intertek
Total Quality. Assured.

GAMCO CORPORATION

MOCK-UP SUMMARY TEST REPORT

SCOPE OF WORK
PERFORMANCE MOCK-UP TESTING

REPORT NUMBER
M2387.02-120-32 R0

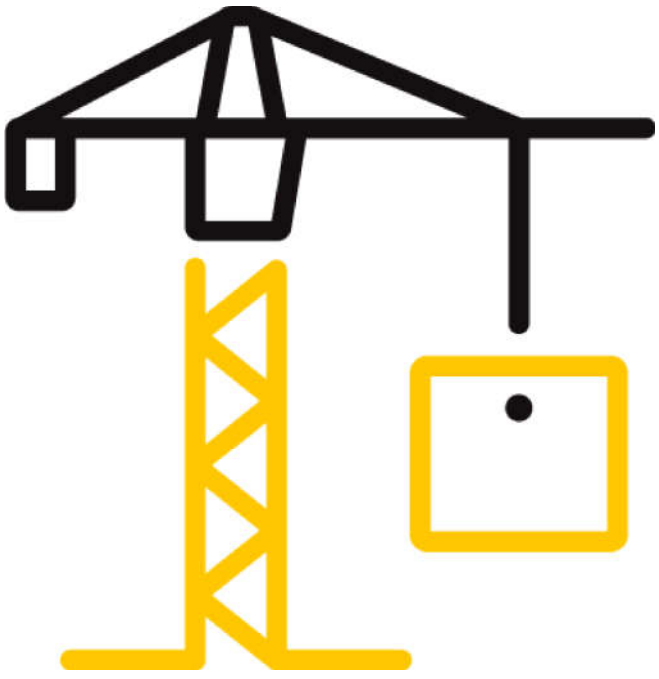
TEST DATES
05/14/21 - 06/02/21

ISSUE DATE
06/15/21

RECORD RETENTION END DATE
06/02/25

PAGES
29

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2744 (04/05/18)



130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION

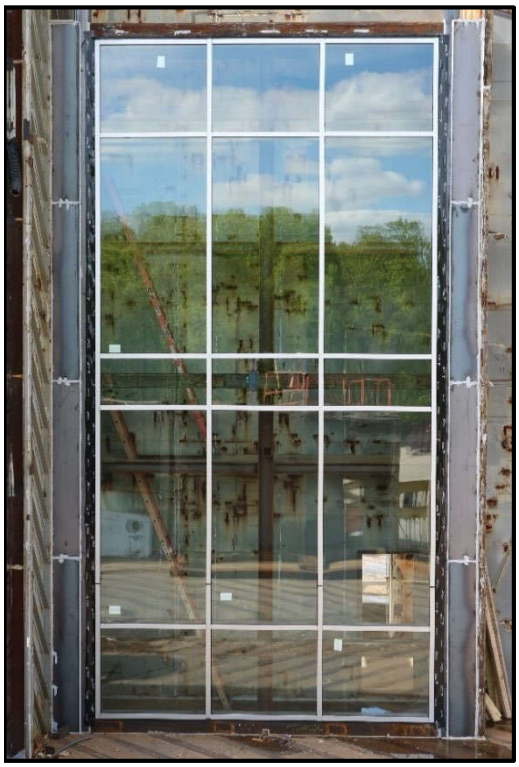
Report No.: M2387.02-120-32 R0
Date: 06/15/21

ISSUED TO

GAMCO COPRORATION
131-10 Maple
Flushing, NY 13355

PROJECT

TWIN SPAN LAB PMU



For INTERTEK B&C:

COMPLETED BY:	Jerry B. Gibboney Jr.	**COMPLETED BY:**	Thomas E. Lawlor
TITLE:	Technician II – Intertek Project Testing	**TITLE:**	Manager – Project Testing
SIGNATURE:	Digitally Signed by: Jerry Gibboney	**SIGNATURE:**	Digitally Signed by: Thomas E. Lawlor
DATE:	06/15/21	**DATE:**	06/15/21

JBG:rdw

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION
Report No.: M2387.02-120-32 R0
Date: 06/15/21

SECTION 1
SCOPE

Intertek Building & Construction (B&C) was contracted by Gamco Corporation to conduct performance testing on a curtain wall mock-up for the above referenced project at the Intertek test facility in York, PA. Results obtained are tested values and were secured in accordance with the attached test procedure dated 04/26/2021 and revised 06/02/2021. This report includes written and photographic documentation of testing performed. For comprehensive testing documentation, reference Test Report M2387.01-120-32 R0.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. This report and related test records that are retained such as "As-Built" mock-up drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be serviced by Intertek B&C for the entire test record retention period. At the end of this retention period, such materials shall be discarded without notice and the service life of this report by Intertek B&C will expire.

SECTION 2
TEST METHODS

Mock-up testing was performed in accordance with referenced test methods as specified in the bid documents.

Air Infiltration/Exfiltration: ASTM E283/E283M-19, *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*. Testing was conducted at 6.24 psf positive and negative static air pressure difference.

Static Pressure Water Resistance: ASTM E331-00(2016), *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*. Testing was conducted at 15.0 psf positive static air pressure difference for a 15-minute duration. Water was applied to the mock-up at a minimum rate of 5 gal/ft^2/hr.

Dynamic Pressure Water Resistance: AAMA 501.1-17, *Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure*. Testing was conducted with a dynamic pressure equivalent of 15.0 psf for a 15-minute duration. Water was applied to the mock-up at a minimum rate of 5 gal/ft^2/hr.

Structural Performance: ASTM E330/E330M-14, *Standard Test Method for Structural Performance of Exterior Windows, Door, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*. Testing was conducted at positive and negative loads as described in the test procedure and listed in the test results.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION
Report No.: M2387.02-120-32 R0
Date: 06/15/21

TEST METHODS (Continued)

Interstory Vertical Displacement Test: AAMA 501.7-17, *Recommended Static Test Method for Evaluating Windows, Window Wall, Curtain Wall and Storefront Systems Subjected to Vertical Inter-Story Movements.* Three complete cycles shall be performed in the vertical direction at the floor simulation. Testing was conducted at design displacement as described in the test procedure Test No. 5 and listed in the test results. The mock-up was inspected prior to and after the test.

Interstory Horizontal Displacement Test: AAMA 501.4-18, *Recommended Static Test Method for Evaluating Curtain Wall and Storefront Systems Subjected to Seismic and Wind Induced Interstory Drifts.* Three complete cycles shall be performed in the horizontal direction at the floor simulation. Testing was conducted at design displacement as described in the test procedure Test No. 8 and listed in the test results. The mock-up was inspected prior to and after the test.

Thermal Cycling: AAMA 501.5-07, *Test Method for Thermal Cycling of Exterior Walls*. Reference should be made to Test No. 11 in the attached test procedure and to the Test Results. The mock-up was inspected prior to and after the test.

SECTION 3
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Lelina Chang	Gamco
Melora Chang	Gamco
Konrad Sklodowski	Gamco
Ronald Chow	Gamco

SECTION 4
GENERAL MOCK-UP DESCRIPTION

Project Type
Aluminum and glass curtain wall system.

Mock-Up Size

Window Wall-Front: 15' 6" wide by 30' 0" high.

Material Source/Installation
The mock-up materials/components were supplied and installed by representatives from Gamco Corporation. The mock-up was installed in a steel chamber enclosure constructed by Intertek.

