

**ASTM F 1642-04/GSA TS01
TEST REPORT**

Rendered to:

**INTERNATIONAL ARCHITECTURAL PRODUCTS, INC.
DBA: UNITED STATES ALUMINUM**

**SERIES/MODEL: BT601
PRODUCT TYPE: Aluminum Storefront with Vertical Mullion**

Title	Summary of Results		
	Test Specimen #1	Test Specimen #2	Test Specimen #3
ASTM Hazard Rating	Very Low Hazard	Very Low Hazard	Minimal Hazard
GSA Performance Condition	3b	3b	2
Average Peak Blast Pressure	7.0 psi	6.8 psi	6.9 psi
Average Positive Phase Impulse	44 psi-msec	45 psi-msec	44 psi-msec
Average Positive Phase Duration	13 msec	14 msec	13 msec

This report contains in its entirety:

- Cover Page: 1 page
- Report Body: 8 pages
- Test Facility: 1 page
- Pressure-Time Plots: 6 pages
- Photographs: 6 pages
- Drawings: 5 pages

Reference should be made to Architectural Testing, Inc. Report No. A1225.01-122-12 for complete test specimen description and data.



ASTM F 1642-04/GSA TS01 TEST REPORT

Rendered to:

INTERNATIONAL ARCHITECTURAL PRODUCTS, INC.
DBA: UNITED STATES ALUMINUM
720 Cel-River Road
Rock Hill, South Carolina 29730

Report No.: A1225.01-122-12
Revision 1: 06/09/10
Test Date: 05/28/10
Report Date: 06/04/10
Expiration Date: 05/28/14

Project Summary: Architectural Testing, Inc. was contracted by International Architectural Products, Inc., DBA: United States Aluminum to perform testing on three Series/Model BT601, aluminum storefronts with vertical mullions. Test specimen descriptions and results are reported herein. The samples were provided by the client.

Test Specification: The test specimens were evaluated in accordance with:

ASTM F 1642-04, Standard Test Method for Glazing and Glazing Systems Subject to Airblast Loading.

GSA-TS01-2003, US General Services Administration Standard Test Method for Glazing and Window Systems Subject to Dynamic Overpressure Loadings.

Test Facility: Architectural Testing, Inc.'s shock tube is housed in a 10,000 square foot state-of-the-art test facility located in York, Pennsylvania. Blast loadings are produced on the specimen to simulate the effects of a high explosive charge at a specified standoff distance. Shock waves are generated by the sudden rupturing of a thin aluminum membrane. The shock wave expands as it travels down the tube, and impacts the target with a specific positive pressure and impulse. A photograph of the shock tube is provided in Figure #1 of Appendix A.

Data Acquisition: In accordance with ASTM F 1642-04 and GSA TS01, four reflective pressure transducers are utilized to record data at a 1MHz sample rate. Two reflective pressure transducers are located on the specimen holder at the top and right side (when viewed from the interior). A third pressure transducer is located on the shell to the exterior of the specimen, and a fourth is located in the witness chamber, directly to the interior of the specimen holder. A sketch of the specimen holder and corresponding reflective pressure sensor locations are provided in Figure #2 of Appendix A.

Drawing Reference: The attached drawings have been verified by Architectural Testing, Inc. and are representative of the samples tested. Drawings are provided in Appendix D.

Test Specimen Description:

The following descriptions apply to all specimens.

Test Series/Model: BT601

Product Type: Aluminum Storefront with Vertical Mullion

Overall Size: 81-3/4" wide by 81-5/8" high

Fixed Daylight Opening: 37-1/8" wide by 76-5/8" high

Overall Area: 46.3 ft²

Reinforcement: No reinforcement was utilized.

Finish: Painted aluminum

Glazing Details: The window was glazed with a 1-1/4" thick insulating glass unit constructed of an exterior sheet of 1/4" thick annealed glass and an interior sheet of 1/2" thick laminated glass with a 1/2" thick aluminum spacer system. The laminated glass was constructed of two sheets of 1/4" thick annealed glass and a 0.030" thick PVB interlayer. The glass was set from the exterior against a neoprene gasket and secured with a snap-fit glazing clip at the sill and a perimeter rubber wedge gasket. Glazing bite measured 5/8".

Frame Construction: Frame members were constructed of poured-in-place and debridged thermally improved aluminum with butted corners. The corners were fastened with three #12 x 1" long screws at the jamb/sill connection and four #12 x 1" long screws at the jamb/head connection. The vertical mullion was attached to the frame with three #12 x 1" long screws at the vertical/sill connection and four #12 x 1" long screws at the vertical/head connection.

Hardware: No hardware utilized.

Installation: The frame was anchored to a double 2x6 Spruce-Pine-Fir test buck using 1/4" x 4" long Spax® hex head lag screws. Screws were grouped near the jambs and vertical mullion at the head and sill only. Four anchors were grouped near each jamb vertical, spaced 3-1/2" from the end and 3" on center. Four anchors were also grouped on either side of the vertical mullion, located 1" away from the mullion and spaced at 3" on center.

Test Results: The results are tabulated as follows:

Test Specimen #1:

<u>Description</u>	<u>Results</u>
Ambient Temperature	75°F
Glazing Temperature	75°F
Peak Positive Pressure	
Top Pressure	7.1 psi
Right Pressure	7.3 psi
Shell Pressure	6.6 psi
Average Pressure	7.0 psi
Positive Phase Duration	
Top Duration	14 msec
Right Duration	13 msec
Shell Duration	13 msec
Average Duration	13 msec
Positive Phase Impulse	
Top Impulse	44 psi-msec
Right Impulse	45 psi-msec
Shell Impulse	44 psi-msec
Average Impulse	44 psi-msec

- No pressure rise was measured on the protected side of the specimen.
- The exterior lite fractured and fell to the unprotected side of the window. Both layers of the interior laminated lite were observed to fracture. The PVB laminate tore horizontally near the center of both lites. Glazing pull-out measured approximately 47" at the left jamb and 42" on the left side vertical. Total pull-out was 39%.
- Fragments of glass were located 42" behind the 1m line. No impacts or punctures were observed on the vertical witness panel.

ASTM Hazard Rating: Very Low Hazard

GSA Performance Condition: 3b

Pressure-time plots are presented in Appendix B. Pre-test and post-test photographs are provided in Appendix C.

Test Results: (Continued)

Test Specimen #2:

<u>Description</u>	<u>Results</u>
Ambient Temperature	77°F
Glazing Temperature	76°F
Peak Positive Pressure	
Top Pressure	6.9 psi
Right Pressure	7.2 psi
Shell Pressure	6.4 psi
Average Pressure	6.8 psi
Positive Phase Duration	
Top Duration	13 msec
Right Duration	14 msec
Shell Duration	14 msec
Average Duration	14 msec
Positive Phase Impulse	
Top Impulse	45 psi-msec
Right Impulse	44 psi-msec
Shell Impulse	45 psi-msec
Average Impulse	45 psi-msec

- No pressure rise was measured on the protected side of the specimen.
- The exterior lite fractured and fell to the unprotected side of the window. Both layers of the interior laminated lite were observed to fracture. The PVB laminate tore horizontally near the center of the left side lite. Glazing pull-out measured approximately 53" at the left jamb, 46" on the left side vertical, 23" on the right side vertical and 34" on the right jamb. Total pull-out was 43%.
- Fragments of glass were located 10" in front of the vertical witness panel. No impacts or punctures were observed on the vertical witness panel.

ASTM Hazard Rating: Very Low Hazard

GSA Performance Condition: 3b

Pressure-time plots are presented in Appendix B. Pre-test and post-test photographs are provided in Appendix C.

Test Results: (Continued)

Test Specimen #3:

<u>Description</u>	<u>Results</u>
Ambient Temperature	76°F
Glazing Temperature	75°F
Peak Positive Pressure	
Top Pressure	6.9 psi
Right Pressure	7.3 psi
Shell Pressure	6.6 psi
Average Pressure	6.9 psi
Positive Phase Duration	
Top Duration	13 msec
Right Duration	14 msec
Shell Duration	13 msec
Average Duration	13 msec
Positive Phase Impulse	
Top Impulse	44 psi-msec
Right Impulse	45 psi-msec
Shell Impulse	44 psi-msec
Average Impulse	44 psi-msec

- No pressure rise was measured on the protected side of the specimen.
- The exterior lite fractured and fell to the unprotected side of the window. Both layers of the interior laminated lite were observed to fracture. Pull-out measured 24" at the left jamb, 17" on the left side vertical and 32" at the right jamb. Total pull-out was 18%.
- A dusting of glass was deposited on the floor of the witness area, with no impacts or punctures observed in the witness panel.

ASTM Hazard Rating: Minimal Hazard

GSA Performance Condition: 2

Pressure-time plots are presented in Appendix B. Pre-test and post-test photographs are provided in Appendix C.

List of Official Observers:

<u>Name</u>	<u>Company</u>
Chris Gall	International Architectural Products, Inc. DBA: United States Aluminum
John S. Stacey, P.E.	Architectural Testing, Inc.
Jeff Lander	Architectural Testing, Inc.
Brady McNaughton	Architectural Testing, Inc.

