

CARTER ARCHITECTURAL PANELS, INC. FLORIDA BUILDING CODE TEST REPORT

SCOPE OF WORK

TAS 201, TAS 202, AND TAS 203 TESTING ON ETALBOND® FR (4 MM) ACM PANELS FIXED ON THE EVO™ RIVETLESS™ ATTACHMENT SYSTEM

REPORT NUMBER

L6029.01-109-18

TEST DATE(S)

08/25/22 – 12/13/22

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TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

Date: 01/26/23

REPORT ISSUED TO

CARTER ARCHITECTURAL PANELS, INC.

7925 East Ray Road, Suite 133

Mesa, Arizona 85212

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Carter Architectural Panels, Inc. to perform TAS 201, TAS 202, and TAS 203 testing in accordance with Florida Building Code for High Velocity Hurricane Zone requirements on their EVO™ Rivetless™ System clad with etalbond® FR (4 mm), aluminum composite panels. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in York, Pennsylvania.

For INTERTEK B&C:

COMPLETED BY:	Jason R. Zeller
TITLE:	Technician – Product Testing
SIGNATURE:	
DATE:	01/26/23

REVIEWED BY:	Tanya A. Dolby, P.E.
TITLE:	Engineering Manager – Engineering Services
SIGNATURE:	
DATE:	01/26/23

JRZ:nls

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SECTION 2

SUMMARY OF TEST RESULTS

The specimen(s) tested met the performance requirements set forth in the protocols.

TEST SPECIMEN	TEST PROTOCOL	DESIGN PRESSURE
1	TAS 201/TAS 203 (Large Missile)	+100.00 / -75.00 psf
2	TAS 201/TAS 203 (Large Missile)	+100.00 / -75.00 psf
3	TAS 201/TAS 203 (Large Missile)	+100.00 / -75.00 psf
4 & 5	TAS 202	+100.00 / -75.00 psf

SECTION 3

TEST METHOD(S)

The specimens were evaluated in accordance with the following:

TAS 201-94, *Impact Test Procedures*

TAS 202-94, *Criteria for Testing Impact & Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure*

TAS 203-94, *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading*

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimens were provided by the client. Representative samples of the test specimens will be retained by Intertek B&C for a minimum of ten years from the test completion date.

The specimen was installed onto a wood-wrapped steel stud wall. The rough opening allowed for no shim space. The interior perimeter of the wall was sealed with sealant. Installation of the tested product was performed by the client.

Test Wall Construction:

The test wall was constructed of 18-gauge, 2x6 steel studs, spaced 16" on center. The studs were secured with #8 x 1/2" self-tapping pancake head screws, through the head and sill, and into the studs. The test wall was sheathed with two 4' by 8', 5/8" thick sheets of exterior gypsum with a single horizontal joint and secured to studs with #8 x 1" pan head screws. The steel stud wall was then wrapped with nominal 2x10 lumber and secured with #10 x 1-1/2" pan head screws spaced 10" on center and staggered along the perimeter, through the steel studs and into the lumber. The jambs of the wrap were secured to the head and sill of the wrap with #8 x 3" drywall screws, through the jambs and into the head and sill.

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Test Specimens #1 - #3 (TAS 201/TAS 203) and Test Specimen #4 (Negative TAS 202) Installation:

A 1" high x 1.5" deep 18-gauge G-90 Galvanized J-channel was fastened around the perimeter of the test wall using #14 x 1-1/2" self-drilling 5/16" hex head screws, spaced 16" on center. 1-1/2" wide by 1" high 18-gauge G-90 galvanized steel hat channels were installed horizontally spaced 16" on center and fastened through the hat channel, through the sheathing, and into the steel studs using two #14 x 1-1/2" self-drilling 5/16" hex head screws per stud, spaced 16" on center. Carter's patent EVO™ Starter profile, made from a 1-1/2" tall by 1/2" deep, 0.100" thick extruded aluminum was installed horizontally at the bottom of the wall, fastened with #14 x 1" self-drilling hex head screws, through the starter extrusion, through the perimeter Galvanized J-channel, spaced 16" on center. A 94-1/2" by 47" etalbond® FR (4 mm) panel was installed at the lower half of the test wall. The bottom of the etalbond® FR panel was interlocked with the EVO™ starter extrusion and fastened with four extruded EVO™ aluminum Half-clips on each side of the panel and six EVO™ Mid-clips along the top of the panel. All attachment clips were retained on the EVO™ patent perimeter extrusion utilizing the sliding clip installation rail. The finished etalbond® FR panels were held in place by EVO™ clips and fastened to the horizontal hat channels using one #14-14 x 7/8" long, 3/8" hex head self-drilling screw per clip. Two of the clips on each side were fastened through the perimeter J-channel, and into the hat channels; and two of the clips were fastened into the perimeter J-channel, using one #14-14 x 7/8" long, 3/8" hex head screws per clip. Two 47" by 47" etalbond® FR panels were installed on the upper half of the test wall. The bottoms of the two etalbond® FR panels were interlocked into the EVO™ Mid-clips along the top of the lower panel. Four EVO™ Mid-clips and three EVO™ Half-clips were slid on to the EVO™ patent perimeter extrusion utilizing the sliding clip installation rail along the outside of each 47" by 47" etalbond® panel. The EVO™ Half-clips were fastened through the J-channel, and into the hat-channels using one #14-14 x 7/8" long, 3/8" self-drilling hex head screws per clip. A 94-1/2" by 2" etalbond® FR reveal strip consisting of three layers, an interior and exterior 0.020" thick aluminum skin and a 0.120" thick core, was slid horizontally between the panels. Another 47" by 2" reveal strip was slid vertically between the two top panels.

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Test Specimen #5 (Positive TAS 202) Installation:

1-1/2" wide by 1" high 18-gauge G-90 galvanized steel hat-channels were installed horizontally spaced 16" on center and fastened through the hat channel, through the sheathing, and into the steel studs using two #14 x 1-1/2" self-drilling 5/16" hex head screws with steel and rubber washers every 16" on center. Carter's patent EVO™ Starter profile, made from 1-1/2" tall by 1/2" deep, 0.100" thick extruded aluminum was installed horizontally at the bottom of the wall, fastened with #14 x 1" self-drilling hex head screws, through the starter extrusion and into the hat channel, spaced 16" on center. A 94-1/2" by 47" etalbond® FR (4 mm) panel was installed at the lower half of the test wall. The bottom of the etalbond® FR panel was interlocked with the EVO™ starter extrusion and fastened with two extruded EVO™ aluminum Half-clips on each side of the panel and six EVO™ Mid-clips along the top of the panel. All attachment clips were retained on the EVO™ patent perimeter extrusion utilizing the sliding clip installation rail. The finished etalbond® FR panels held in place by EVO™ clips were fastened to the horizontal hat channels using one #14-14 x 7/8" long, 3/8" hex head self-drilling screw per clip. Two 47" by 47" etalbond® FR panels were installed on the upper half of the test wall. The bottoms of the two etalbond® FR panels were interlocked into the EVO™ Mid-clips along the top of the lower panel. Two EVO™ Mid-clips and two EVO™ Half-clips were slid on to the EVO™ patent perimeter extrusion utilizing the sliding clip installation rail along the outside of each 47" by 47" etalbond® FR panel. The EVO™ Half-clips were fastened through the hat-channel using one #14-14 x 7/8" long, 3/8" self-drilling hex head screw per clip. A 94-1/2" by 2" etalbond® FR reveal strip consisting of three layers, an interior and exterior 0.020" thick aluminum skin and a 0.120" thick core, was slid horizontally between the panels. Another 47" by 2" reveal strip was slid vertically between the two top panels.

TAS 202 Panel Description:

The etalbond® FR panels measured 0.165" (4 mm) thick and were comprised of two pre-coated 0.500 mm thick aluminum skins with a fire-retardant core. The rear side of the panel was double routed at a depth of 0.121" to 0.13" (~3.08 - 3.30 mm) and returned upward and inwards one time with a height of 1" around the etalbond® FR panel perimeter. Each corner was mitered and interlocked with the EVO™ "clicklock" design. Custom extruded EVO™ perimeter rails were placed inside the double route and return track around the perimeter of the interior side of the panel. The meeting points at the corners of all EVO™ perimeter extrusions were reinforced with 2-1/2" by 2-1/2" by .080" horizontal aluminum corner brackets, fastened through the perimeter extrusion with two of Carter's #8 x 3/4" self-drilling Torxlig screws. Each perimeter rail was also secured to the etalbond® FR ACM panel with Carter's #8 x 3/4" Torxlig screws, spaced 16" on center around the panel perimeter from the back. Carter's patented 2" wide by 1-1/2" tall integrated extruded aluminum stiffeners were installed, 16" on center, on the interior of the panel, secured at the ends with one 2-1/2" by 2-1/2" by .080" horizontal aluminum angle, fastened with two #8 x 3/4" self-drilling Torxlig screws. The stiffeners were primarily secured by Carter's proprietary "Structural Stiffener Tape" and a secondary bead of structural silicone on each beveled edge of the stiffener.