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION
Report No.: M2387.02-120-32 R0
Date: 06/15/21

SECTION 5
FINAL TEST RESULTS

DATE: 05/17/2021	**TEMP:** 67.2°F	**BP:** 29.76 inHg
TITLE OF TEST	**MEASURED**	**ALLOWED**
Preload @ +20.0 psf	No visible damage	No visible damage
Static Pressure Air Infiltration @ +6.24 psf	PASSED	
Fixed	≤0.01 cfm/ft^2	0.06 cfm/ft^2 max.
Static Pressure Water Resistance @ +15.0 psf	PASSED	
	No uncontrolled leakage	No uncontrolled leakage
DATE: 05/18/2021	**TEMP:** 72.3°F	**BP:** 29.81 inHg
TITLE OF TEST	**MEASURED**	**ALLOWED**
Dynamic Pressure Water Resistance @ 15.0 psf	PASSED	
	No uncontrolled leakage	No uncontrolled leakage
Interstory Vertical Displacement @ ±0.300" (3 cycles)	PASSED	
	No visible damage	No visible damage
Static Pressure Air Infiltration @ +6.24 psf	PASSED	
Fixed	≤0.01 cfm/ft^2	0.06 cfm/ft^2 max.
Static Pressure Water Resistance @ +15.0 psf	PASSED	
	No uncontrolled leakage	No uncontrolled leakage
Interstory Horizontal Parallel (Left/Right) Displacement @ ±0.375" (3 cycles)	PASSED	
	No visible damage	No visible damage
Static Pressure Air Infiltration @ +6.24 psf	PASSED	
Fixed	≤0.01 cfm/ft^2	0.06 cfm/ft^2 max.
Static Pressure Water Resistance @ +15.0 psf	PASSED	
	No uncontrolled leakage	No uncontrolled leakage
DATE through DATE: 05/25/2021 through 05/27/2021		
TITLE OF TEST	**MEASURED**	**ALLOWED**
Thermal Cycling @ -20.0°F—+180.0°F (3 Cycles)	PASSED	
	No visible damage	No visible damage

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION

Report No.: M2387.02-120-32 R0
Date: 06/15/21

FINAL TEST RESULTS (CONTINUED)

DATE: 06/02/2021	**TEMP:** 74.7°F	**BP:** 29.64 inHg
TITLE OF TEST	**MEASURED**	**ALLOWED**
Static Pressure Air Infiltration @ +6.24 psf	PASSED	
Fixed	≤0.01 cfm/ft^2	0.06 cfm/ft^2 max.
Static Pressure Water Resistance @ +15.0 psf	PASSED	
	No uncontrolled leakage	No uncontrolled leakage
Uniform Load Deflection	PASSED	
@ +20.0 psf (Preload)	No visible damage See Table #1 and Sketch #1.	No visible damage See Table #1 and Sketch #1.
@ +40.0 psf (Design Load)		
@ - 20.0 psf (Preload)		
@ - 40.0 psf (Design Load)		
Static Pressure Air Infiltration @ +6.24 psf	PASSED	
Fixed	≤0.01 cfm/ft^2	0.06 cfm/ft^2 max.
Static Pressure Water Resistance @ +15.0 psf	PASSED	
	No uncontrolled leakage	No uncontrolled leakage
Uniform Load Deflection	PASSED	
@ +25.0 psf (Preload)	No visible damage See Table #2 and Sketch #1.	No visible damage See Table #2 and Sketch #1.
@ +50.0 psf (Design Load)		
@ - 25.0 psf (Preload)		
@ - 50.0 psf (De`sign Load)		
Repeat Static Pressure Air Infiltration @ +6.24 psf	PASSED	
Fixed	≤0.01 cfm/ft^2	0.06 cfm/ft^2 max.
Static Pressure Water Resistance @ +15.0 psf	PASSED	
	No uncontrolled leakage	No uncontrolled leakage
Uniform Structural Overloads	PASSED	
@ +37.5 psf (Preload)	No visible damage See Table #3 and Sketch #1.	No visible damage See Table #3 and Sketch #1.
@ +75.0 psf (Overload)		
@ - 37.5 psf (Preload)		
@ - 75.0 psf (Overload)		
Seismic Horizontal Displacement Parallel @ ±1.625" (3 cycles)	PASSED	

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 6
CONCLUSION

The mock-up met the specified performance requirements.

Regarding the glass tested, no conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen are to be drawn from the test. Tape or film, or both, were used to seal against air leakage; this did not influence the results of the testing.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 7
TEST PROCEDURE

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

MOCK-UP TEST PROCEDURE
TWIN SPAN LAB PMU
Project No.: M2387.01-120-32
Date: 04/26/21 R1 06/2/2021

RENDERED TO
GAMCO CORPORATION
131-10 Maple
Flushing, NY 13355

PROJECT
TWIN SPAN LAB PMU

Mock-up testing for Twin Span Lab PMU shall be performed in accordance with referenced test methods as specified in the bid documents. Mock-up testing shall be observed by the Engineer and/or the Owner, Architect, and their consultants during construction and testing. All pretesting shall be documented and included in the comprehensive test report.

The final test procedure shall be as follows:

1. **PRELOAD (ASTM E330)**

   To set the specimen for testing, a positive pressure differential (inward acting) of **20.0 psf** (50% design load) will be held for a minimum of ten (10) seconds and then released. The wall and anchoring will be inspected for any failure.

   Allowable
   No visible signs of failure shall be allowed.

2. **STATIC AIR INFILTRATION TEST (ASTM E283)**

   The mock-up exterior face will be covered with polyethylene (plastic sheeting). The mock-up will then be subjected to a positive static pressure differential of **6.24 psf**. The air infiltration required to maintain the air pressure differential is measured. The polyethylene will be removed, and the mock-up specimen will again be subjected to a positive static pressure differential of **6.24 psf**. Air infiltration will be measured. The total air infiltration reading represents the amount of air through the specimen including chamber tare. Subtracting the chamber tare from the latter total reading yields the net amount of air infiltration through the mock-up. Dividing the mock-up air leakages by the mock-up area yields the air infiltration rate.

   Allowable
   Air infiltration shall not exceed **0.06 cfm** per square foot of fixed wall area.

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

3. STATIC WATER PENETRATION TEST (ASTM E331)

A fifteen (15) minute water penetration test will be conducted on the wall system with a water application rate of 5 gal/hr/ft^2 at a pressure differential of **15.0 psf**.

Allowable
No uncontrolled water penetration.

Note: Water penetration is defined as the appearance of uncontrolled water on the indoor face of any part of the work. "Controlled" water or condensation is that which is demonstrably drained harmlessly to the exterior of the work without endangering or wetting adjacent surfaces or insulation, and not visible in the final construction. This definition and conditions are relevant to all water tests, both static and dynamic, throughout this procedure.

4. DYNAMIC WATER PENETRATION (AAMA 501.1)

A fifteen (15) minute water penetration test will be conducted on the system with a water application rate of 5 gal/hr/ft^2 and dynamic air stream equivalent to static pressure of **15.0 psf**.

Allowable
No uncontrolled water penetration.

5. INTERSTORY DIFFERENTIAL VERTICAL MOVEMENT TEST (AAMA 501.7)

Three (3) complete cycles shall be performed uniformly in the vertical direction at the intermediate slab simulation. Vertical movement will be **0.300"** down, back to zero, **0.300"** up, and then back to zero (one cycle)

At completion of the final vertical movement cycle, the movement slab shall be left in the maximum open position. The slab will remain at this position for the remainder of the test procedure.

Allowable
There shall be no failure or gross permanent distortion of anchors, frame, glass, or panels. Structural silicone shall not experience adhesive or cohesive failure along any glass, frame, or panel edge. Glazing gaskets may not disengage, and weather seals may not fail.

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

6. **REPEAT STATIC AIR INFILTRATION TEST (ASTM E283)**

   The mock-up specimen will be subjected to a positive static pressure differential of **6.24 psf** Air infiltration will be measured.

   Allowable
   Air infiltration shall not exceed **0.06 cfm** per square foot of fixed wall area.

7. **REPEAT STATIC WATER PENETRATION TEST (ASTM E331)**

   Repeat Test No. 3 as stated above.

8. **INTERSTORY DIFFERENTIAL HORIZONTAL MOVEMENT TEST (AAMA 501.4)(LEFT-RIGHT)**

   Three (3) complete cycles shall be performed in the horizontal direction parallel to the main elevation at the intermediate slab simulation. Parallel horizontal movement will be **0.375"** to the left, back to zero, **0.375"** to the right, and then back to zero (one cycle).

   Allowable
   There shall be no failure or gross permanent distortion of anchors, frame, glass, or panels. Structural silicone shall not experience adhesive or cohesive failure along any glass, frame, or panel edge. Glazing gaskets may not disengage, and weather seals may not fail.