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, and other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of four years from the original test date. At the end of this retention period, such materials shall be discarded without notice and the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. 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 specimens tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC:

Brady W. McNaughton
Project Engineer

John S. Stacey, P.E.
Senior Project Engineer

BWM:ddr/cmd

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

- Appendix-A: Test Facility (1)
- Appendix-B: Pressure-Time Plots (6)
- Appendix-C: Photographs (6)
- Appendix-D: Drawings (5)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	06/04/10	N/A	Original report issue
1	06/09/10	Cover, page 1, 6	Corrected customer name

Appendix A

Test Facility



Figure #1
Shock Tube and Test Facility

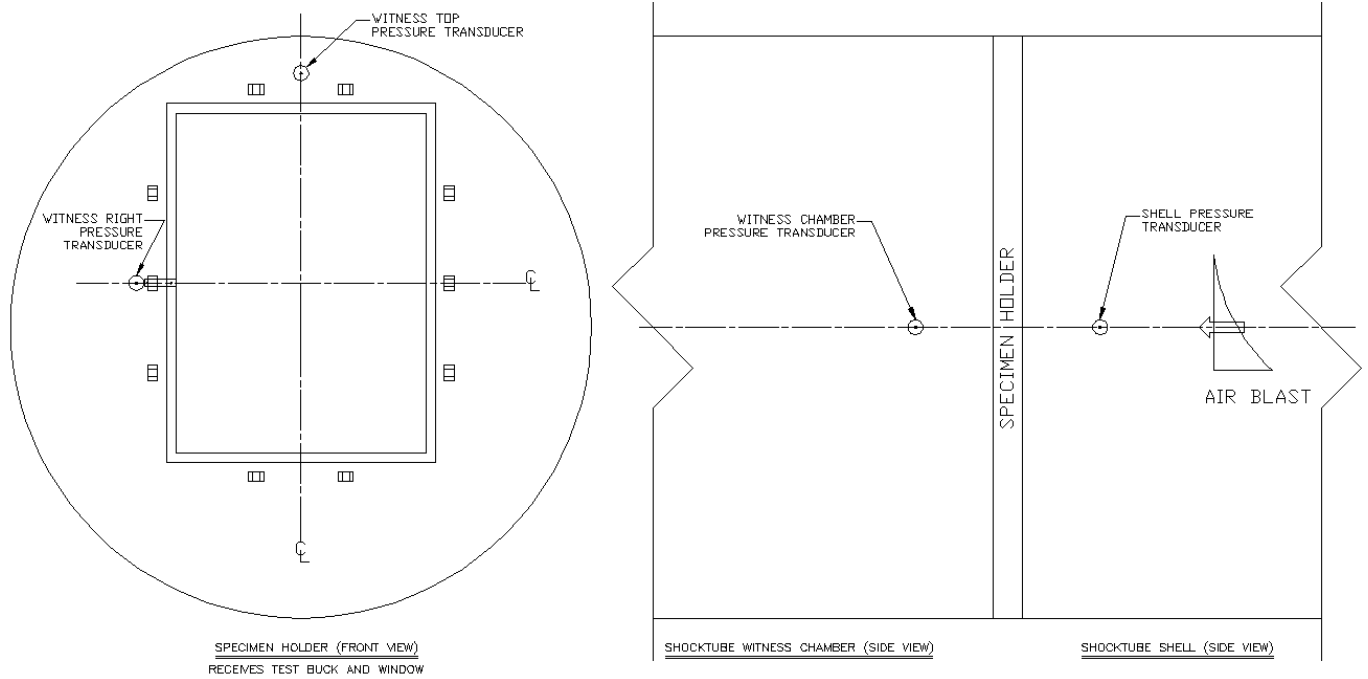
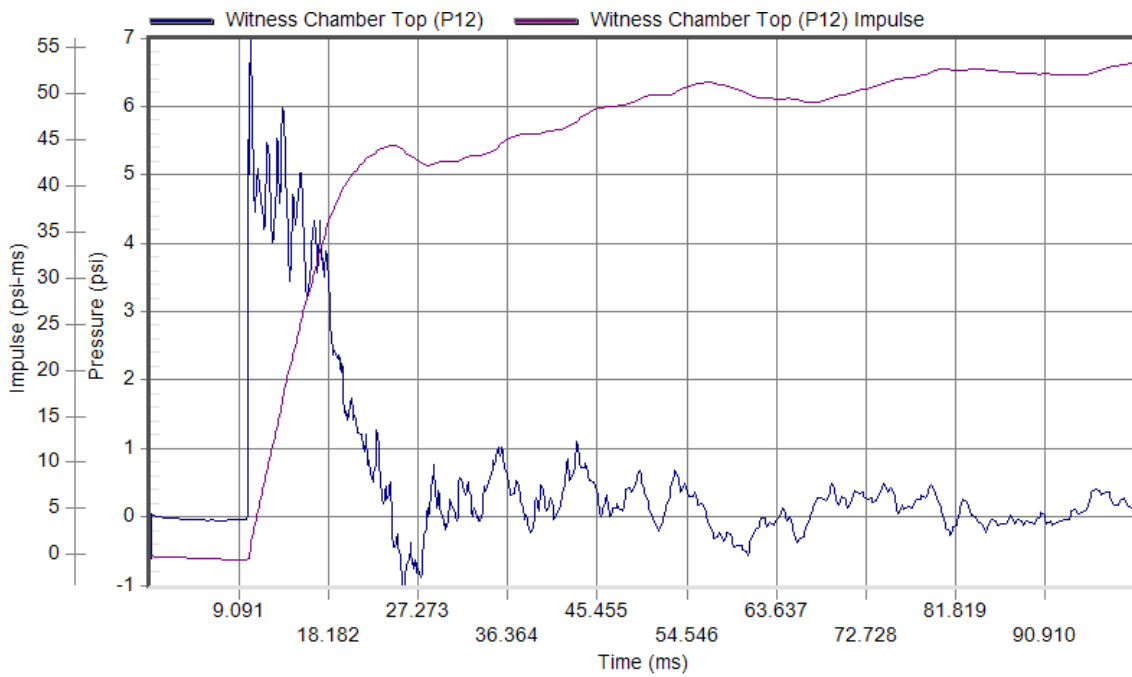