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TAS 201/TAS 203 Panel Description:

The etalbond® FR panels measured 0.165" (4 mm) thick and were comprised of two pre-coated 0.500 mm thick aluminum skins with a fire-retardant core. The rear side of the panel was double routed at a depth of 0.121" to 0.13" (~3.08 - 3.30 mm) and returned upward and inwards one time with a height of 1" around the etalbond® FR panel perimeter. A 0.038" thick sheet of G-90 galvanized steel was adhered to the interior of the panel using Carter's proprietary "Structural Stiffener Tape". Custom extruded EVO™ perimeter rails were placed inside the double route and return track around the perimeter of the interior side of the panel, pinning the galvanized steel sheet between the panel and EVO™ perimeter rails and the etalbond® FR panels. Each corner was mitered and interlocked with the EVO™ "clicklock" design. The meeting points at the corners of all EVO™ perimeter extrusions were reinforced with 2-1/2" by 2-1/2" by .080" horizontal aluminum corner bracket, fastened through the perimeter extrusion with two of Carter's #8 x 3/4" self-drilling Torxlig screws. Each perimeter rail was also secured to the etalbond® FR ACM panel with Carter's #8 x 3/4" Torxlig screws, spaced 16" on center around the panel perimeter from the back. Carter's patented 2" wide by 1-1/2" tall integrated extruded aluminum stiffeners were installed, 16" on center, on the interior of the panel, secured at the ends with one 2-1/2" by 2-1/2" by .080" horizontal aluminum angle and fastened with two #8 x 3/4" self-drilling Torxlig screws. The stiffeners were primarily secured by Carter's proprietary "Structural Stiffener Tape" and a secondary bead of structural silicone on each beveled edge of the stiffener.

SECTION 5

EQUIPMENT

Cannon: Constructed from steel piping utilizing compressed air to propel the missile - A1207

Missile: 2x4 Southern Pine

Timing Device: Electronic beam type

Cycling Mechanism: Computer controlled centrifugal blower with electronic pressure measuring device - 003921, 005644

Deflection Measuring Device: Linear Transducers – 003420, 003439, 62182, 62185, 62187, 62189, 64367, 64325, 64368, 64460, 64461, Y003056, Y003060

Tape Measure Verification: 63788

Weather Station: 63316

SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Joel McKinley	Carter Architectural Panels, Inc.
Ken R. Stough	Intertek B&C
Tanya A. Dolby, P.E.	Intertek B&C
Jason R. Zeller	Intertek B&C

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SECTION 7

TEST SPECIMEN DESCRIPTION

Product Type: Aluminum Composite Panels

Series/Model: EVO™ Rivitless™ Attachment System, Cladded with etalbond® FR (4 mm)

Product Size(s):

OVERALL AREA:	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
5.9 m ² (64.0 ft ²)				
Overall size	2438	96	2438	96
Lower etalbond® FR panel, 5.2	2400	94-1/2	1194	47
Upper etalbond® FR panel (2), 5.2	1194	47	1194	47

Weatherstripping: No weatherstripping was utilized.

Drainage:

DRAINAGE METHOD	SIZE	QUANTITY	LOCATION
Weepslots	11/16" long by 3/16" wide	4 per panel	Bottom of upper panel, 6" from ends and 11-1/2" on center
Weepholes with open cell foam	7/16" diameter	4 per panel	Bottom installation rail of upper panel, 6" from ends and 11-1/2" on center with open cell foam directly behind weepholes
Weepslots	11/16" long by 3/16" wide	7	Bottom of lower panel, 6" from ends and 13-3/4" on center
Weepholes with open cell foam	7/16" diameter	7	Bottom installation rail of lower panel, 6" from ends and 13-3/4" on center with open cell foam directly behind weepholes

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**SECTION 8
TEST RESULTS**

Test Specimen #5: Preload per TAS 202:

INDICATOR LOCATION	Deflection at +75.00 psf	NET DEFLECTION (in.)		Permanent Set at +75.00 psf	PERMANENT SET (in.)	
		MEASURED	ALLOWED		MEASURED	ALLOWED
1	0.11	0.91	1.58	0.03	0.04	N/A
2	1.01			0.06		
3	0.10			0.01		
4	0.11	0.54	0.78	0.02	0.02	
5	0.72			0.04		
6	0.25			0.03		

Test Specimen #4: Preload per TAS 202:

INDICATOR LOCATION	Deflection at -56.25 psf	NET DEFLECTION (in.)		Permanent Set at -56.25 psf	PERMANENT SET (in.)	
		MEASURED	ALLOWED		MEASURED	ALLOWED
1	0.12	0.55	1.58	0.04	0.01	N/A
2	0.67			0.05		
3	0.13			0.04		
4	0.19	0.29	0.78	0.03	0.01	
5	0.51			0.04		
6	0.25			0.03		

Test Specimen #5: Design Load per TAS 202

INDICATOR LOCATION	Deflection at +100.00 psf	NET DEFLECTION (in.)		Permanent Set at +100.00 psf	PERMANENT SET (in.)	
		MEASURED	ALLOWED		MEASURED	ALLOWED
1	0.13	0.99	1.58	0.04	0.05	N/A
2	1.11			0.07		
3	0.12			0.01		
4	0.15	0.67	0.78	0.02	0.02	
5	0.91			0.05		
6	0.34			0.05		

Test Specimen #4: Design per TAS 202:

INDICATOR LOCATION	Deflection at -75.00 psf	NET DEFLECTION (in.)		Permanent Set at -75.00 psf	PERMANENT SET (in.)	
		MEASURED	ALLOWED		MEASURED	ALLOWED
1	0.28	0.68	1.58	0.11	0.01	N/A
2	0.97			0.11		
3	0.30			0.10		
4	0.29	0.37	0.78	0.06	0.01	
5	0.72			0.07		
6	0.41			0.06		

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Test Specimen #5: Overload per TAS 202

INDICATOR LOCATION	Deflection at +150.00 psf	NET DEFLECTION (in.)		Permanent Set at +150.00 psf	PERMANENT SET (in.)	
		MEASURED	ALLOWED		MEASURED	ALLOWED
1	0.17	1.15	1.58	0.04	0.08	N/A
2	1.31			0.11		
3	0.16			0.02		
4	0.20	0.85	0.78	0.02	0.04	
5	1.20			0.08		
6	0.51			0.07		

Test Specimen #4: Overload per TAS 202

INDICATOR LOCATION	Deflection at -112.50 psf	NET DEFLECTION (in.)		Permanent Set at -112.50 psf	PERMANENT SET (in.)	
		MEASURED	ALLOWED		MEASURED	ALLOWED
1	0.62	0.95	1.58	0.19	0.05	N/A
2	1.58			0.24		
3	0.65			0.19		
4	0.52	0.51	0.78	0.16	0.02	
5	1.13			0.18		
6	0.73			0.17		

Note 1: Positive and negative uniform static load test loads were held for 30 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.

Note 3: See Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

Date: 01/26/23

Protocol TAS 201-94, Large Missile Impact Procedures

Test Date: 12/08/2022

The temperature during testing was 17° - 18°C (62° - 64°F). The results are tabulated as follows:

Test Specimen #1:

IMPACT #	MISSILE WEIGHT (lbs.)	MISSILE LENGTH (in.)	MISSILE VELOCITY (ft./sec.)	DEFLECTION	
				INSTANTANEOUS (in.)	PERMANENT (in.)
1	9.13	97-3/4	50.2	N/A	N/A
2	9.13	97-3/4	50.3	N/A	N/A
3	9.13	97-3/4	50.3	N/A	N/A
4	9.13	97-3/4	50.0	N/A	N/A
5	9.13	97-3/4	50.2	N/A	N/A

Note 4: See Sketch #2 for impact locations.

Test Specimen #2:

IMPACT #	MISSILE WEIGHT (lbs.)	MISSILE LENGTH (in.)	MISSILE VELOCITY (ft./sec.)	DEFLECTION	
				INSTANTANEOUS (in.)	PERMANENT (in.)
1	9.13	97-3/4	50.4	N/A	N/A
2	9.13	97-3/4	50.2	N/A	N/A
3	9.13	97-3/4	50.4	N/A	N/A
4	9.13	97-3/4	50.2	N/A	N/A
5	9.13	97-3/4	50.2	N/A	N/A

Note 5: See Sketch #3 for impact locations.

Test Specimen #3:

IMPACT #	MISSILE WEIGHT (lbs.)	MISSILE LENGTH (in.)	MISSILE VELOCITY (ft./sec.)	DEFLECTION	
				INSTANTANEOUS (in.)	PERMANENT (in.)
1	9.13	97-3/4	50.5	N/A	N/A
2	9.13	97-3/4	50.4	N/A	N/A
3	9.13	97-3/4	50.5	N/A	N/A
4	9.13	97-3/4	50.4	N/A	N/A
5	9.13	97-3/4	50.3	N/A	N/A

Note 6: See Sketch #4 for impact locations.