9. **REPEAT STATIC AIR INFILTRATION TEST (ASTM E283)**

   Repeat Test No. 6 as stated above.

10. **REPEAT STATIC WATER PENETRATION TEST (ASTM E331)**

    Repeat Test No. 3 as stated above.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

MOCK-UP TEST PROCEDURE
TWIN SPAN LAB PMU
Project No.: M2387.01-120-32
Date: 04/26/21 R1 06/2/2021

11. THERMAL CYCLES (AAMA 501.5)

The entire mock-up shall be subjected to **three (3)** thermal cycles. Each cycle shall be maintained for two hours after establishing the following temperatures and consist of:

1. Thermal Cycle Requirements (AAMA 501.5)
   a. Low exterior temperature of **-20.0°F** for two hours after establishing temperature.
   b. High exterior ambient temperature of **180.0°F** for two hours after establishing temperature.
   c. Interior temperature shall be maintained between **65.0°F** and **75.0°F**.

Allowable
Components used within the system shall withstand thermal movements without buckling, distortion, cracking, failure of glass, and failure of joint seals or undue stress on the finished surfaces, materials, or fixing assemblies.

12. REPEAT STATIC AIR INFILTRATION TEST (ASTM E283)

Repeat Test No. 6 as stated above.

13. REPEAT STATIC WATER PENETRATION TEST (ASTM E331)

Repeat Test No. 3 as stated above.

14. UNIFORM STRUCTURAL DESIGN LOAD TEST (ASTM E330)

Deflection of the system shall be measured and recorded at design pressure when held for **ten (10)** seconds and evaluated using the following allowable criteria:

Each load shall be held as follows:

+ 20.0 psf - 50% Positive Design Load
+ 40.0 psf - 100% Positive Design Load
- 20.0 psf - 50% Negative Design Load
- 40.0 psf - 100% Negative Design Load

Allowable Criteria
- Deflection Normal to Wall Plane: L/175 or 3/4" max.
- Deflection Normal to Wall Plane for Cantilevers: 2L/ 175
- Deflection Parallel to Glazing Plane: L/360 or 1/8" max.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

MOCK-UP TEST PROCEDURE
TWIN SPAN LAB PMU
Project No.: M2387.01-120-32
Date: 04/26/21 R1 06/2/2021

15. REPEAT STATIC AIR INFILTRATION TEST (ASTM E283)

Repeat Test No. 6 as stated above.

16. REPEAT STATIC WATER PENETRATION TEST (ASTM E331)

Repeat Test No. 3 as stated above.

17. UNIFORM STRUCTURAL DESIGN LOAD TEST (ASTM E330)

Deflection of the system shall be measured and recorded at design pressure when held for **ten (10)** seconds and evaluated using the following allowable criteria:

Each load shall be held as follows:

+ **25.0 psf** - 50% Positive Design Load
+ **50.0 psf** - 100% Positive Design Load
- **25.0 psf** - 50% Negative Design Load
- **50.0 psf** - 100% Negative Design Load

Allowable Criteria

- Deflection Normal to Wall Plane: L/175 or 3/4" max.
- Deflection Normal to Wall Plane for Cantilevers: 2L/ 175
- Deflection Parallel to Glazing Plane: L/360 or 1/8" max.

18. REPEAT STATIC AIR INFILTRATION TEST (ASTM E283)

Repeat Test No. 6 as stated above.

19. REPEAT STATIC WATER PENETRATION TEST (ASTM E331)

Repeat Test No. 3 as stated above.

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

MOCK-UP TEST PROCEDURE
TWIN SPAN LAB PMU
Project No.: M2387.01-120-32
Date: 04/26/21 R1 06/2/2021

20. UNIFORM STRUCTURAL OVER LOAD TEST (ASTM E330)

Permanent deformation of the system shall be measured and recorded at 1.5 x design pressure when held for ten (10) seconds and evaluated using the following allowable criteria:

Each load shall be held as follows:

+ **37.5 psf** - 75% Positive Design Load
+ **75.0 psf** - 150% Positive Design Load
- **37.5 psf** - 75% Negative Design Load
- **75.0 psf** - 150% Negative Design Load

Allowable
No material failures or structural distress of assemblies including anchorage. The net permanent set of main framing members shall not exceed **L/1000** of the clear span.

21. SEISMIC MOVEMENT DISPLACEMENT TEST (AAMA 501.4)

Three (3) complete cycles shall be performed in the horizontal direction parallel to the main elevation at the intermediate slab simulation. Parallel horizontal movement will be **1.625"** to the left, back to zero, **1.625"** to the right, and then back to zero (one cycle).

Allowable
At the conclusion of this test, there shall be no glass breakage and no permanent damage to frame members or anchors.

END OF TESTING

This test procedure dated April 26, 2021 and revised June 2, 2021, for Twin Span Lab PMU is approved as written.

For: Gamco Corporation

Signature

Qi Zhang

Name (please print)

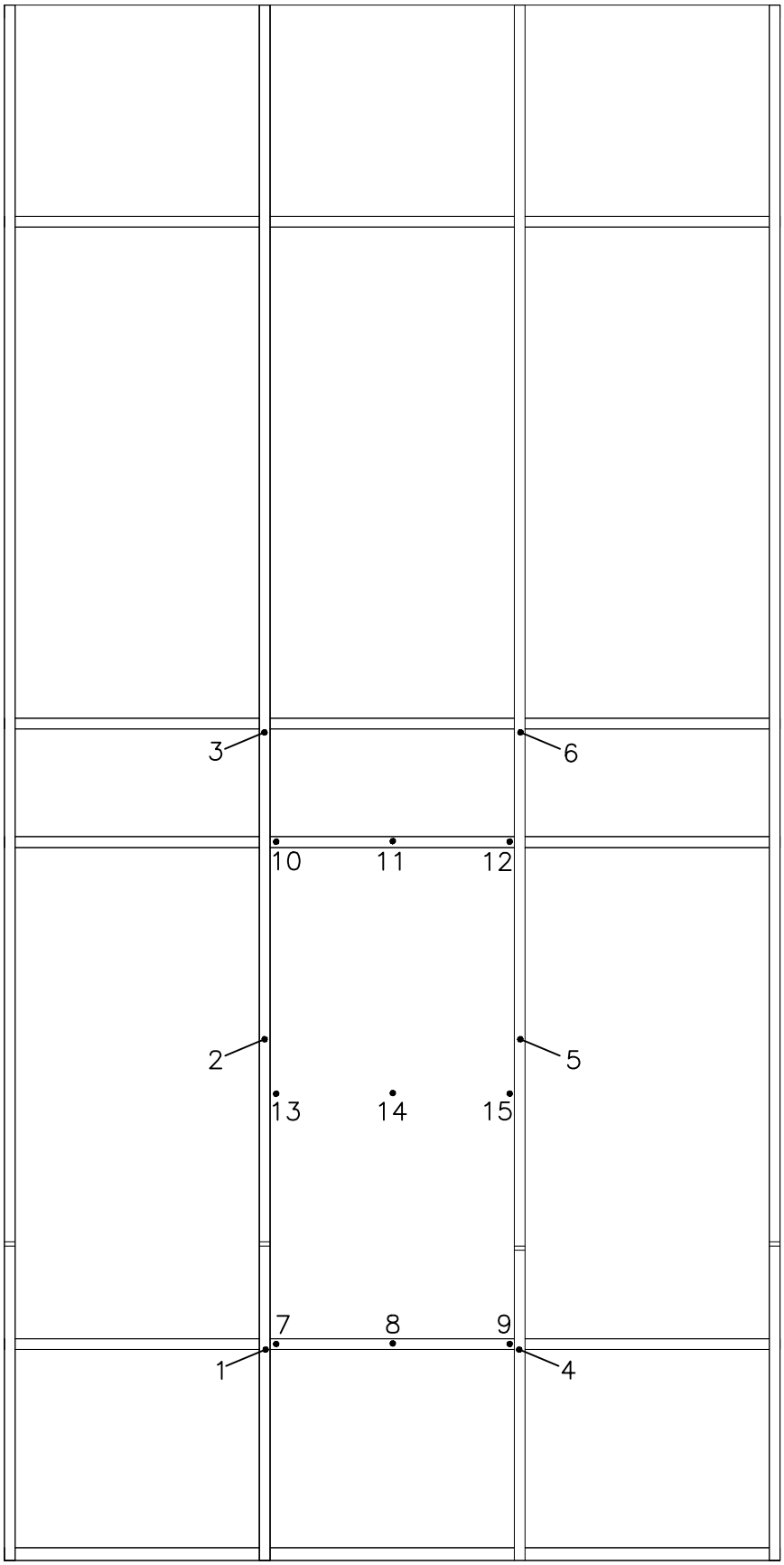
A signed copy of this Test Procedure must be returned prior to initiation of testing.
JBG:jwe
cc: M2387.01-120-32