Figure #2
Pressure Sensor Locations

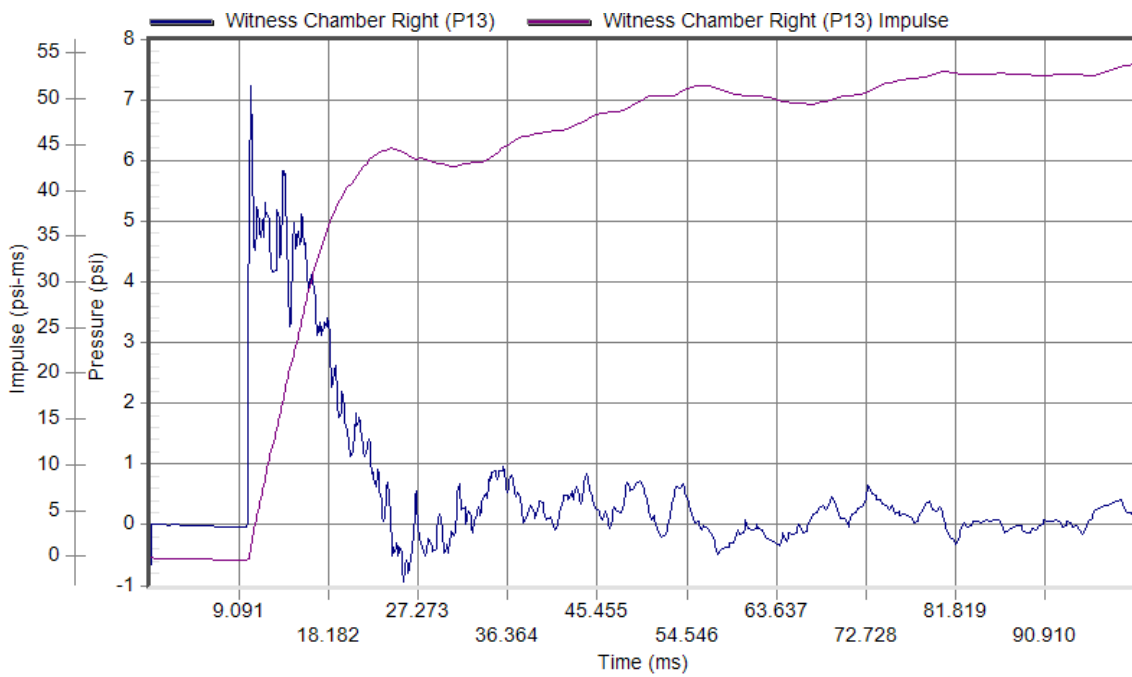
Appendix B
Pressure-Time Plots

Specimen #1



Peak Pressure: 7.09 psi at 10.30 ms
Duration: 14.32 ms

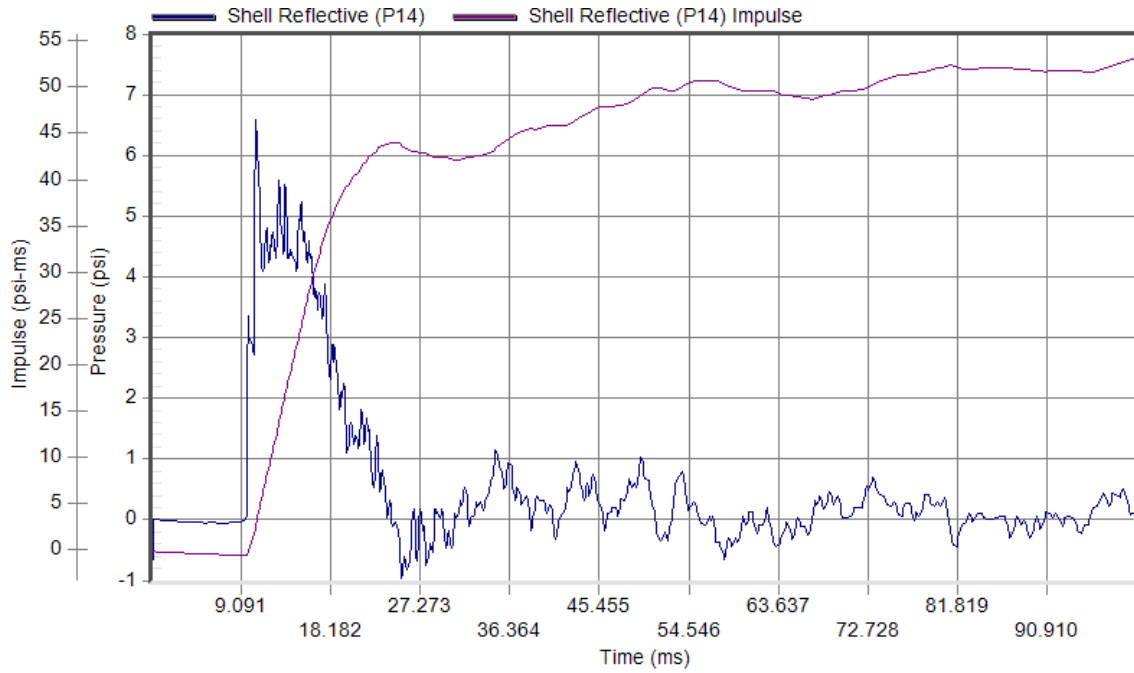
Test Date: 5/28/2010
Test Time: 1:26 pm



Peak Pressure: 7.26 psi at 10.32 ms
Duration: 13.40 ms

Test Date: 5/28/2010
Test Time: 1:26 pm

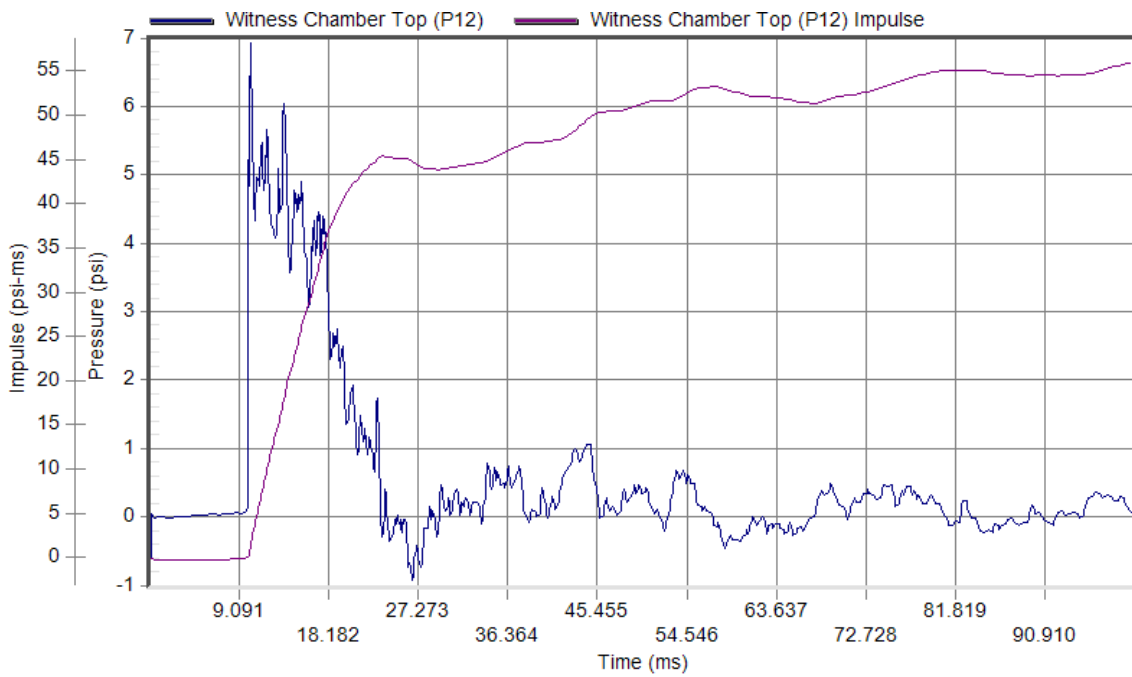
Specimen #1: (Continued)