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

Date: 01/26/23

Protocol TAS 203-94, Cyclic Wind Pressure Loading

Test Date(s): 12/09/22 through 12/12/22

The temperature during testing was 17° - 18°C (62° - 64°F). The results are tabulated as follows:

Test Specimen #1: Cyclic Test Spectrum and Average Cycle Time per TAS 203:

DESIGN PRESSURE	STAGE		
+100.00 psf	1	2	3
POSITIVE PRESSURE RANGE (psf)	0 – 50.0	0 – 60.0	0 – 130.0
AVERAGE CYCLE TIME (sec.)	2.84	2.95	N/A
NUMBER OF CYCLES	600	70	1
-75.00 psf	4	5	6
NEGATIVE PRESSURE RANGE (psf)	0 – 37.5	0 – 45.0	0 – 97.5
AVERAGE CYCLE TIME (sec.)	2.88	2.73	N/A
NUMBER OF CYCLES	600	70	1

Test Specimen #1: Positive Cyclic Load per TAS 203:

INDICATOR LOCATION	MAXIMUM DEFLECTION (in.)	PERMANENT SET (in.)	PERCENT RECOVERY	
			MEASURED %	ALLOWED %
1-3	0.850	0.035	96	> 90
4-6	0.490	0.050	90	> 90

Test Specimen #1: Negative Cyclic Load per TAS 203:

INDICATOR LOCATION	MAXIMUM DEFLECTION (in.)	PERMANENT SET (in.)	PERCENT RECOVERY	
			MEASURED %	ALLOWED %
1 - 3	0.980	0.055	94	> 90
4 - 6	0.495	0.010	98	> 90

Note 7: See Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.

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Test Specimen #2: Cyclic Test Spectrum and Average Cycle Time per TAS 203:

DESIGN PRESSURE	STAGE		
+100.00 psf	1	2	3
POSITIVE PRESSURE RANGE (psf)	0 – 50.0	0 – 60.0	0 – 130.0
AVERAGE CYCLE TIME (sec.)	2.86	2.94	N/A
NUMBER OF CYCLES	600	70	1
-75.00 psf	4	5	6
NEGATIVE PRESSURE RANGE (psf)	0 – 37.5	0 – 45.0	0 – 97.5
AVERAGE CYCLE TIME (sec.)	2.66	2.83	N/A
NUMBER OF CYCLES	600	70	1

Test Specimen #2: Positive Cyclic Load per TAS 203:

INDICATOR LOCATION	MAXIMUM DEFLECTION (in.)	PERMANENT SET (in.)	PERCENT RECOVERY	
			MEASURED %	ALLOWED %
1 - 3	0.840	0.065	92	> 90
4 - 6	0.385	0.005	99	> 90

Test Specimen #2: Negative Cyclic Load per TAS 203:

INDICATOR LOCATION	MAXIMUM DEFLECTION (in.)	PERMANENT SET (in.)	PERCENT RECOVERY	
			MEASURED %	ALLOWED %
1 - 3	1.010	0.065	94	> 90
4 - 6	0.375	0.015	96	> 90

Note 8: See Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.

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Test Specimen #3: Cyclic Test Spectrum and Average Cycle Time per TAS 203:

DESIGN PRESSURE	STAGE		
+100.00 psf	1	2	3
POSITIVE PRESSURE RANGE (psf)	0 – 50.0	0 – 60.0	0 – 130.0
AVERAGE CYCLE TIME (sec.)	2.89	2.97	N/A
NUMBER OF CYCLES	600	70	1
-75.00 psf	4	5	6
NEGATIVE PRESSURE RANGE (psf)	0 – 37.5	0 – 45.0	0 – 97.5
AVERAGE CYCLE TIME (sec.)	2.89	2.71	N/A
NUMBER OF CYCLES	600	70	1

Test Specimen #3: Positive Cyclic Load per TAS 203:

INDICATOR LOCATION	MAXIMUM DEFLECTION (in.)	PERMANENT SET (in.)	PERCENT RECOVERY	
			MEASURED %	ALLOWED %
1-3	0.960	0.080	92	> 90
4-6	0.480	0.020	96	> 90

Test Specimen #3: Negative Cyclic Load per TAS 203:

INDICATOR LOCATION	MAXIMUM DEFLECTION (in.)	PERMANENT SET (in.)	PERCENT RECOVERY	
			MEASURED %	ALLOWED %
1 - 3	0.985	0.060	94	> 90
4 - 6	0.470	0.025	95	> 90

Note 9: See Sketch #1 for indicator locations. Deflection/permanent set reported is the overall deflection between three points (longest unsupported span) which accounts for support movement.

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

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SECTION 9

CONCLUSIONS

The large missiles impacted each intended target. Each impact location was carefully inspected. No signs of penetration, rupture, or opening after the large missile impact test were observed; as such, each test specimen satisfies the large missile requirements of TAS 201. Upon completion of testing, specimens tested for TAS 201-94 met the requirements of Section 1626 of the Florida Building Code, Building.

No signs of failure were observed in any area of the test specimen during the TAS 202 testing; as such, the test specimen satisfies the requirements of TAS 202. Upon completion of testing, specimens tested for TAS 202-94 met the requirements of Section 1620 of the Florida Building Code, Building.

No signs of failure were observed in any area of the test specimens during the cyclic load test; as such, the test specimens satisfy the cyclic load requirements of TAS 203. Upon completion of testing, specimens tested for TAS 203-94 met the requirements of Section 1625 of the Florida Building Code, Building.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends ten years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

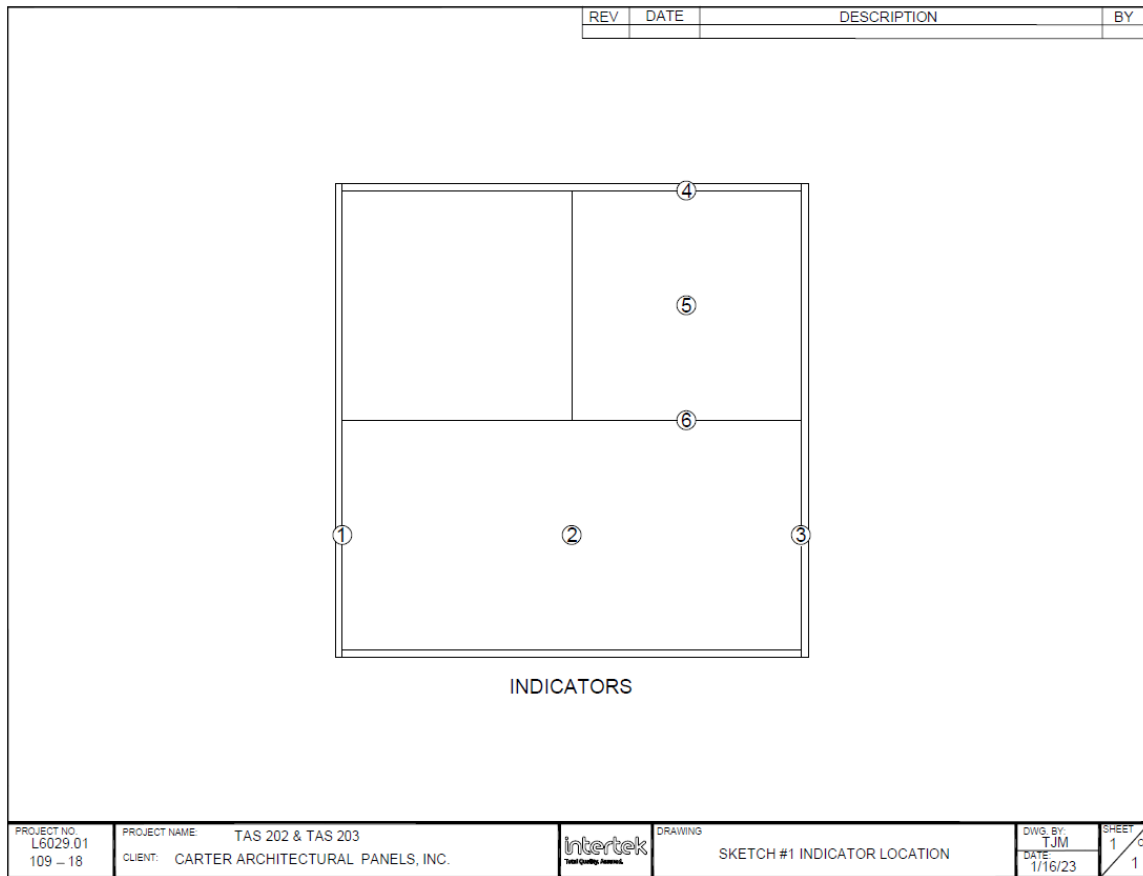
Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

