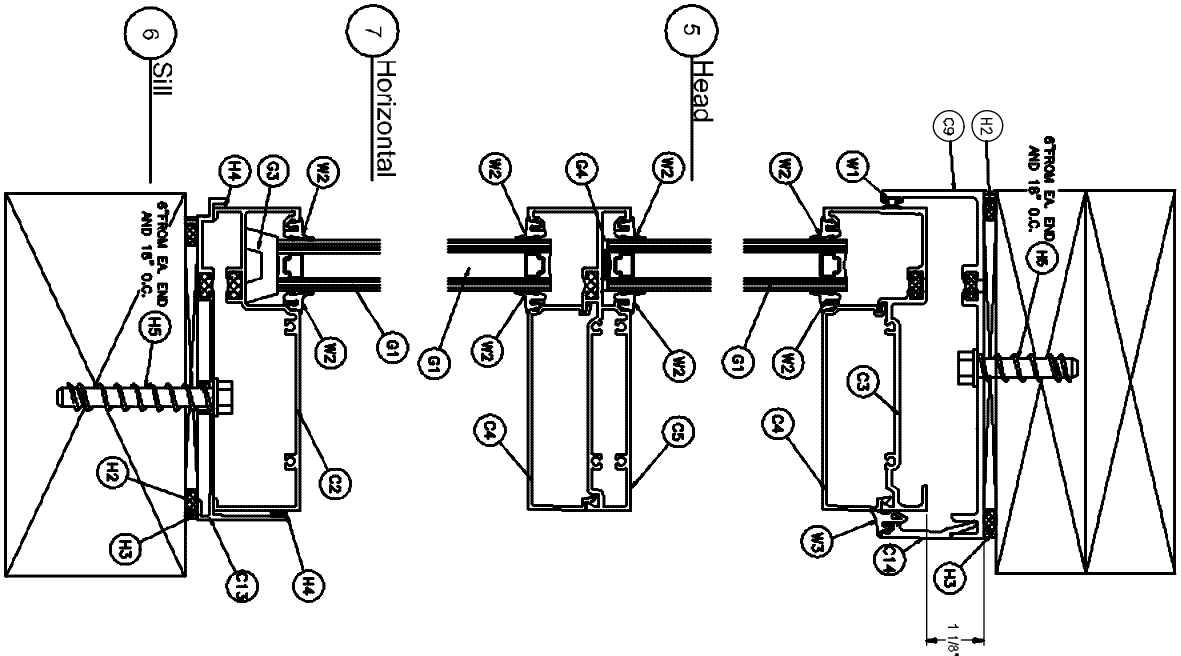
C.R.LAURENCE CO.
ARCHITECTURAL PRODUCTS
2100 E. 208TH Street, Los Angeles, CA. 90249
www.crlaurence.com

Job Name: FT601 STORE FRONT

Glazing Contractor:

DATE:	3/8/2016
DRAWN BY:	GDO
CHECKED BY:	XX
SCALE:	AS SHOWN
JOB #:	PTC544738

SHT 2 OF 3



SHT 3 OF 3	JOB #: PTC544738	SCALE: AS SHOWN	CHECKED BY: XX	DRAWN BY: GDO	DATE: 3/8/2016	Glazing Contractor:	Job Name: FT601 STORE FRONT

C.R.LAURENCE CO.
ARCHITECTURAL PRODUCTS
2100 E. 28TH Street, Los Angeles, CA 90058
www.crlaurence.com

REASONS