Peak Pressure: 6.60 psi at 10.62 ms
Duration: 13.31 ms

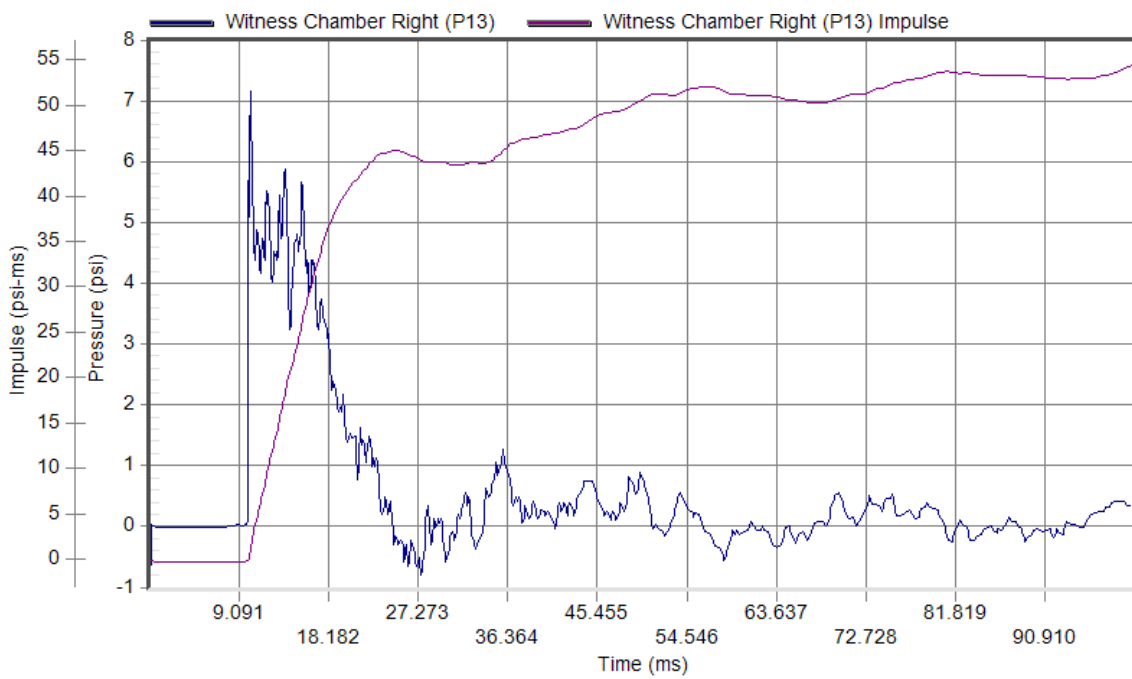
Test Date: 5/28/2010
Test Time: 1:26 pm

Specimen #2



Peak Pressure: 6.94 psi at 10.30 ms
Duration: 13.20 ms

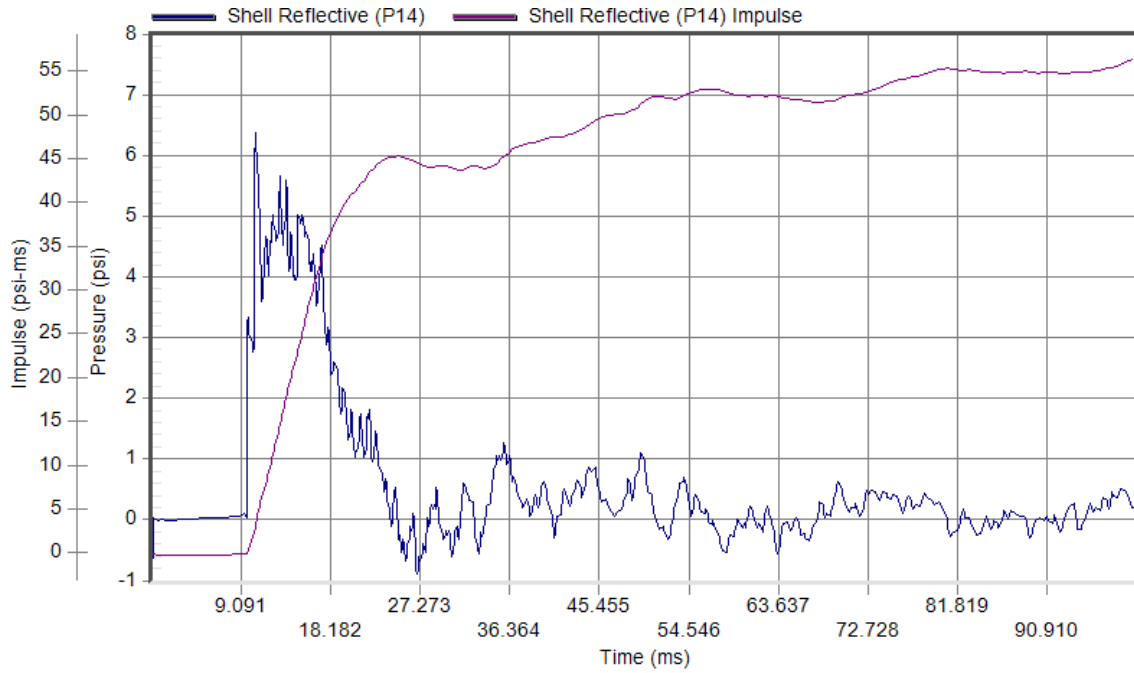
Test Date: 5/28/2010
Test Time: 2:26 pm



Peak Pressure: 7.17 psi at 10.29 ms
Duration: 14.40 ms

Test Date: 5/28/2010
Test Time: 2:26 pm

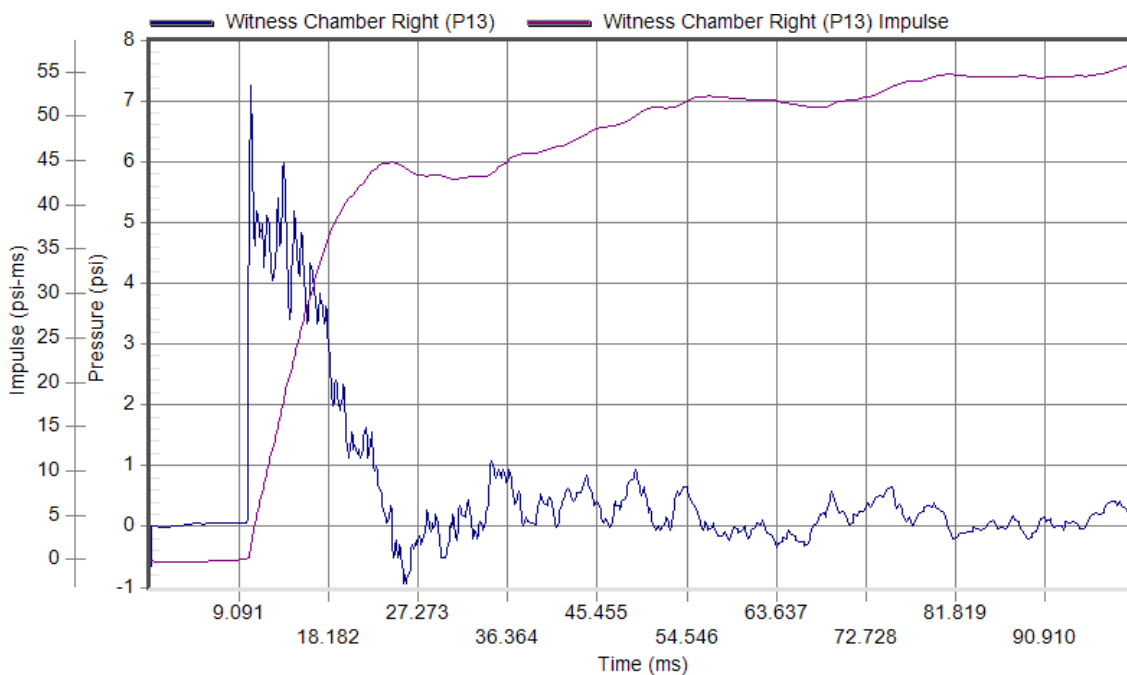
Specimen #2: (Continued)



Peak Pressure: 6.39 psi at 10.59 ms
Duration: 13.66 ms

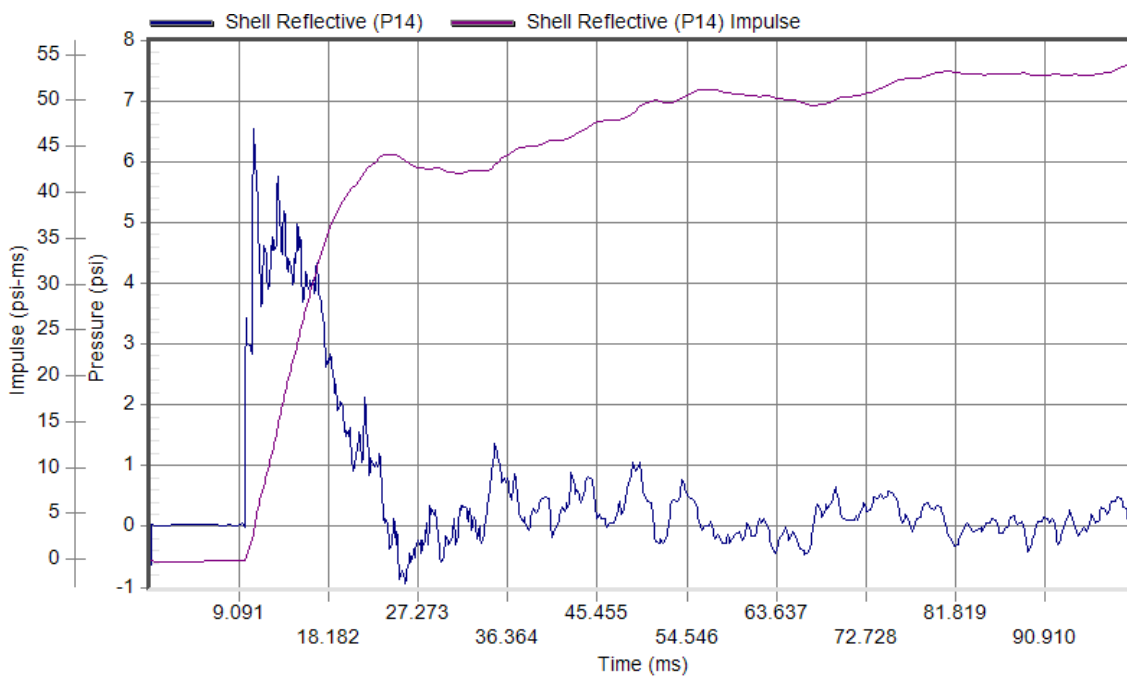
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Test Time: 2:26 pm

Specimen #3



Peak Pressure: 7.28 psi at 10.32 ms
Duration: 13.76 ms

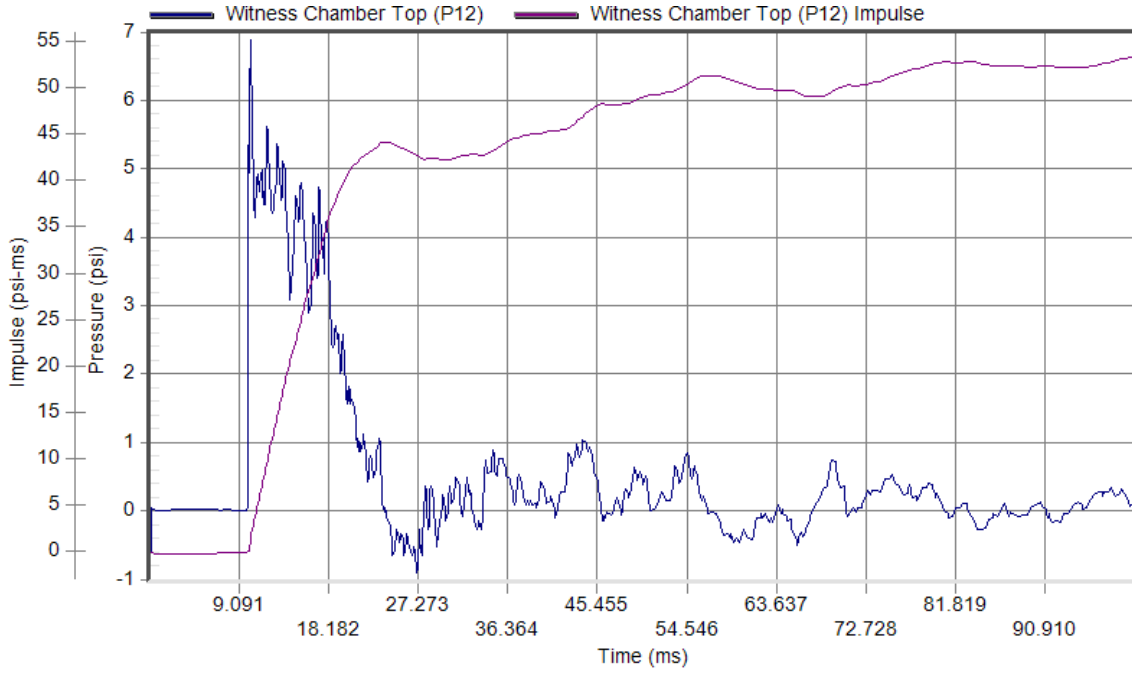
Test Date: 5/28/2010
Test Time: 3:19 pm



Peak Pressure: 6.56 psi at 10.61 ms
Duration: 13.23 ms

Test Date: 5/28/2010
Test Time: 3:19 pm

Specimen #3: (Continued)