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Date: 01/26/23

SECTION 10 SKETCH(ES)

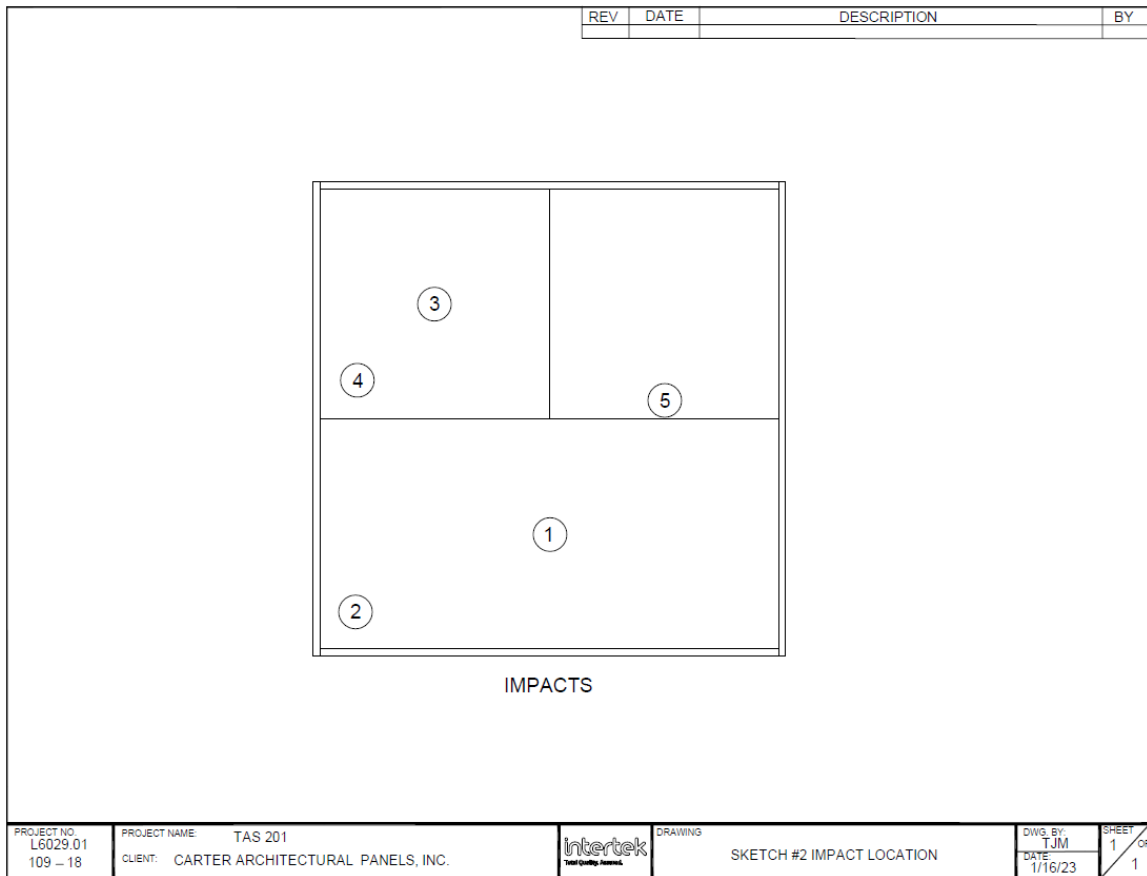


Sketch No. 1
TAS 202 and TAS 203 Indicator Locations

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

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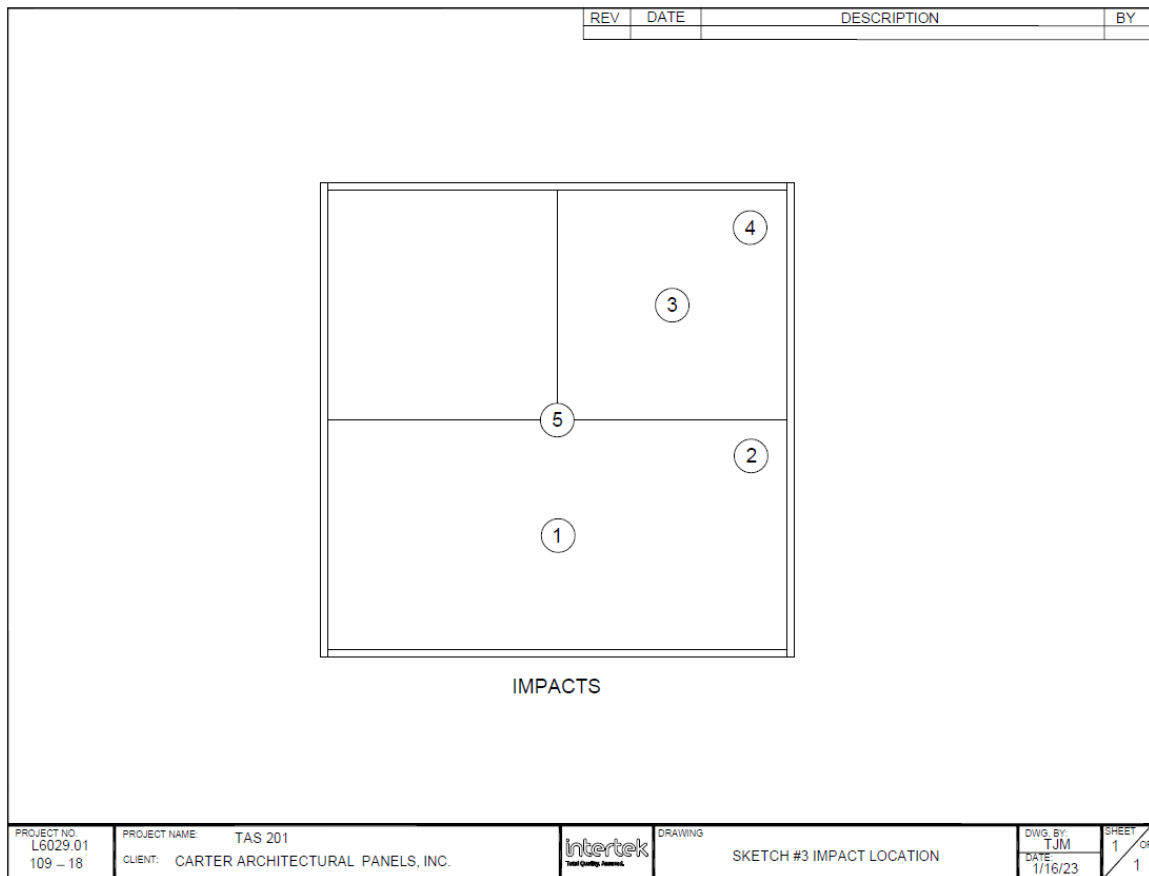


Sketch No. 2
TAS 201 Impact Locations

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

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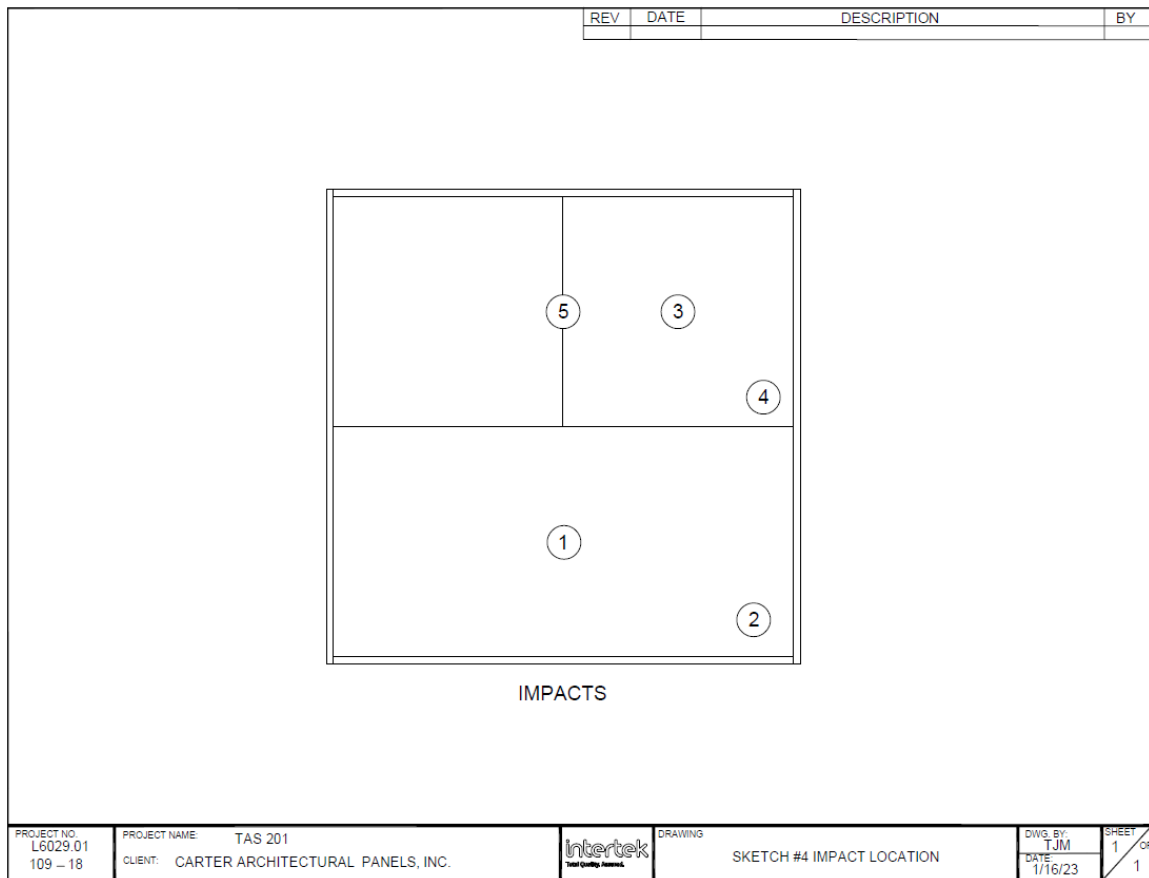