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION
Report No.: M2387.02-120-32 R0
Date: 06/15/21

SECTION 8
SKETCHES



*Interior View

PROJECT NO.	PROJECT NAME:		DRAWING:	DRAWING BY:	SHEET
M2387.01	W250P TWIN SPAN LAB PMU CLIENT: GAMCO CORPORATION	intertek	SKETCH #1 DIAL INDICATOR LOCATIONS	JBG DATE: 06/02/21	1 1 OF

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION
Report No.: M2387.02-120-32 R0
Date: 06/15/21

SECTION 9
TABLES

TABLE #1 - Uniform Load Deflection (Deflection in inches)

INDICATOR LOCATION	POSITIVE 40.0 psf	NET DEFLECTION	NEGATIVE 40.0 psf	NET DEFLECTION	ALLOWED*
1	0.050		0.080		
2	0.080	0.015	0.615	0.335	0.823
3	0.080		0.480		
4	0.080		0.140		
5	0.155	0.010	0.580	0.375	0.823
6	0.210		0.270		
7	0.060		0.175		
8	0.085	0.013	0.225	0.008	0.326
9	0.085		0.260		
10	0.050		0.515		
11	0.110	0.000	0.415	0.003	0.326
12	0.170		0.310		
13	0.115		0.350		
14	0.485	0.323	0.830	0.315	NA
15	0.210		0.680		

**General Note*: *Allowable amounts are based on L/175 of their clear span for framing members. Refer to Sketch #1 for dial indicator locations and to the test procedure for additional information regarding allowable deflections.*

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION

Report No.: M2387.02-120-32 R0
Date: 06/15/21

TABLE #2 - Uniform Load Deflection (Deflection in inches)

INDICATOR LOCATION	POSITIVE 50.0 psf	NET DEFLECTION	NEGATIVE 50.0 psf	NET DEFLECTION	ALLOWED*
1	0.060		0.080		
2	0.070	0.010	0.060	-0.020	0.823
3	0.060		0.080		
4	0.110		0.110		
5	0.090	-0.015	0.540	0.450	0.823
6	0.100		0.070		
7	0.020		0.160		
8	0.090	0.020	0.450	0.265	0.326
9	0.120		0.210		
10	0.030		0.120		
11	0.080	0.040	0.100	-0.015	0.326
12	0.050		0.110		
13	0.100		0.480		
14	0.590	0.480	0.610	0.130	NA
15	0.120		0.480		

**General Note*: *Allowable amounts are based on L/175 of their clear span for framing members. Refer to Sketch #1 for dial indicator locations and to the test procedure for additional information regarding allowable deflections.*

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION

Report No.: M2387.02-120-32 R0
Date: 06/15/21

TABLE #3 - Uniform Structural Overloads (Permanent Set in inches)

INDICATOR LOCATION	POSITIVE 75.0 psf	NET PERM. SET	NEGATIVE 75.0 psf	NET PERM. SET	ALLOWED*
1	0.020		0.020		
2	0.070	0.040	0.050	0.020	0.144
3	0.040		0.040		
4	0.020		0.110		
5	0.020	-0.010	0.050	-0.025	0.144
6	0.040		0.040		
7	0.020		0.030		
8	0.020	-0.005	0.060	0.045	0.057
9	0.030		0.000		
10	0.030		0.020		
11	0.040	0.010	0.040	0.010	0.057
12	0.030		0.040		

***General Note**: Allowable amounts are based on L/1000 of their clear span for framing members. Refer to Sketch #1 for dial indicator locations and to the test procedure for additional information regarding allowable deflections.*

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SUMMARY TEST REPORT FOR GAMCO CORPORATION
Report No.: M2387.02-120-32 R0
Date: 06/15/21

SECTION 10
PHOTOGRAPHS

Photo No. 1
TARE BAG/CHAMBER CALIBRATION

Photo No. 2
DYNAMIC WATER PENETRATION @ 15.0 PSF

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

Photo No. 3
HYDRAULIC RAM FOR INTERSTORY VERTICAL MOVEMENT TESTING

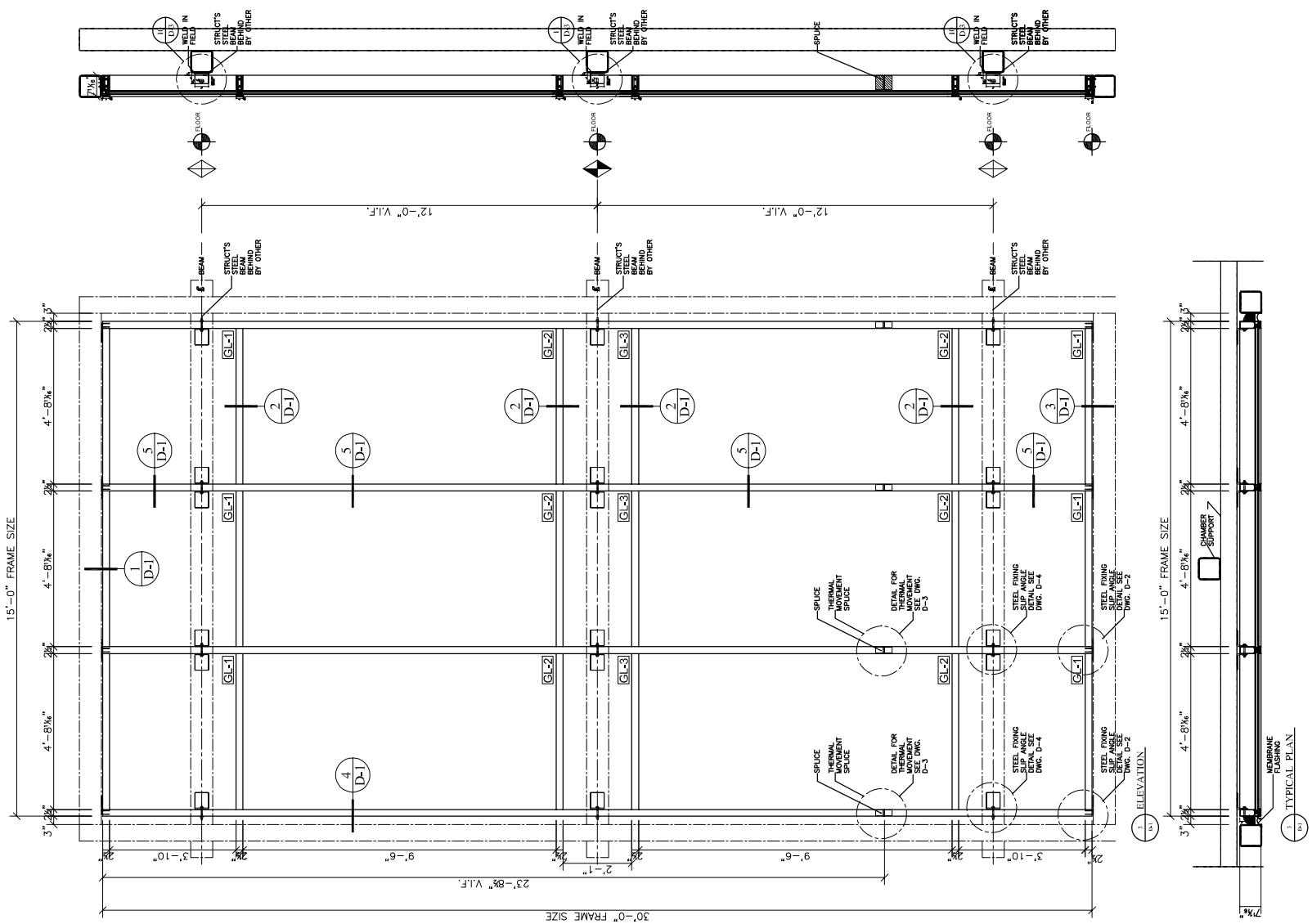
Photo No. 4
THERMAL CHAMBER

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 11
DRAWINGS

The "As-Built" drawings for CW-250P Performance Test, dated June 08, 2019, which follow, have been supplied by GAMCO CORPORATION as representative of the As-Completed project condition reported herein. Intertek bears no responsibility for the accuracy and/or completeness of the supplied drawings.