Peak Pressure: 6.92 psi at 10.29 ms
Duration: 13.48 ms

Test Date: 5/28/2010
Test Time: 3:19 pm

Appendix C

Photographs



Photo No. 1
Pre-test Specimen #1, Interior



Photo No. 2
Post-test Specimen #1, Interior



Photo No. 3
Post-test Specimen #1, Witness Chamber



Photo No. 4
Pre-test Specimen #2, Interior



Photo No. 5
Post-test Specimen #2, Interior



Photo No. 6
Post-test Specimen #2, Witness Chamber



Photo No. 7
Post-test Specimen #1 and #2, Typical Tearing and Pull-out



Photo No. 8
Pre-test Specimen #3, Interior



Photo No. 9
Post-test Specimen #3, Interior



Photo No. 10
Post-test Specimen #3, Witness Chamber

Appendix D

Drawings

SYMBOLS	
	REVISION SYMBOL
	SPLICE LOCATION
	REVISED ITEMS
	DENOTES MULLION REINFORCEMENT
	ANCHOR DIMENSION REFERENCE
	WORKING POINT REFERENCE
	WINDLOAD/EXPANSION ANCHOR
	WINDLOAD/DEADLOAD ANCHOR
	PERIMETER FASTENER REFERENCE

GLASS SIZES

See Installation Instructions for Glass Size formulas
 A copy of these instructions are available online (www.usalum.com)
 (Note: See shop drawings to determine if deviations occur)

ABBREVIATIONS	
O.D. = OPENING DIMENSION	HRSO = HINGE RIGHT SWING OUT
R.O. = ROUGH OPENING	HLSO = HINGE LEFT SWING OUT
F.D. = FRAME DIMENSION	PRSO = PAIR RIGHT SWING OUT
R.L. = RAFTER LENGTH	PLSO = PAIR LEFT SWING OUT
REF. = REFERENCE DIMENSION	HRSI = HINGE RIGHT SWING IN
D.L.O. = DAYLIGHT OPENING	HLSI = HINGE LEFT SWING IN
D.O. = DOOR OPENING	PRSI = PAIR RIGHT SWING IN
W.P. = WORKING POINT	PLSI = PAIR LEFT SWING IN
A.R. = ARCHITECTURAL REFERENCE	
C.T.S. = CUT TO SIZE	PHSM = PANHEAD SHEET METAL SCREW
S/L = STOCK LENGTH	FHSM = FLATHEAD SHEET METAL SCREW
NBUSA = NOT BY U.S. ALUMINUM	
M.L. = MULLION LENGTH	
A.D. = ANCHOR DIMENSION	W.D. = WINDOW DIMENSION

SPECIAL NOTES

- MATERIAL TO BE 6063-T6 AT VERTICALS ALL OTHER MATERIAL TO BE 6063-T5 UNLESS NOTED OTHERWISE
- SILICONE SEALANTS AT CAULK JOINTS CAPABLE OF 50% COMPRESSION & TENSION IS ANTICIPATED. (VERIFY IF THIS CHANGES.)
- ALL ROUGH OPENING DIMENSIONS TO BE FIELD VERIFIED PRIOR TO INSTALLATION

GENERAL NOTES

- LIMITATIONS:** THESE DRAWINGS REPRESENT AN INTERPRETATION OF ARCHITECTURAL INFORMATION MADE AVAILABLE TO UNITED STATES ALUMINUM CORPORATION ("USAC"), AND THE PLACEMENT OF USAC SYSTEMS WITHIN THE PROJECT. USAC MAKES NO REPRESENTATION OR WARRANTY AS TO THE PERFORMANCE OR COMPLETENESS OF THE ARCHITECTURAL DETAILS SURROUNDING ITS SYSTEMS AND DOES NOT ACCOUNT FOR ARCHITECTURAL INFORMATION NOT PROVIDED TO USAC.
- GENERALIZATION:** ANY USAC SUGGESTED DIMENSIONS, TOLERANCES, DEFLECTION, ANCHORAGES, REFERENCES, AND FUNCTIONAL PERFORMANCE REQUIREMENTS SHALL BE CONFIRMED WITH ARCHITECT BY INSTALLER, AND VALIDATED BY FIELD MEASURES TO ENSURE PERFORMANCE COMPLIANCE AND ARCHITECTURAL INTENT.
- ACCEPTANCE:** FINAL APPROVAL OF THESE DRAWINGS CONSTITUTES ACCEPTANCE OF ALL STEEL, CONCRETE OR ANY OTHER DISSIMILAR MATERIALS.
- GLAZING:** USAC RECOMMENDS DELAYING ORDER OF GLASS AND/OR GLAZING MATERIALS UNTIL FINAL APPROVAL OF ERECTION DRAWINGS.
- PRODUCT RATINGS:** USAC PRODUCTS ARE TESTED TO RATED PERFORMANCE MEASURES. INFORMATION REGARDING SPECIFIC PERFORMANCE RATINGS FOR THE DEPICTED SYSTEMS IS AVAILABLE FROM USAC, ON REQUEST. MODIFICATION OF DEPICTED PRODUCTS OR DEVIATING FROM USAC SHOP DRAWINGS, INSTALLATION RECOMMENDATIONS, AND/OR GOOD BUILDING PRACTICES CAN IMPACT THE ABILITY OF FIELD INSTALLATIONS TO ACHIEVE TESTED RATINGS(S).
- INSTALLER:** IN PROVIDING THESE DRAWINGS, USAC DOES NOT VALIDATE, ENDORSE, REPRESENT, OR OTHERWISE WARRANT THE COMPETENCY OR ABILITY OF THE INSTALLING CONTRACTOR(S) TO ASSEMBLE/ADDRESS USAC SYSTEMS IN A MANNER SUFFICIENT TO ENSURE COMPLIANCE WITH DESIRED/APPLICABLE DESIGN, ENERGY, RATING, BUILDING AND/OR SAFETY CODES.
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- COMPLIANCE:** OWNER, ARCHITECT AND DEALER ARE RESPONSIBLE FOR SELECTION, INSTALLATION, AND ADJUSTMENT OF SYSTEMS TO ENSURE COMPLIANCE WITH ALL APPLICABLE DESIGN, ENERGY, RATING, BUILDING AND/OR SAFETY CODES.
- INSTALLATION:** USAC OFFERS GENERALLY APPLICABLE INSTALLATION RECOMMENDATIONS FOR THE SYSTEMS DEPICTED HEREIN. INSTALLATION CONTRACTOR MUST ENSURE COMPLIANCE WITH USAC DESIGN INTENT AND INSTALLATION RECOMMENDATIONS IN ADDITION TO ANY PROJECT SPECIFIC INSTALLATION RECOMMENDATIONS REQUESTED OF USAC. USAC MAKES/ISSUES NO WARRANTY OR COMMITMENT RELATIVE TO INSTALLED SYSTEMS THAT DO NOT COMPLY WITH, OR ARCHITECTURALLY DEVIATE FROM, USAC RECOMMENDATIONS UNLESS EXPRESSLY APPROVED BY USAC BEFORE INSTALLATION.

GLAZING SCHEDULE	
SYMBOL	DESCRIPTION
A	1 5/16" INSULATED GLASS

MATERIALS AVAILABLE WHEN DRAWN			
<input type="checkbox"/> YES	ARCHITECTURALS	<input checked="" type="checkbox"/> NO	SPECIFICATIONS
<input type="checkbox"/> YES	STRUCTURALS	<input checked="" type="checkbox"/> NO	ADDENDUMS

DESIGN CRITERIA

Wind Pressure

FRAMING SYSTEM PROVIDED MEETS ANTI-TERRORISM STANDARDS REQUIRED BY UFC 4-010-01 JANUARY 2007

1 PSI DEFLECTION
 82' STANDOFF DISTANCE
 CHARGE WEIGHT II
 70 PSF WINDLOAD

FINISH SPECS.

#99 MILL

#11 CLEAR (CLASS II)

#22 DARK BRONZE

BT601 STC TEST
AND ANCHOR TEST

Test sample complies with these details.
 Deviations are noted.
 Report # A1225.01-122-12
 Date 6/10/2010 Tech JJ

SEALANT NOTES

- SELECTION AND SPECIFICATION:** USAC IS NOT RESPONSIBLE FOR SPECIFICATION, SELECTION OR USE OF SEALANTS AND/OR CAULKING NECESSARY FOR THE ASSEMBLY DEPICTED IN THESE DRAWINGS. OWNER, ARCHITECT, INSTALLER, AND SEALANT MANUFACTURER MUST CONFER TO ENSURE SPECIFICATION, SELECTION AND USE OF SEALANTS/CAULKING ON THIS PRODUCT THAT ARE APPROPRIATE AND IN COMPLIANCE WITH USAC SHOP DRAWINGS, INSTALLATION RECOMMENDATIONS, AND GOOD BUILDING PRACTICES.
- WATERTIGHT APPLICATION:** REGARDLESS OF WHAT IS DEPICTED HEREIN, ALL GASKET JOINTS, BUTT JOINTS, LAP JOINTS, HEEL BEADS, TOE BEADS, AND CAP BEADS SHOULD BE SEALED WATERTIGHT FOLLOWING SEALANT MANUFACTURER RECOMMENDATIONS AS TO SIZE, METHOD OF APPLICATION AND COMPATIBILITY WITH ADJOINING MATERIAL. ANY QUESTIONS REGARDING THE PLACEMENT OF SEALANT IN RELATION TO THE SYSTEM DEPICTED SHOULD BE DIRECTED TO USAC BEFORE APPLICATION OF THE QUESTIONED SEALANT.
- MANUFACTURER'S WARRANTY:** ADHESION TESTING WILL BE REQUIRED BY THE SEALANT MANUFACTURER TO SECURE MANUFACTURER WARRANTIES FOR THIS PROJECT. INSTALLER MUST ASSUME FULL RESPONSIBILITY FOR COORDINATING THE SUBMITTAL OF ALL REQUIRED SAMPLES FOR TESTING AND ENSURE FIELD PERSONNEL FOLLOW SEALANT MANUFACTURER'S GUIDELINES FOR STRUCTURAL GLAZING.