Sketch No. 3
TAS 201 Impact Locations

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

Date: 01/26/23



Sketch No. 4
TAS 201 Impact Locations

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

Date: 01/26/23

SECTION 11 PHOTOGRAPHS



Photo No. 1
etalbond® FR (ACM Panels) Fixed on the EVO™ Rivetless™ Attachment System
TAS 201 and TAS 203 Specimen #1 Prior to Testing

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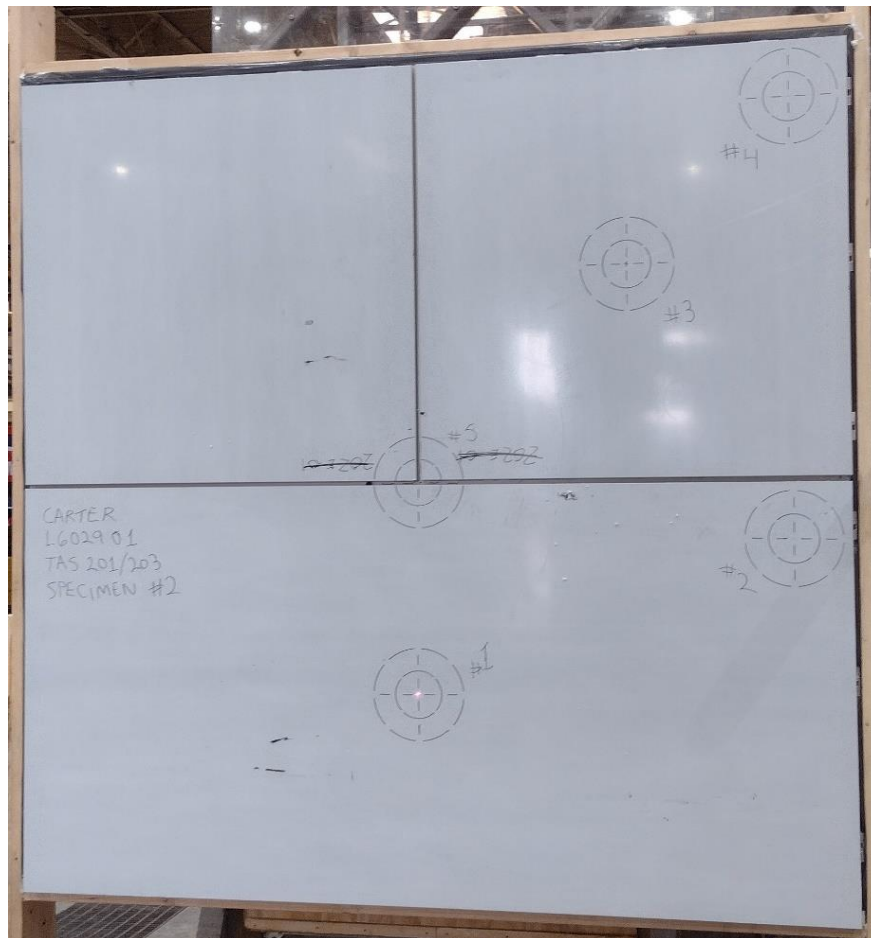


Photo No. 2
etalbond® FR (ACM Panels) Fixed on the EVO™ Rivetless™ Attachment System
TAS 201 and TAS 203 Specimen #2 Prior to Testing

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

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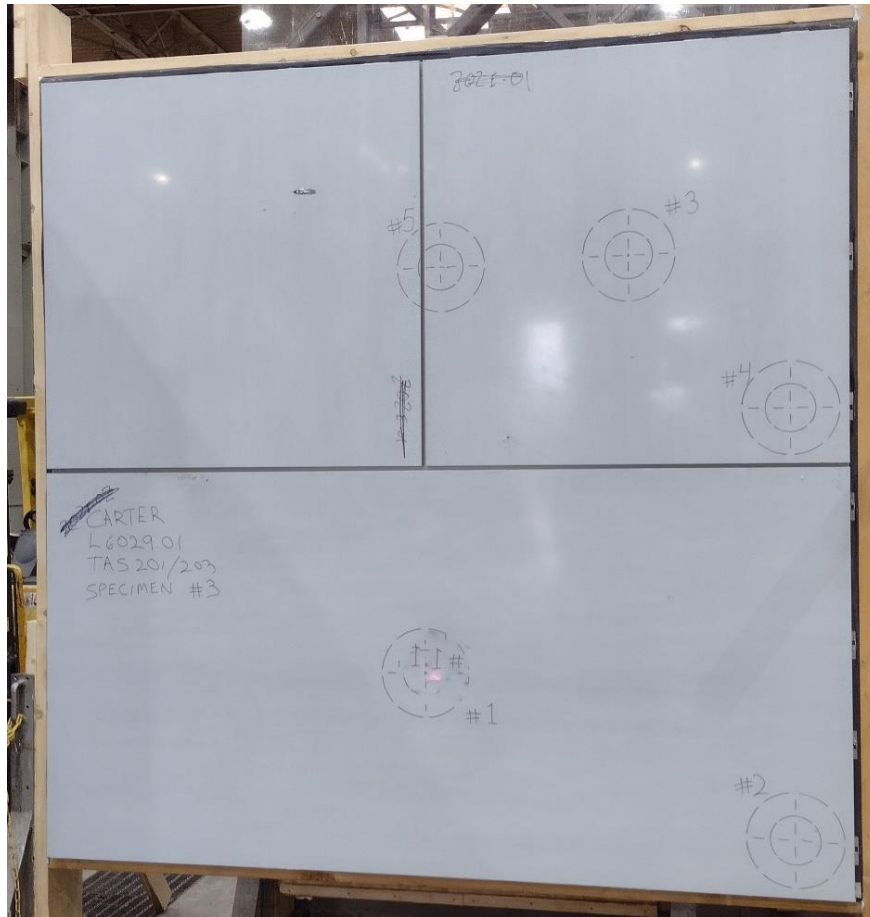


Photo No. 3

**etalbond® FR (ACM Panels) Fixed on the EVO™ Rivetless™ Attachment System
TAS 201 and TAS 203 Specimen #3 Prior to Testing**

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

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Photo No. 4
etalbond® FR (ACM Panels) Fixed on the EVO™ Rivetless™ Attachment System
TAS 202 Specimen #4 Prior to Testing

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

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Photo No. 5
etalbond® FR (ACM Panels) Fixed on the EVO™ Rivetless™ Attachment System
TAS 202 Specimen #5 prior to Testing



Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

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Date: 01/26/23

SECTION 12
DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.