GENERAL NOTES

* ALL DIMENSIONS TO BE VERIFIED IN FIELD BY CONTRACTOR.

Glass size

1" insulated glass
(¼" clr. tm ½"spacer ¼" clr. tm)

GI-1 57⅞" x 47¼" -- 7pcs

GI-2 57⅞" x 115¼" – 7pcs

GI-3 57⅞" x 26¼" -- 4pcs

CONTRACTOR:

No:	Date:	Description:	Approved
04	6/08/2021	UPDATED DIMENSIONS	
03	4/20/2021	UPDATED DIMENSIONS	
02	4/13/2021	UPDATED DIMENSIONS	
01	4/08/2021	UPDATED DIMENSIONS	

REVISION

JOB NO.:

DRAWN BY: C.CHAN

CHECKED BY:

DRAWING NO.: A-1

DATE: 3-25-2021

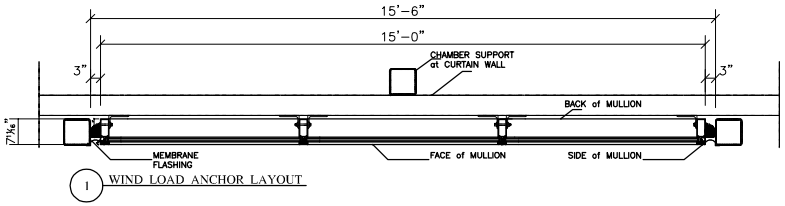
SCALE:

GAMCO CORPORATION
MANUFACTURERS OF FENESTRATION PRODUCTS
131-10 MAPLE AVE. FLUSHING, N.Y.11355
TEL: (718)359-8833 FAX: (718)359-8661
info@gamcocorp.com www.gamcocorp.com

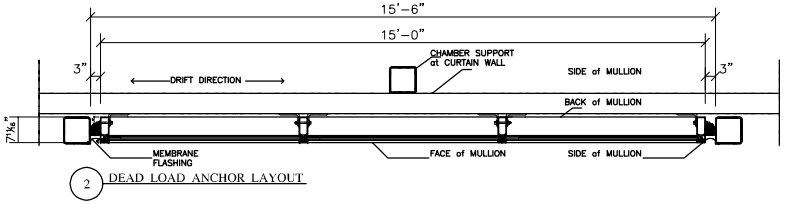
PROJECT: CW250P
POLYAMIDE PRESSURE BAR CURTAIN WALL

TITLE: PLAN & ELEVATION

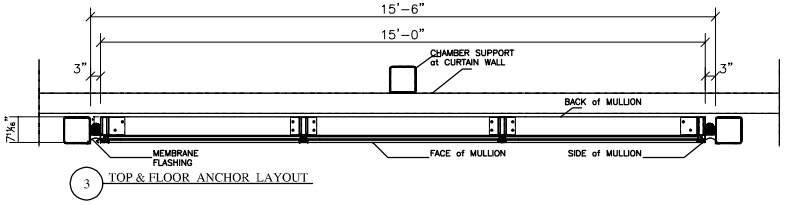
CW-250P TEST MOCK UP



1 WIND LOAD ANCHOR LAYOUT



2 DEAD LOAD ANCHOR LAYOUT



3 TOP & FLOOR ANCHOR LAYOUT

TEST SPECIMEN : GAMCO MODEL CW250P MULTISTORY ALUMINUM CURTAIN WALL.

GENERAL : THE TEST SPECIMEN IS A TWO STORY TALL ELEVATION VARIES GLASS INFILL AND A MULLION SPLICE. THIS IS INSTALLED IN A TEST CHAMBER STRUCTURE WITH THREE LEVELS OF SUPPORT REPRESENTING TWO FLOORS OF PRIMARY BUILDING STRUCTURE.

DEFLECTION CRITERIA : WALL PLANE: L/175 SPAN
WALL PLANE for CANTILEVERS: 2L/175
PARALLEL to GLAZING PLANE: L/360

TEST PROCEDURE :

1. PRELOAD (E330) @50% DESIGN LOAD @20.0 psf.
2. STATIC AIR INFILTRATION (E283) @6.24 psf.
3. STATIC WATER PENETRATION (E331) @15.0 psf.
4. DYNAMIC WATER PENETRATION (AAMA 501.1) @15.0 psf.
5. INTERSTORY DIFFERENTIAL VERTICAL MOVEMENT (AAMA 501.7) @0.300" UP-DOWN.
6. REPEAT STATIC AIR INFILTRATION (E283) @6.24 psf.
7. REPEAT STATIC WATER PENETRATION (E331) @15.0 psf.
8. INTERSTORY DIFFERENTIAL HORIZONTAL MOVEMENT (AAMA 501.4) @0.375" LEFT-RIGHT.
9. REPEAT STATIC AIR INFILTRATION (E283) @6.24 psf.
10. REPEAT STATIC WATER PENETRATION (E331) @15.0 psf.
11. THERMAL CYCLES (AAMA501.5) LOW INTERIOR @-20.0°F. HIGH EXTERIOR @180.0°F, INTERIOR @65.0°F & 75.0°F.
12. REPEAT STATIC AIR INFILTRATION (E283) @6.24 psf.
13. REPEAT STATIC WATER PENETRATION (E331) @15 psf.
14. UNIFORM STRUCTURAL DESIGN LOAD (E330) @50% ±20.0 psf. DESIGN LOAD (E330) @100% ±40.0 psf.
15. REPEAT STATIC AIR INFILTRATION (E283) @6.24 psf.
16. REPEAT STATIC WATER PENETRATION (E331) @15.0 psf.
17. UNIFORM STRUCTURAL DESIGN LOAD (E330) @50% ±25.0 psf. DESIGN LOAD (E330) @100% ±50.0 psf.
18. REPEAT STATIC AIR INFILTRATION (E283) @6.24 psf.
19. REPEAT STATIC WATER PENETRATION (E331) @15 psf.
20. UNIFORMS STRUCTURAL OVER LOAD (E330) @75% ±37.5 psf. OVERLOAD (E330) @150% ±75.0 psf.
21. SEISMIC MOVEMENT DISPLACEMENT (AAMA 501.4) @1.625" LEFT & RIGHT.

INSULATED GLASS : 1"CLEAR INSULATED GLASS MAKE UP : 1/4" CLEAR TEMPERED GLASS 1/2" AIR SPACER AND 1/4" CLEAR TEMPERED GLASS.

GENERAL NOTES

* ALL DIMENSIONS TO BE VERIFIED IN FIELD BY CONTRACTOR.