MODIFICATION/CORRECTIVE PROCEDURE

IF ANY CORRECTIVE WORK IS REQUIRED ON THIS JOB, THE FOLLOWING PROCEDURE MUST BE ADHERED TO:
 USAC MUST BE CONTACTED BEFORE ANY MODIFICATION, REPAIR, OR CORRECTIVE ACTION IS UNDERTAKEN TO THE SYSTEMS DEPICTED HEREIN. USAC WILL NOT ACCEPT OR WARRANT PRODUCTS THAT HAVE BEEN MODIFIED, REPAIRED, OR OTHERWISE ALTERED WITHOUT ITS EXPRESS WRITTEN CONSENT. ABSENT SUCH CONSENT USAC WILL NOT ACCEPT CHARGES, DEMANDS, OR OFFSETS IN RELATION TO THE PERFORMANCE OF ITS SYSTEMS EITHER BEFORE OR AFTER INSTALLATION.

TABLE OF CONTENTS

SHEET	DESCRIPTION	SHEET	DESCRIPTION
1.01	LEAD SHEET		
2.01	ELEVATIONS		
3.01-3.03	DETAILS		

FIRST APPROVAL
 APRIL 28, 2010

DRAFTING DEPARTMENT LOCATIONS

3663 BANDINI BOULEVARD -- VERNON, CALIFORNIA 90023
 TELEPHONE (213) 268-4230

200 SINGLETON DRIVE -- WAXAHACHIE, TEXAS 75165
 TELEPHONE (972) 637-8951

6969 WEST 73RD STREET -- CHICAGO, ILLINOIS 60638
 TELEPHONE (708) 458-8070

720 CEL-RIVER ROAD -- ROCK HILL, SOUTH CAROLINA 29730
 TELEPHONE (803) 368-8328

PRODUCTS USED

PRODUCT DESCRIPTION				
PRODUCT	FAB S/L	WIDTH	DEPTH	COMMENTS
BT601 DEFENDER	S/L	2 1/2"	5"	

CUSTOM DIES

PART NO.	DESCRIPTION

STAMP AREA

ARCHITECT	GEN. CONTRACTOR	CUSTOMER

DRAFTING DEPARTMENT LOCATIONS

3663 BANDINI BOULEVARD -- VERNON, CALIFORNIA 90023
 TELEPHONE (213) 268-4230

200 SINGLETON DRIVE -- WAXAHACHIE, TEXAS 75165
 TELEPHONE (972) 637-8951

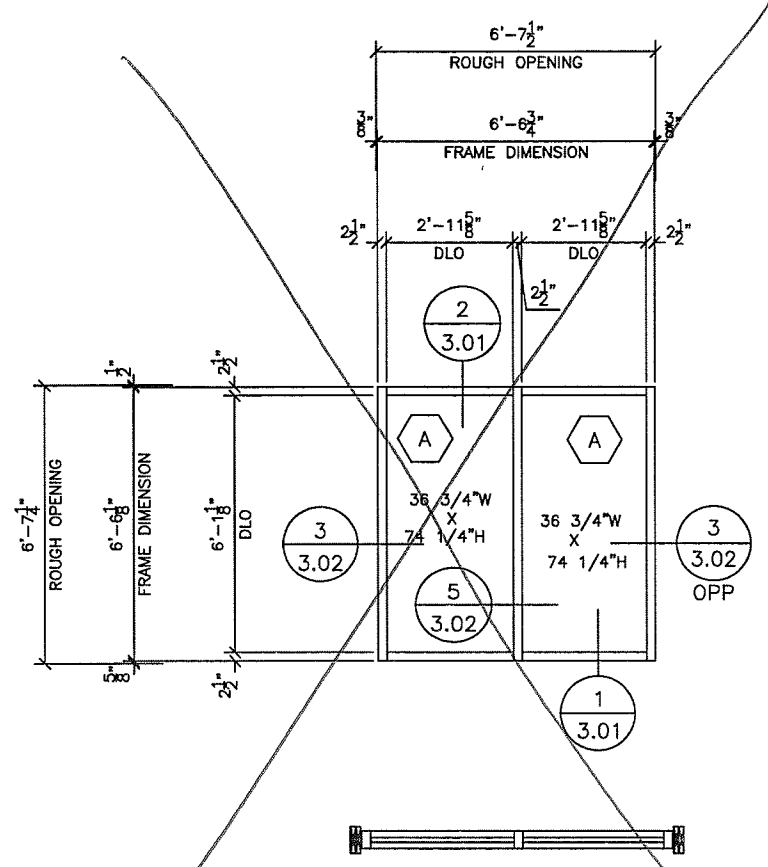
6969 WEST 73RD STREET -- CHICAGO, ILLINOIS 60638
 TELEPHONE (708) 458-8070

720 CEL-RIVER ROAD -- ROCK HILL, SOUTH CAROLINA 29730
 TELEPHONE (803) 368-8328

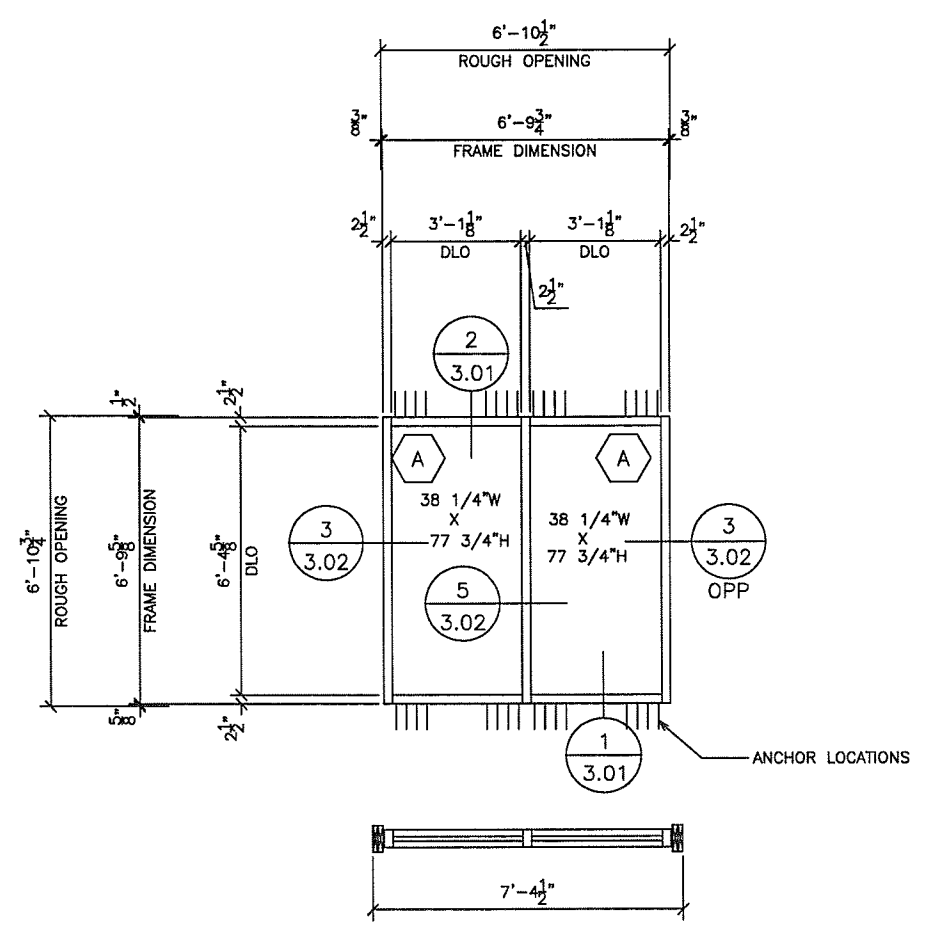
CUSTOMER
 ATI
 130 DERRY COURT
 YORK, PA 17406