CARTER/ETALBOND SYSTEM TESTING

FUSION AND EVO TEST

PSC
 PENN STATE CONSTRUCTION
 J&D, LLC
 27 STATE ST, LEWISTOWN, PA 17044
 t:(717)953-9200 f:(717)-953-9201
 www.pennstateconstruction.com

intertek
 Report #: L6029.01
 Date: 12/14/22
 Verified by: *JRM*

MATERIALS INFORMATION

SYSTEM TYPE: RS RIVETLESS
 JOINT SIZE: 0.5625
 MANUFACTURER: ETALBOND
 SYSTEM THICKNESS: 2.00 & 1.75
 ACM COLOR 1: SILVER METALLIC-[64 X 146]-4-FR 
 ACM COLOR 2: -- NONE -- 
 ACM COLOR 3: -- NONE -- 
 JOINT SEALANT: DOWSIL 795
 SEALANT COLOR 1:

ARCHITECT INFO:


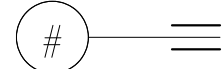

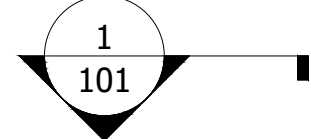
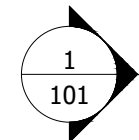
GENERAL NOTES

- GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL OTHER TRADES TO MAINTAIN ACCEPTABLE CONSTRUCTION TOLERANCES AND TO ENSURE ADJACENT CONSTRUCTION IS TRUE, PLUMB, AND LEVEL PRIOR TO PLACEMENT OF PANELS.
- PSC WILL NOT ASSUME RESPONSIBILITY FOR ERRORS OF OTHER TRADES FROM THE USE OF THESE DRAWINGS.
- THIS PANEL SYSTEM IS A RAIN SCREEN PANEL SYSTEM THAT REQUIRES WEATHERPROOF BARRIER BEHIND ALL PANELS. THE PANEL SYSTEM WILL ONLY PREVENT WATER PENETRATION WHEN USED IN CONJUNCTION WITH A PROPER WEATHER BARRIER THAT IS INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
- ALL LIGHTS, SIGNAGE, DOWN SPOUTS, ETC., MUST BE ATTACHED TO THE BUILDING STRUCTURE, NOT TO THE ACM PANEL SYSTEM.
- LEAD TIMES ARE TYPICALLY 4-6 WEEKS FROM FINAL FIELD MEASUREMENTS. CHECK WITH PRODUCTION FOR JOB SPECIFIC LEAD TIME AT TIME OF PROJECT.

DRAWINGS ARE
 APPROVED FOR CONSTRUCTION

SYMBOLS & ABBREVIATIONS

A.F.F. = ABOVE FINISHED FLOOR
 A.B.M. = ABOVE BENCHMARK
 F.O. = FINISHED OPENING
 I.S. = INSIDE
 O.D. = OVERALL DIMENSION
 O.P.D. = OVERALL PANEL DIMENSION
 O.S. = OUTSIDE
 P.D. = PANEL DIMENSION
 P.S.C. = PENN STATE CONSTRUCTION
 REF. = REFERENCE
 R.O. = ROUGH OPENING
 SIM. = SIMILAR
 SUB. = SUBSTRATE
 U.N.O. = UNLESS NOTED OTHERWISE
 V.I.F. = VERIFY IN FIELD

 = ELEVATION REFERENCE  = DETAIL BUBBLE
 = COLUMN LINE
 = SECTION CUT
 = ELEVATION MARKER

ARCHITECTURAL PLANS REFERENCE

- PCNA 100% SUBMISSION
- NO ADDENDUMS

GENERAL CONTRACTOR

 STREET ADDRESS

 FIRST LAST NAME PROJECT MANAGER (XXX) XXX-XXXX XXX@XXXX.com
 FIRST LAST NAME FIELD SUPERINTENDENT (XXX) XXX-XXXX XXX@XXXX.com