Glass size

1" insulated glass
(1/4" clr. tm 1/2"spacer 1/4" clr. tm)

GI-1 57 7/8" x 47 1/4" -- 7pcs

GI-2 57 7/8" x 115 1/4" -- 7pcs

GI-3 57 7/8" x 26 1/4" -- 4pcs

CONTRACTOR:

No:	Date:	Description:	Approved

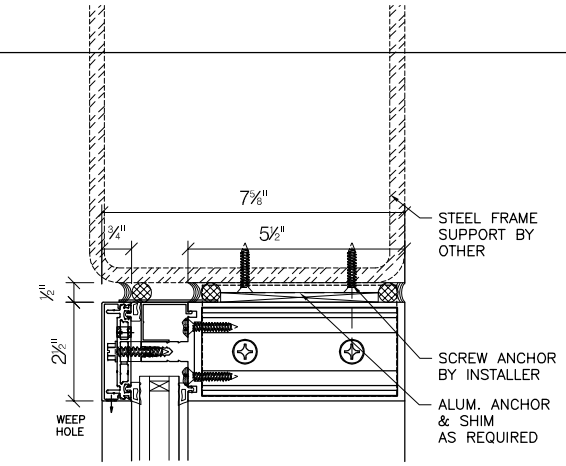
REVISION

JOB NO.:	DRAWN BY: C.CHAN
	CHECKED BY:
DRAWING NO.: A-0	DATE: 6-08-2021
	SCALE:

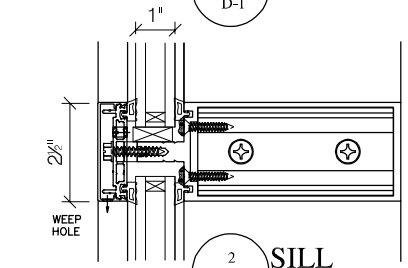
GAMCO CORPORATION
MANUFACTURERS OF FENESTRATION PRODUCTS
131-10 MAPLE AVE. FLUSHING, N.Y.11355
TEL: (718)359-8833 FAX: (718)359-8661
Info@gamcocorp.com www.gamcocorp.com

PROJECT:
CW250P
POLYAMIDE PRESSURE BAR CURTAIN WALL

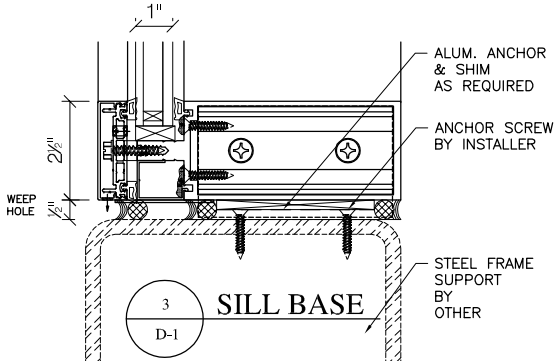
TITLE:
MOCK UP PLAN



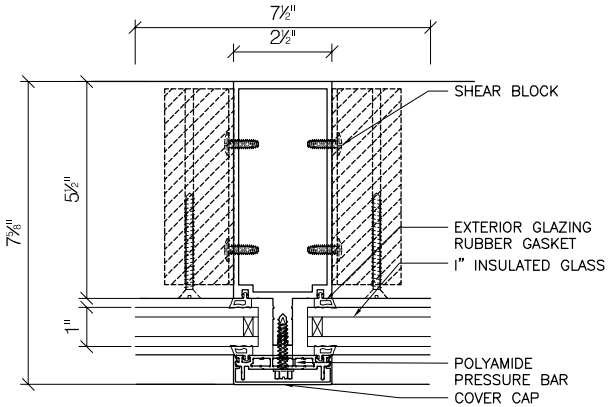
1 D-1 HEAD



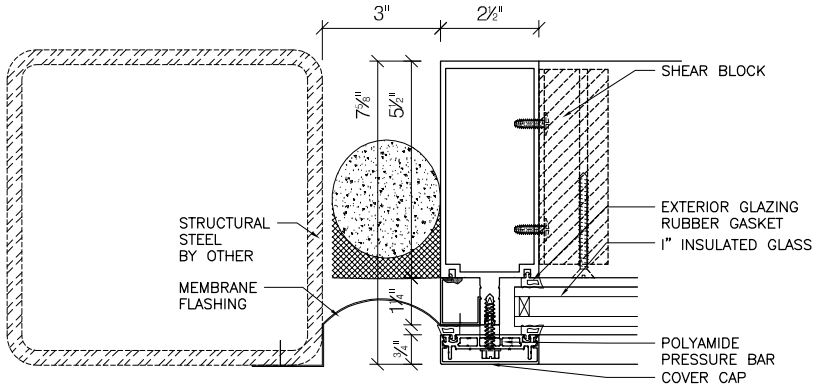
2 D-1 SILL



3 D-1 SILL BASE



5 D-1 MULLION



4 D-1 EDGE

GENERAL NOTES

* ALL DIMENSIONS TO BE VERIFIED IN FIELD BY CONTRACTOR.

CONTRACTOR:

No:	Date:	Description:	Approved
04	6/08/2021	UPDATED DIMENSIONS	
03	4/20/2021	UPDATED DIMENSIONS	
02	4/13/2021	UPDATED DIMENSIONS	
01	4/8/2021	UPDATED DIMENSIONS	

REVISION

JOB NO.:

DRAWN BY: C.CHAN

CHECKED BY:

DRAWING NO.: D-1

DATE: 3-25-2021

SCALE: 3":1'-0"

GAMCO CORPORATION
MANUFACTURERS OF FENESTRATION PRODUCTS
131-10 MAPLE AVE. FLUSHING, N.Y.11355
TEL: (718)359-8833 FAX: (718)359-8661
Info@gamcocorp.com www.gamcocorp.com

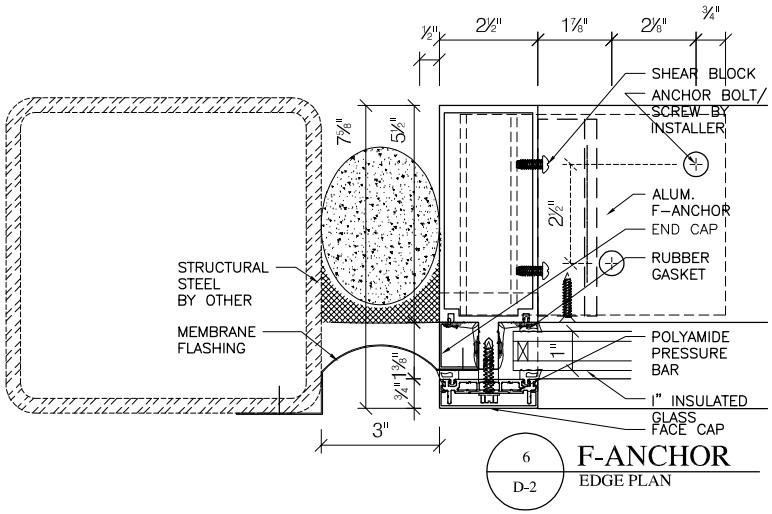
PROJECT:

CW250P

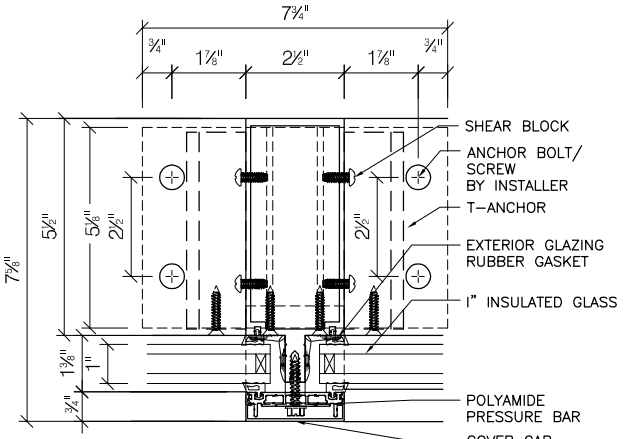
POLYAMIDE PRESSURE BAR CURTAIN WALL

TITLE:

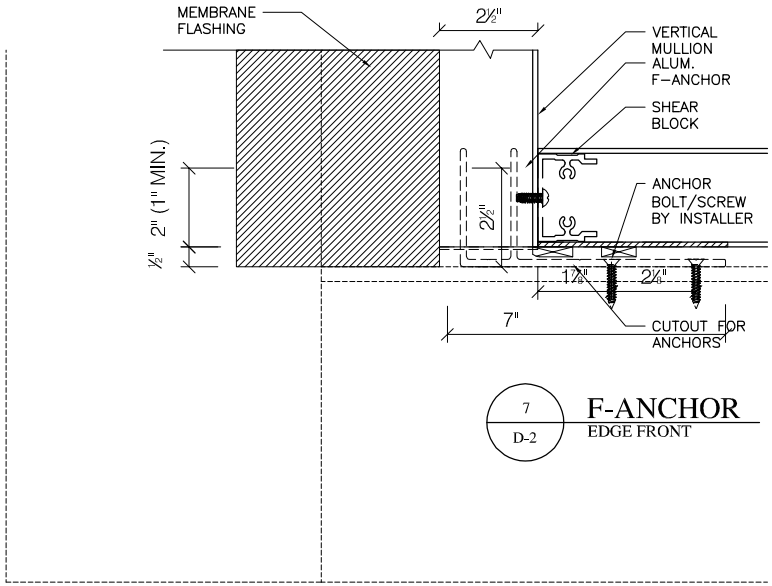
TYPICAL DETAILS



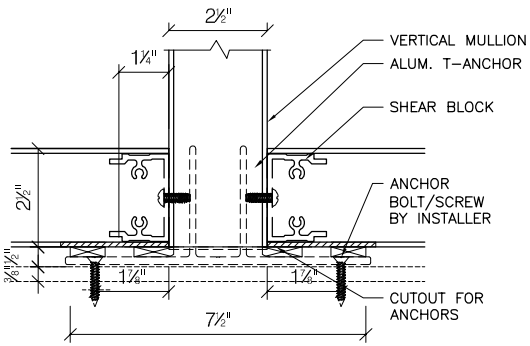
6 / D-2 **F-ANCHOR**
EDGE PLAN



8 / D-2 **T-ANCHOR**
MULLION PLAN



7 / D-2 **F-ANCHOR**
EDGE FRONT



9 / D-2 **T-ANCHOR**
MULLION FRONT

GENERAL NOTES

* ALL DIMENSIONS TO BE VERIFIED IN FIELD BY CONTRACTOR.

CONTRACTOR:

No:	Date:	Description:	Approved
04	6/08/2021	UPDATED DIMENSIONS	
03	4/20/2021	UPDATED DIMENSIONS	
02	4/13/2021	UPDATED DIMENSIONS	
01	4/8/2021	UPDATED DIMENSIONS	

REVISION

JOB NO.:

DRAWN BY: C.CHAN

CHECKED BY:

DRAWING NO.: D–2

DATE: 3–25–2021

SCALE: 3":1'–0"

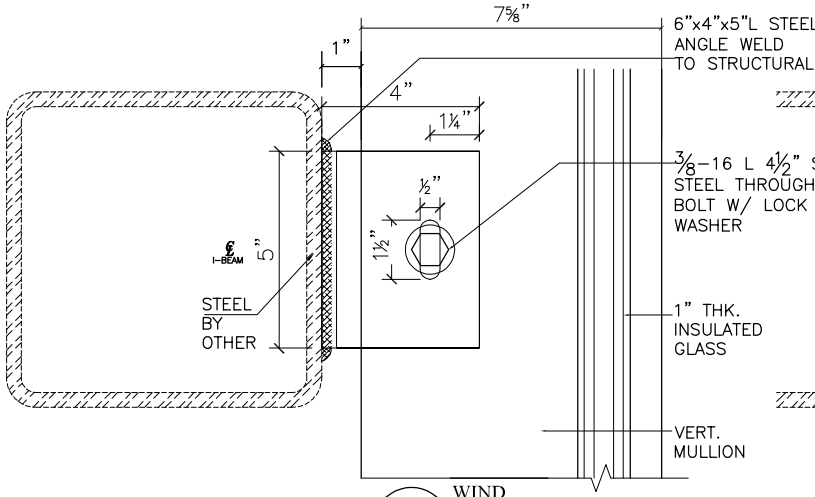
GAMCO CORPORATION
MANUFACTURERS OF FENESTRATION PRODUCTS
131-10 MAPLE AVE. FLUSHING, N.Y.11355
TEL: (718)359-8833 FAX: (718)359-8661
Info@gamcocorp.com www.gamcocorp.com

PROJECT:

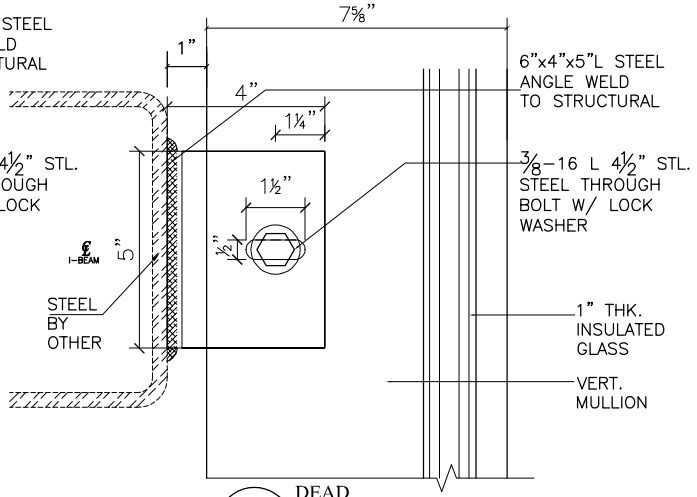
CW250P
POLYAMIDE PRESSURE BAR CURTAIN WALL

TITLE:

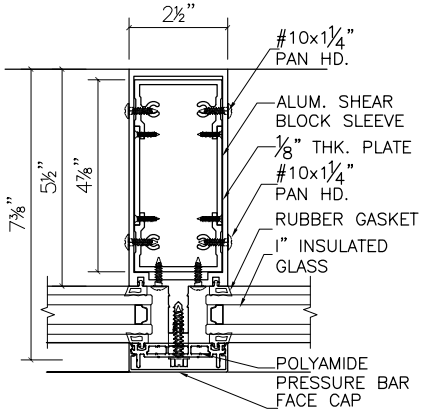
TYPICAL DETAILS
F & T, @TOP & FLOOR ANCHOR



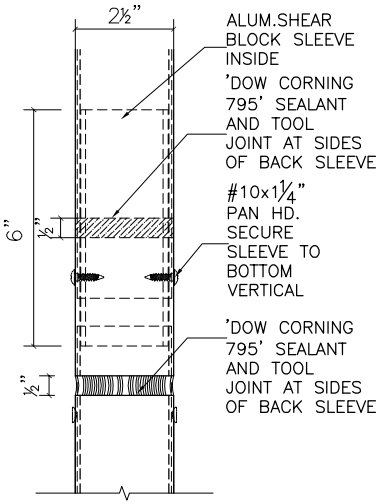
10 / D-3 WIND LOAD ANCHOR



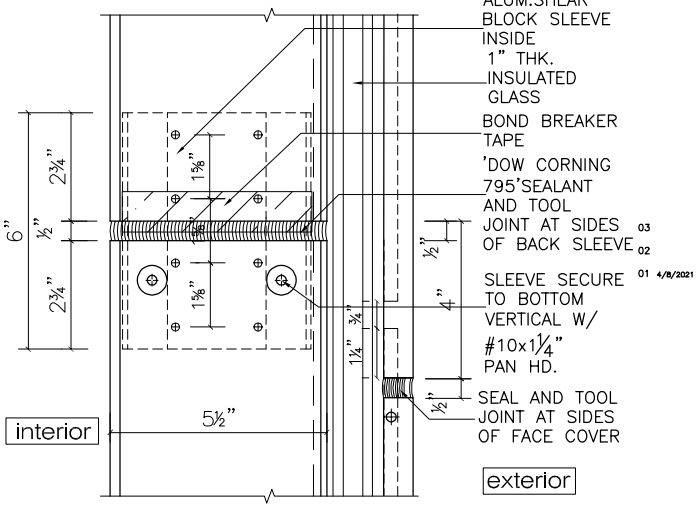
11 / D-3 DEAD LOAD ANCHOR



12 / D-3 EXPANSION JOINT PLAN



13 / D-3 EXPANSION JOINT FRONT



14 / D-3 EXPANSION JOINT SIDE

GENERAL NOTES

* ALL DIMENSIONS TO BE VERIFIED IN FIELD BY CONTRACTOR.