ARCHITECT
 PROJECT
 BT601 STC TEST
 AND ANCHOR TEST

DRAWN BY
 JC|DS
 PROJECT MANAGER
 USAC-SC
 DATE
 4/28/10
 PROJECT NO.
 2010-24
 SHEET
 1.01



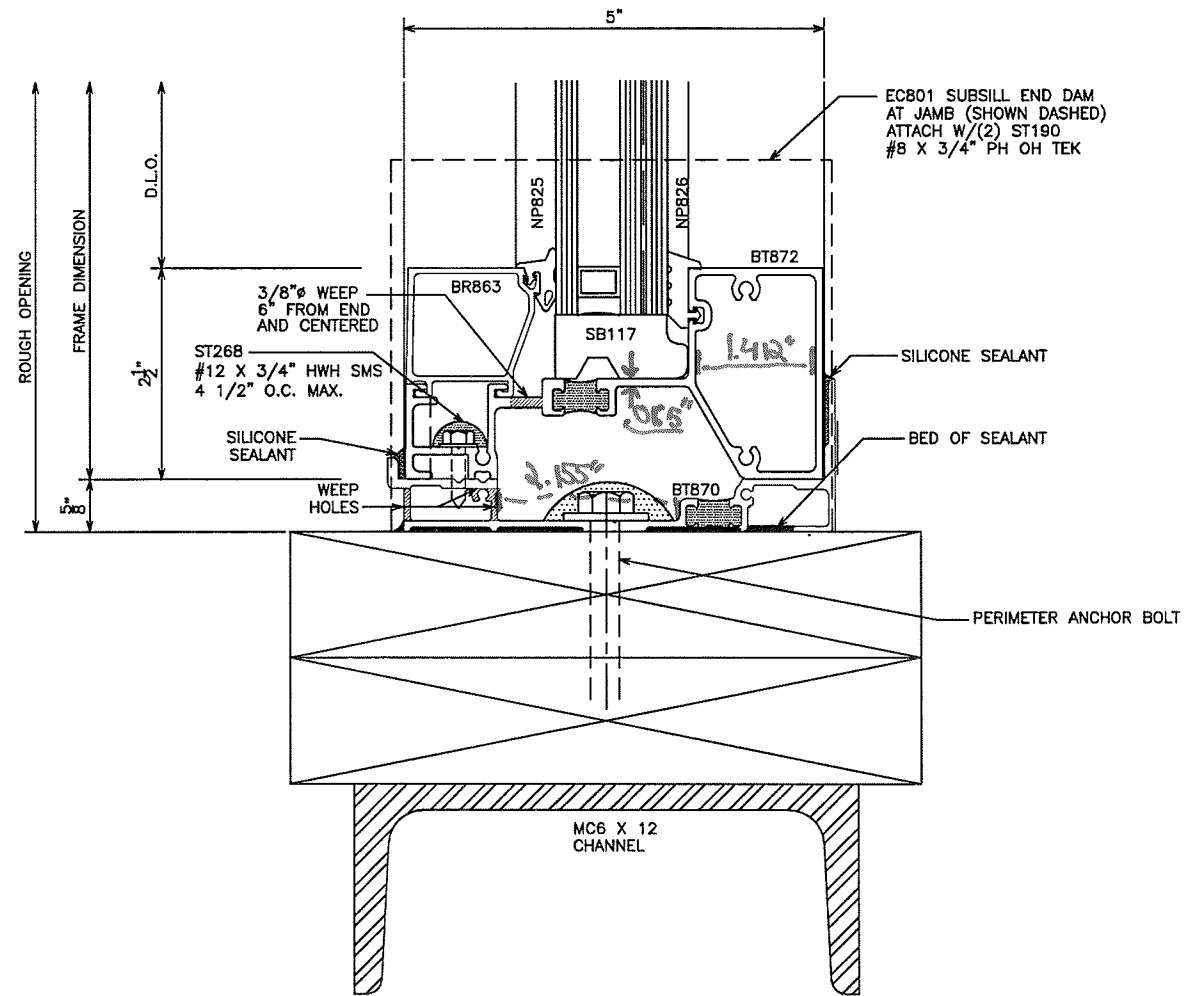
1 SYSTEM: BT601 (2 1/2" X 5")
 SCALE: 1/2" = 1'-0"
 QTY: 1
 ARCH REF: STC TEST ELEVATION



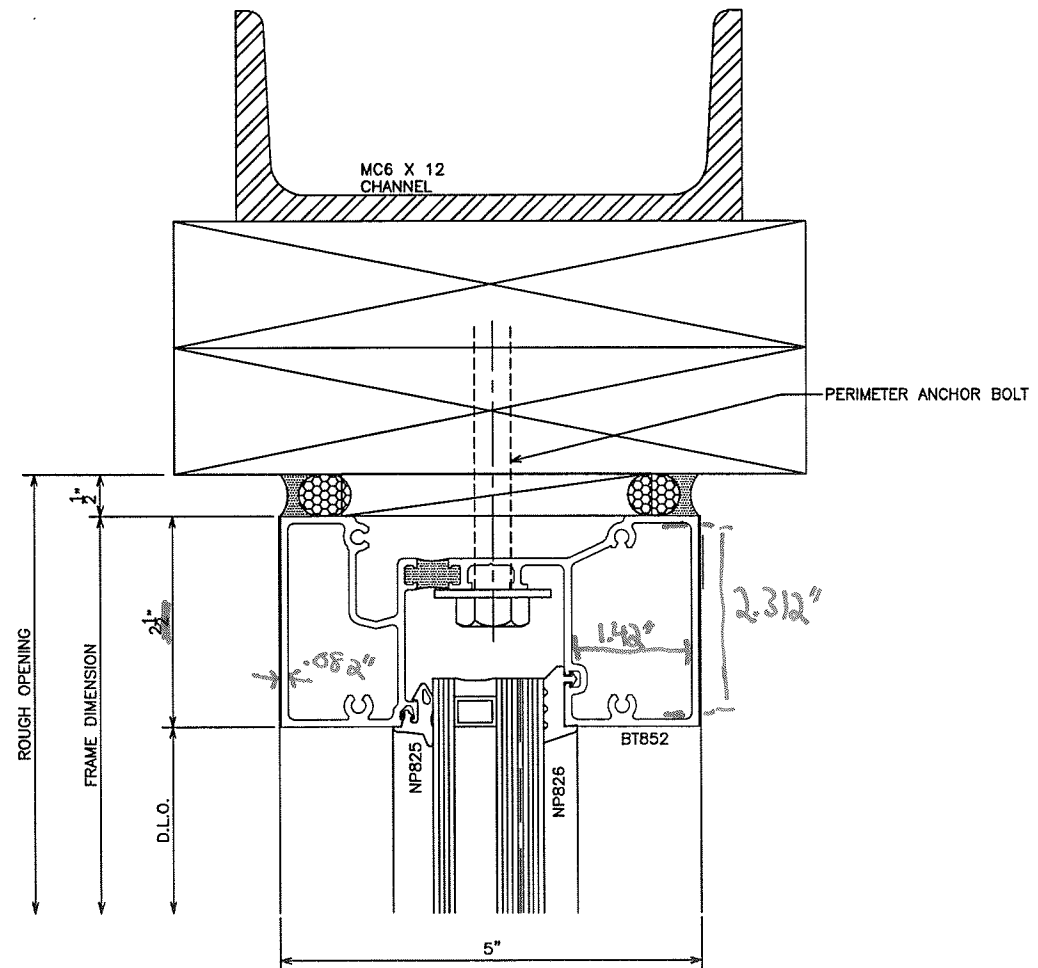
2 SYSTEM: BT601 (2 1/2" X 5")
 SCALE: 1/2" = 1'-0"
 QTY: 4
 ARCH REF: 1PSI RATING

Architectural Testing
 Test sample complies with these details.
 Deviations are noted.
 Report # A1225.01-122-12
 Date 6/01/2010 Tech JS

NO.		REVISIONS	DATE	BY
CUSTOMER		AT 130 DERRY COURT YORK, PA 17406		
ARCHITECT				
PROJECT		BT601 STC TEST AND ANCHOR TEST		
DRAWN BY		JC DS		
PROJECT MANAGER		USAC-SC		
DATE		4/28/10		
PROJECT NO.		2010-24		
SHEET		2.01		



1 SILL DETAIL
BT601 (DEFENDER SERIES)
DRY GLAZE



2 HEAD DETAIL
BT601 (DEFENDER SERIES)
DRY GLAZE



Test sample complies with these details.
Deviations are noted.