DRAFTING INDEX

200: ELEVATION

PROJECT NAME & LOCATION:
CARTER/ETALBOND SYSTEM TESTING

SHEET TITLE:
COVERSHEET

#	DATE	DESCRIPTION
6		
5		
4		
3		
2		
1		

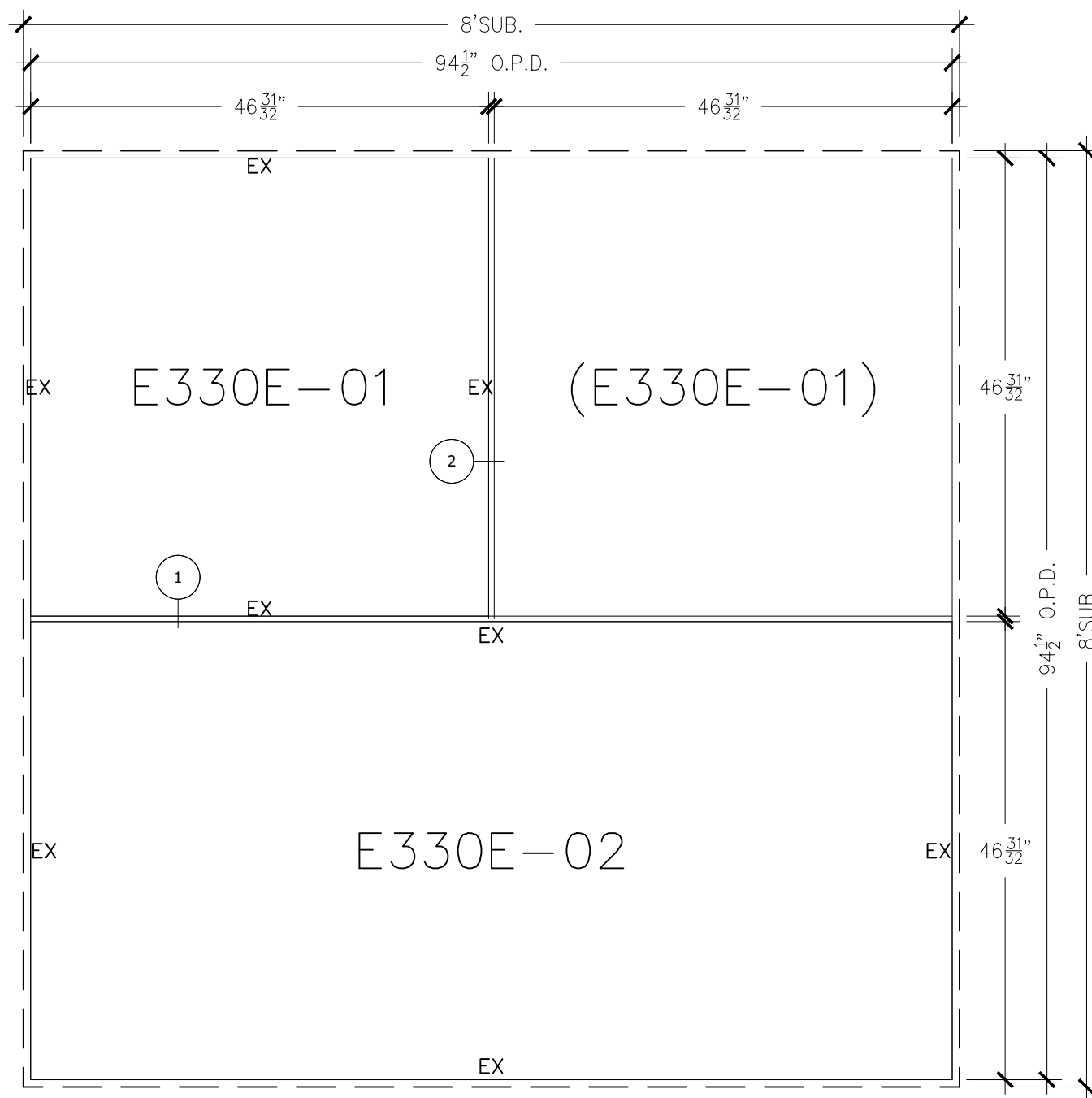
CHECKED BY:
JPM

DWN BY:
EPS

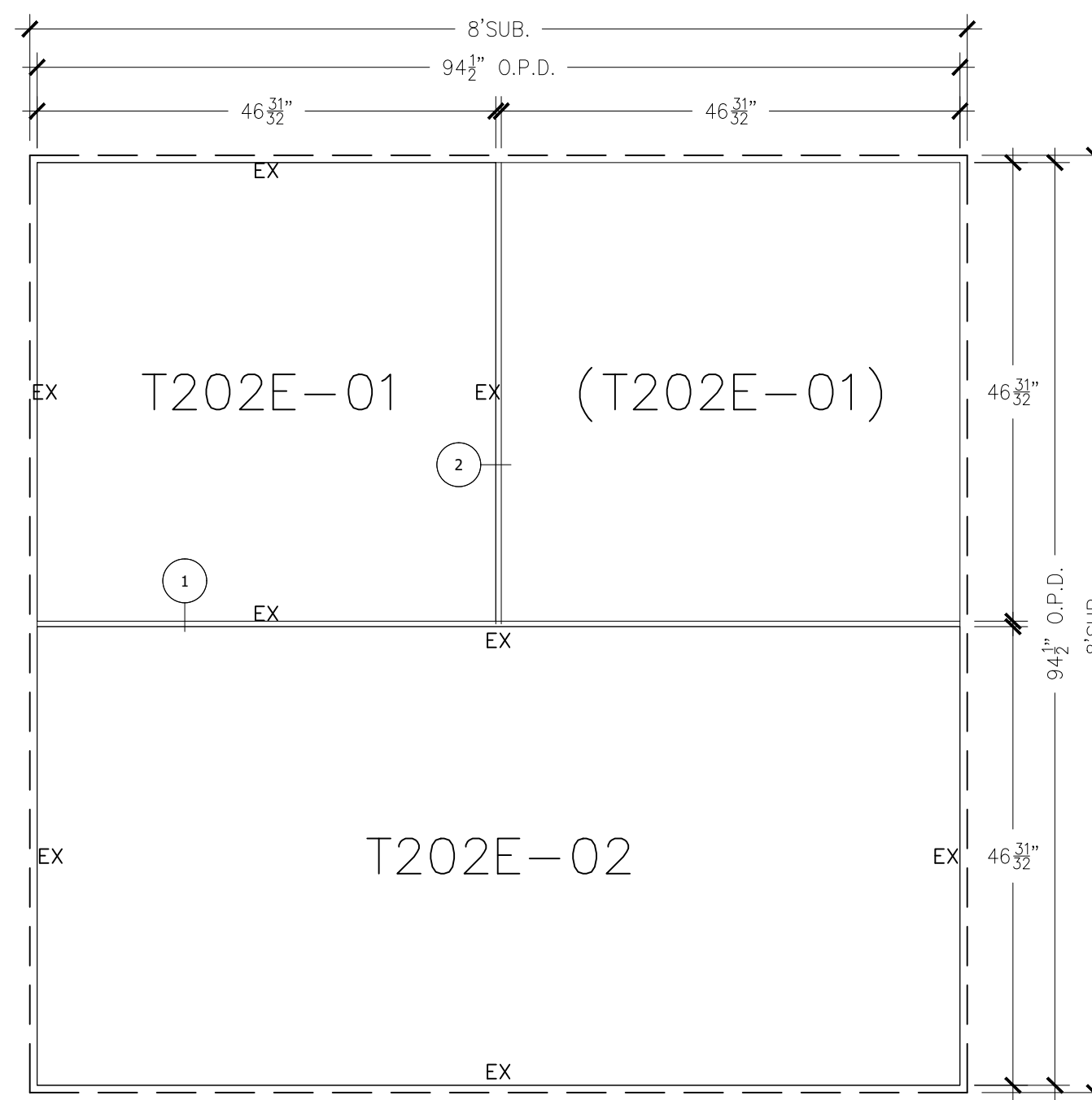
DATE:
01/31/2022

JOB #:
22-001

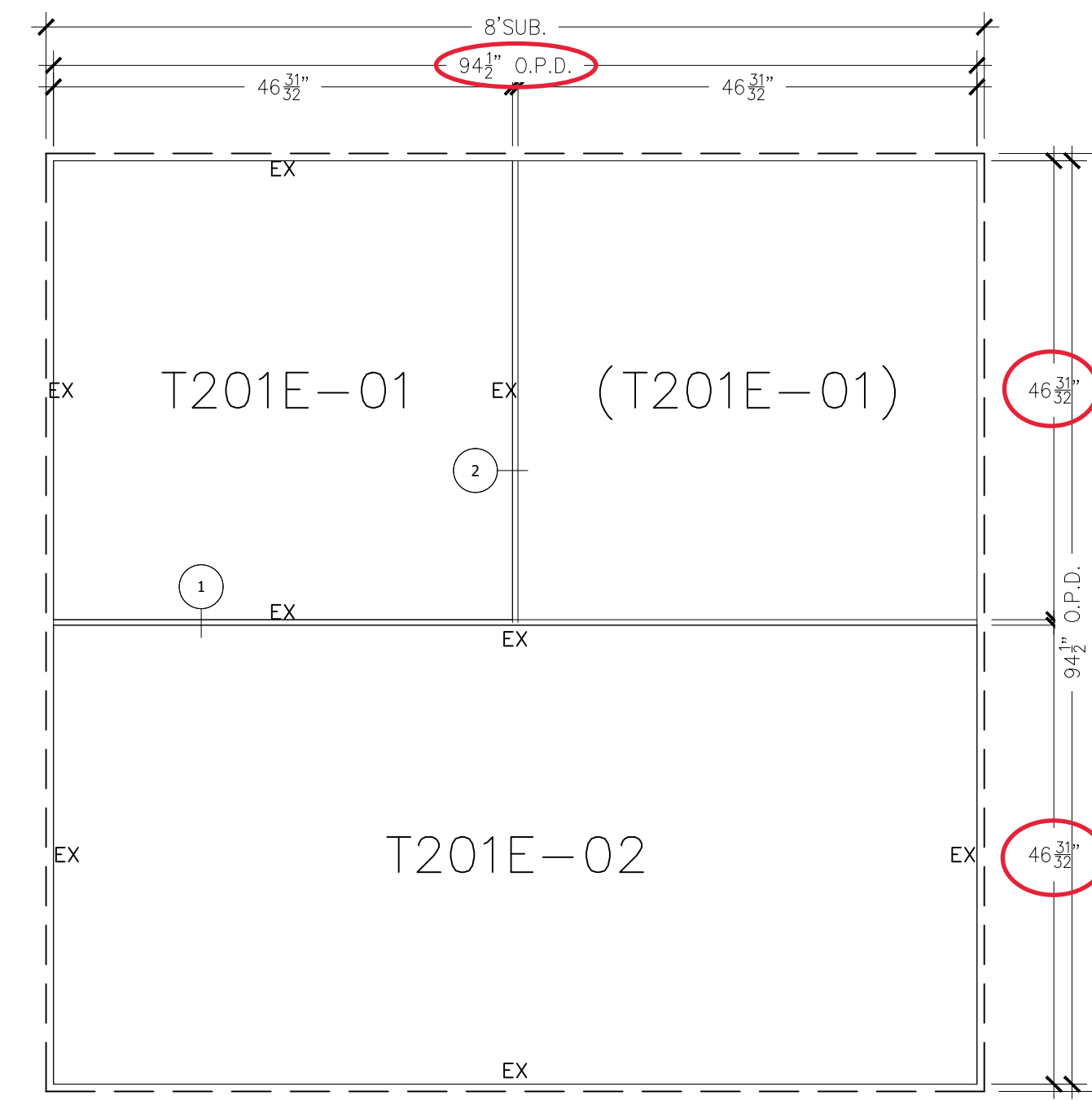
SHEET:
CS



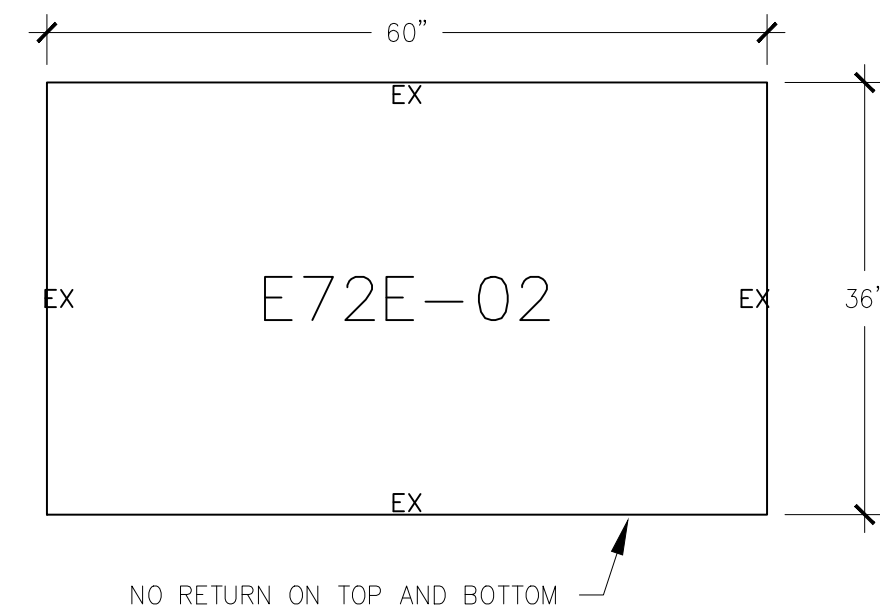
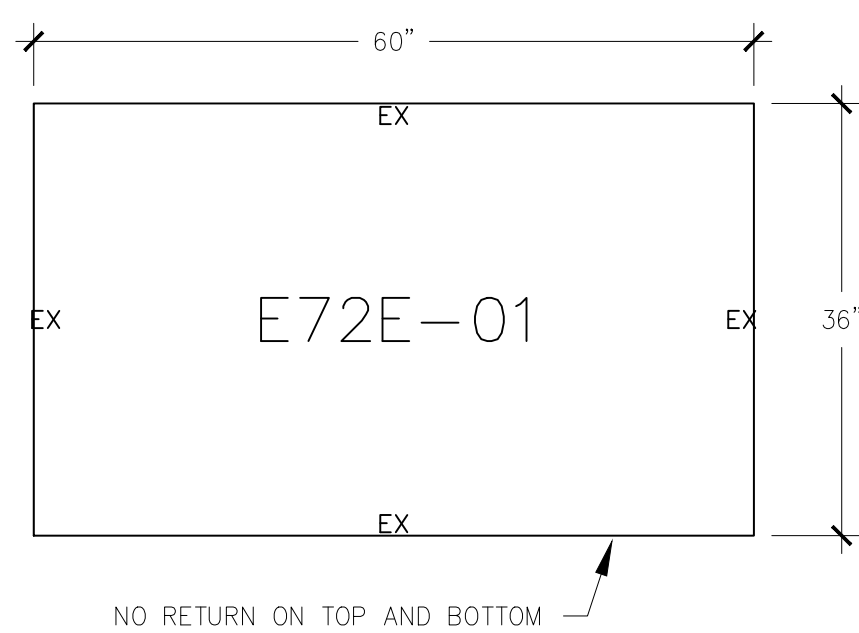
1 E330 EVO TEST
 6 Total Elevations Scale: 3/4" = 1'-0"