CONTRACTOR:

No:	Date:	Description:	Approved
04	6/08/2021	UPDATED DIMENSIONS	
03	4/20/2021	UPDATED DIMENSIONS	
02	4/13/2021	UPDATED DIMENSIONS	
01	4/8/2021	UPDATED DIMENSIONS	

REVISION

JOB NO.:

DRAWN BY: C.CHAN

CHECKED BY:

DRAWING NO.: D-3

DATE: 3-25-2021

SCALE: 3":1'-0"

GAMCO CORPORATION
MANUFACTURERS OF FENESTRATION PRODUCTS
131-10 MAPLE AVE. FLUSHING, N.Y.11355
TEL: (718)359-8833 FAX: (718)359-8661
Info@gamcocorp.com www.gamcocorp.com

PROJECT:

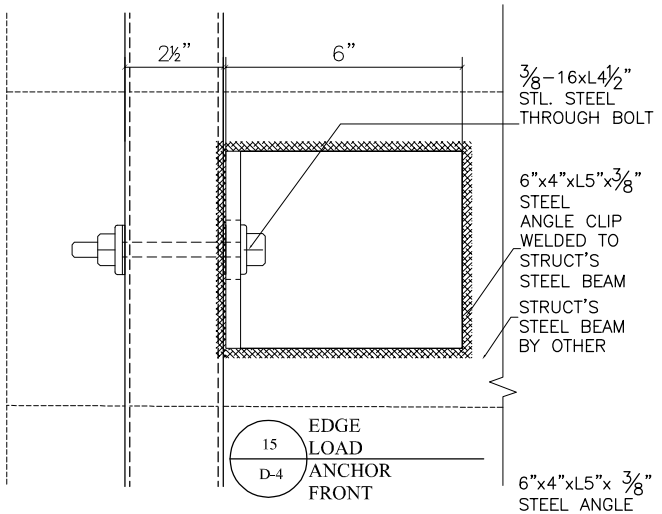
CW250P

POLYAMIDE PRESSURE BAR CURTAIN WALL

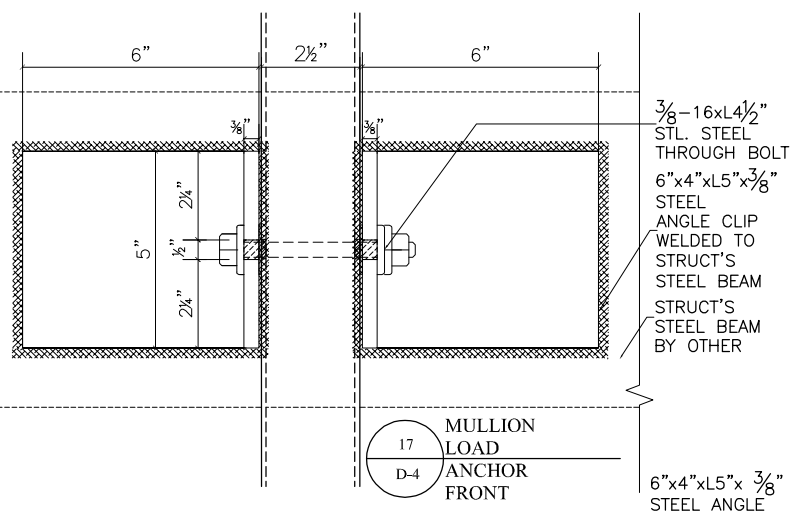
TITLE:

TYPICAL DETAILS

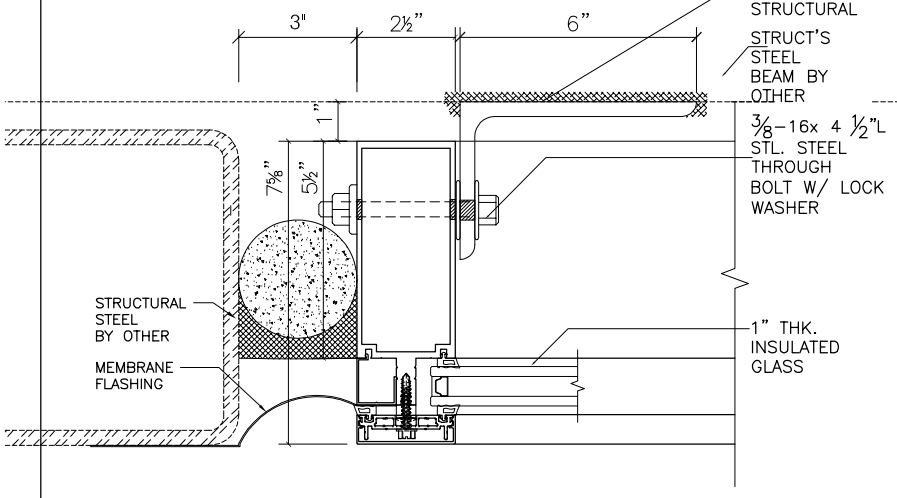
EXPANSION JOINT, W/D LOAD ANCHORS



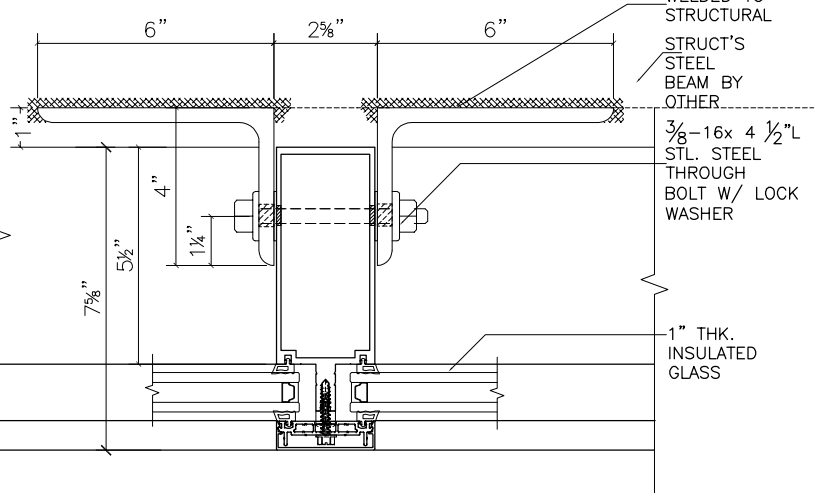
15 D-4 EDGE LOAD ANCHOR FRONT



17 D-4 MULLION LOAD ANCHOR FRONT



16 D-4 EDGE LOAD ANCHOR PLAN



18 D-4 MULLION LOAD ANCHOR PLAN

GENERAL NOTES

* ALL DIMENSIONS TO BE VERIFIED IN FIELD BY CONTRACTOR.

CONTRACTOR:

No:	Date:	Description:	Approved
04	6/08/2021	UPDATED DIMENSIONS	
03	4/20/2021	UPDATED DIMENSIONS	
02	4/13/2021	UPDATED DIMENSIONS	
01	4/8/2021	UPDATED DIMENSIONS	

REVISION

JOB NO.:

DRAWN BY: C.CHAN

CHECKED BY:

DRAWING NO.: D–4

DATE: 3–25–2021

SCALE: 3":1'–0"

GAMCO CORPORATION
MANUFACTURERS OF FENESTRATION PRODUCTS
131-10 MAPLE AVE. FLUSHING, N.Y. 11355
TEL: (718)359-8833 FAX: (718)359-8661
Info@gamcocorp.com www.gamcocorp.com

PROJECT:

CW250P
POLYAMIDE PRESSURE BAR CURTAIN WALL

TITLE:

TYPICAL DETAILS
DEAD & WIND LOAD ANCHOR

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 12
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	06/15/21	N/A	Summary Report Issue