Report # A122501-122-12

Date 6/01/2010 Tech JD

NO.	REVISIONS	DATE	BY



CUSTOMER
AT
130 DERRY COURT
YORK, PA 17406

ARCHITECT

PROJECT
BT601 STC TEST
AND ANCHOR TEST

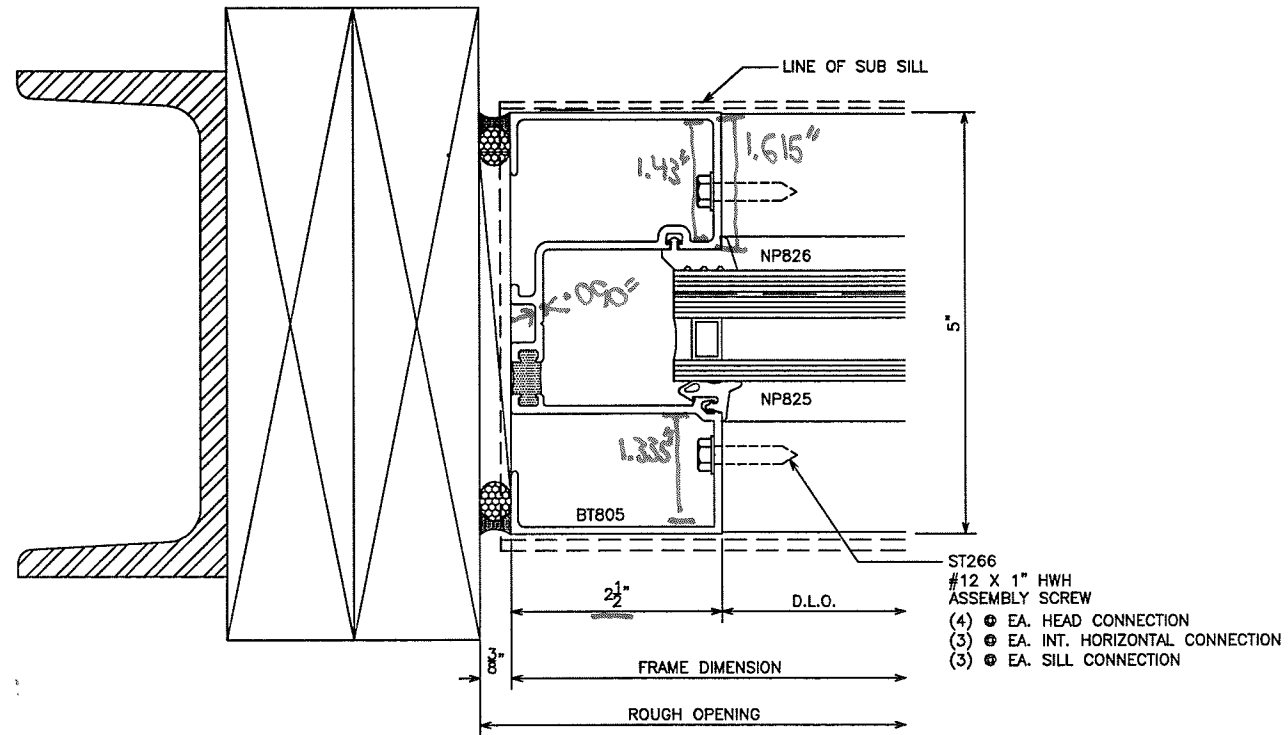
DRAWN BY
JCDS

PROJECT MANAGER
USAC-SC

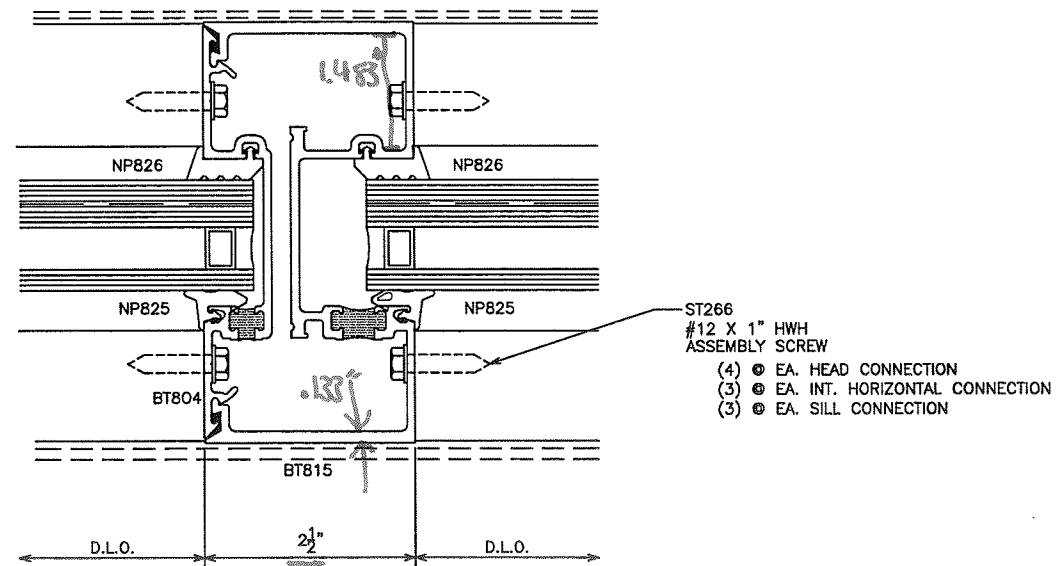
DATE
4/28/10

PROJECT NO.
2010-24

SHEET
3.01



3 JAMB DETAIL
BT601 (DEFENDER SERIES)
DRY GLAZE



5 VERTICAL DETAIL
BT601 (DEFENDER SERIES)
DRY GLAZE

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # A/225.01-122-12

Date 6/01/2010 Tech JG

NO.	REVISIONS	DATE	BY



CUSTOMER
ATI DERRY COURT
YORK, PA 17406

ARCHITECT

PROJECT
BT601 STC TEST
AND ANCHOR TEST

DRAWN BY
JCDS

PROJECT MANAGER
USAC-SC

DATE

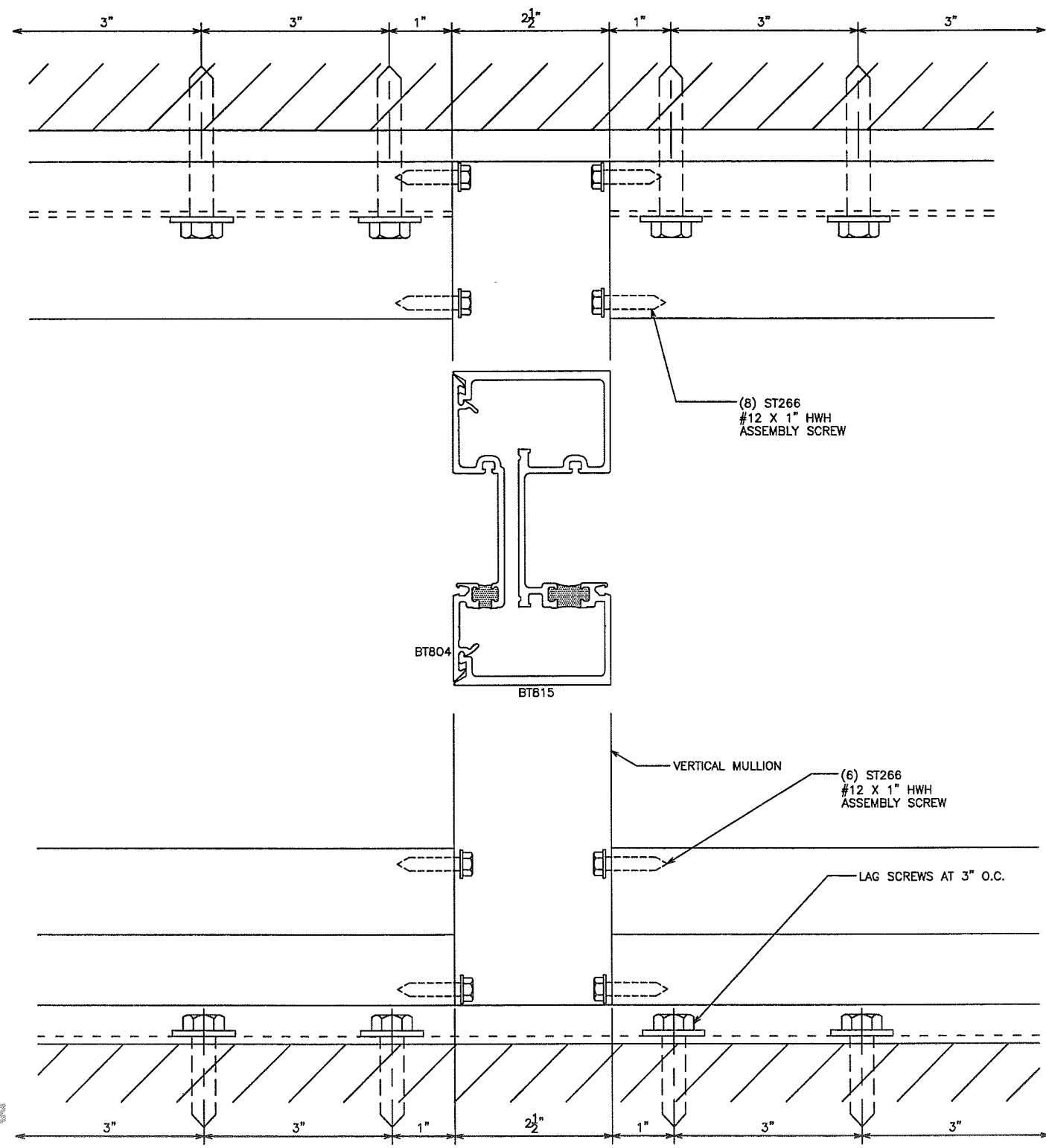
4/28/10

PROJECT NO.

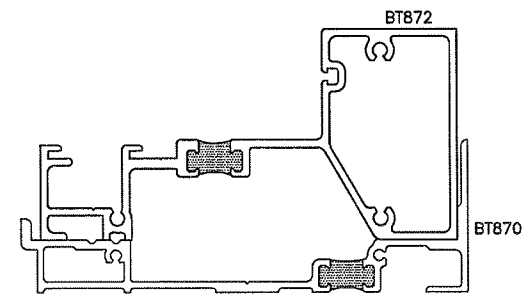
2010-24

SHEET

3.02



SILL ANCHOR VIEW



Architectural Testing
 Test sample complies with these details.
 Deviations are noted.
 Report # A1225 01-122-12
 Date 6/01/2010 Tech JG

NO.	REVISIONS	DATE	BY
CUSTOMER		ATI DERRY COURT YORK, PA 17406	
ARCHITECT			
PROJECT		BT601 STC TEST AND ANCHOR TEST	
DRAWN BY		JC DS	
PROJECT MANAGER		USAC-SC	
DATE		4/28/10	
PROJECT NO.		2010-24	
SHEET		3.03	