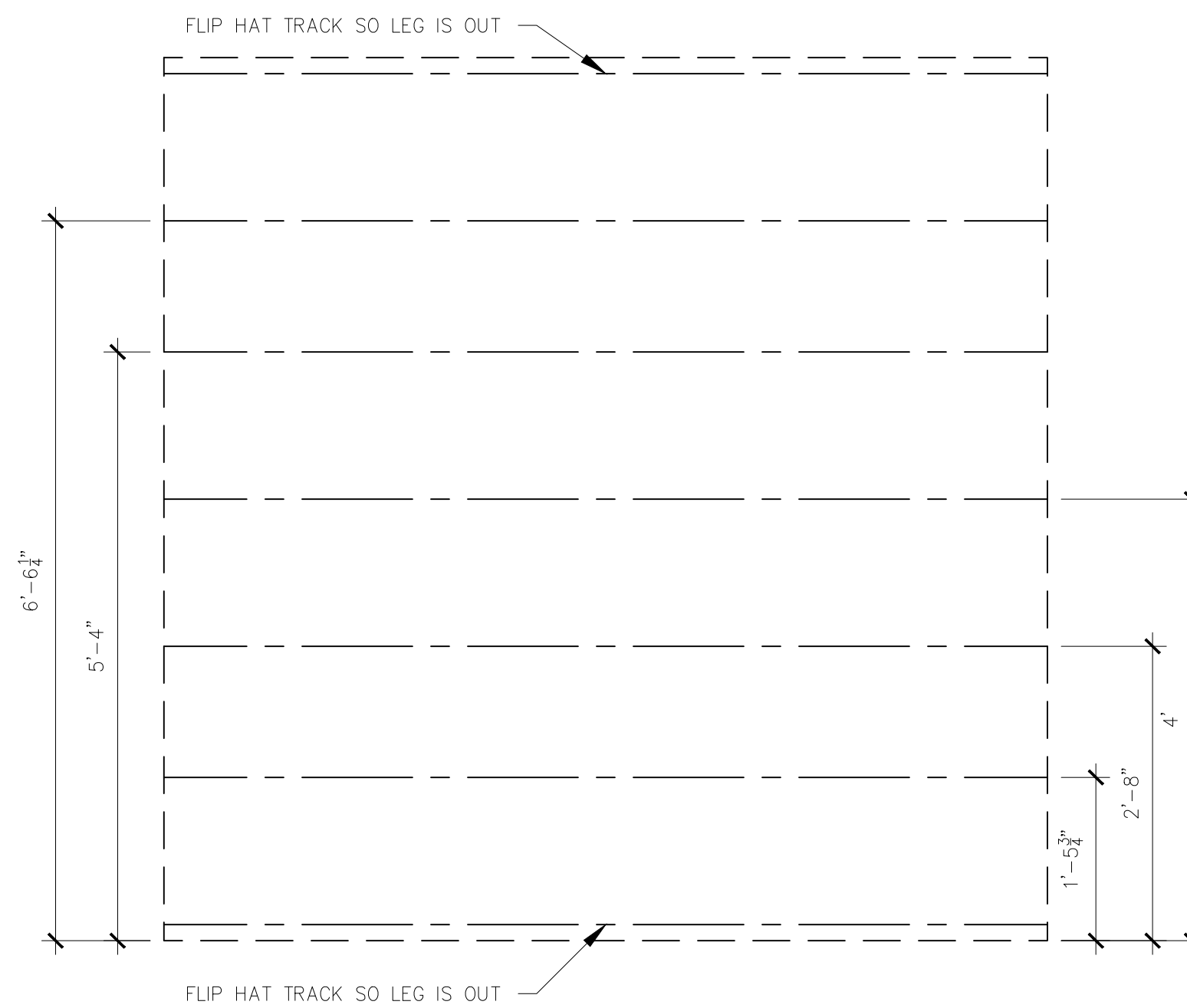
2 TAS202 EVO TEST
 2 Total Elevations Scale: 3/4" = 1'-0"



3 TAS201 / TAS203 EVO TEST
 3 Total Elevations Scale: 3/4" = 1'-0"



4 E72 EVO TEST
 12 Total Elevations Scale: 3/4" = 1'-0"



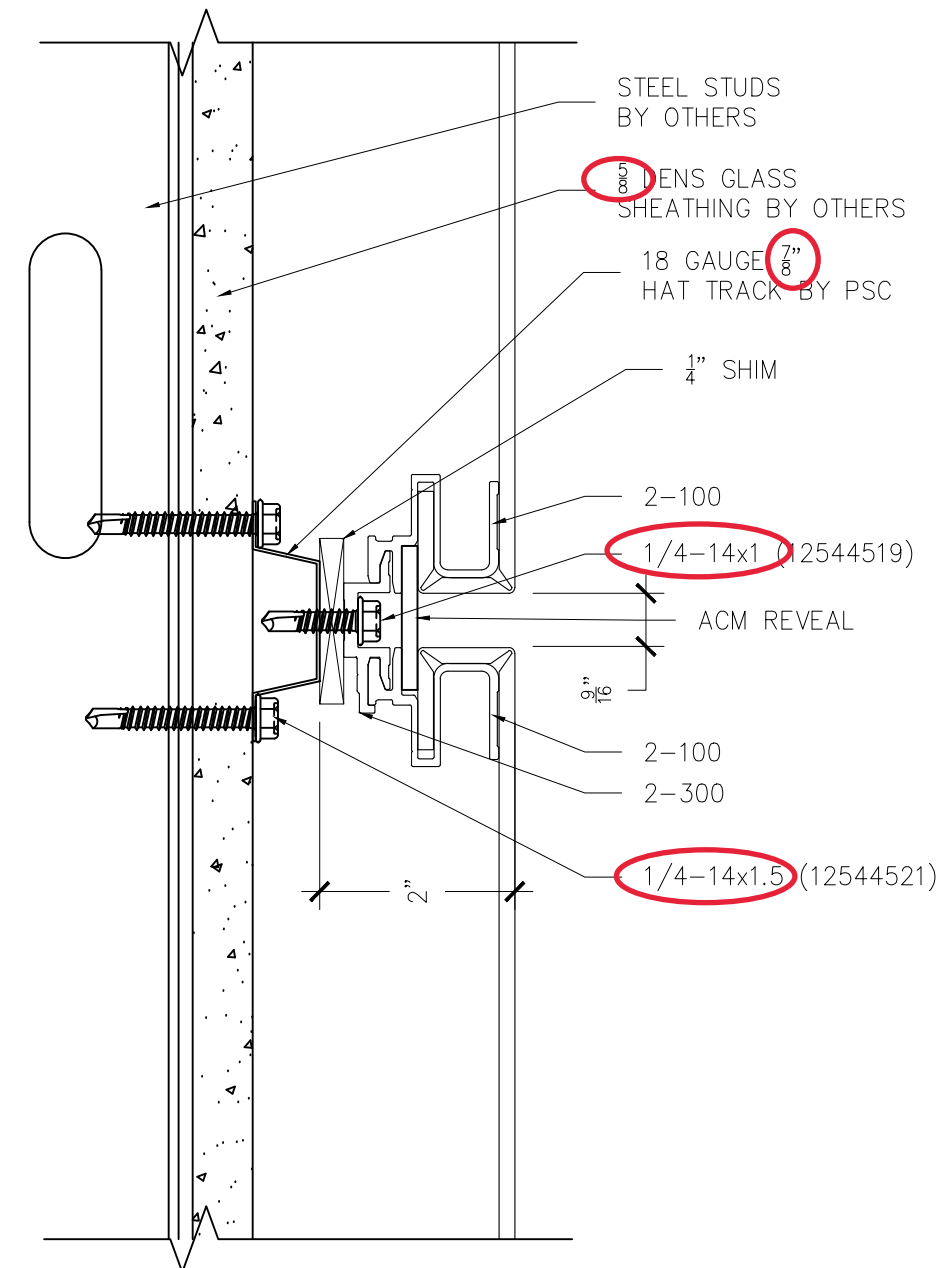
5 HAT TRACK LAYOUT
 11 Total Elevations Scale: 3/4" = 1'-0"

ARCHITECT INFO:

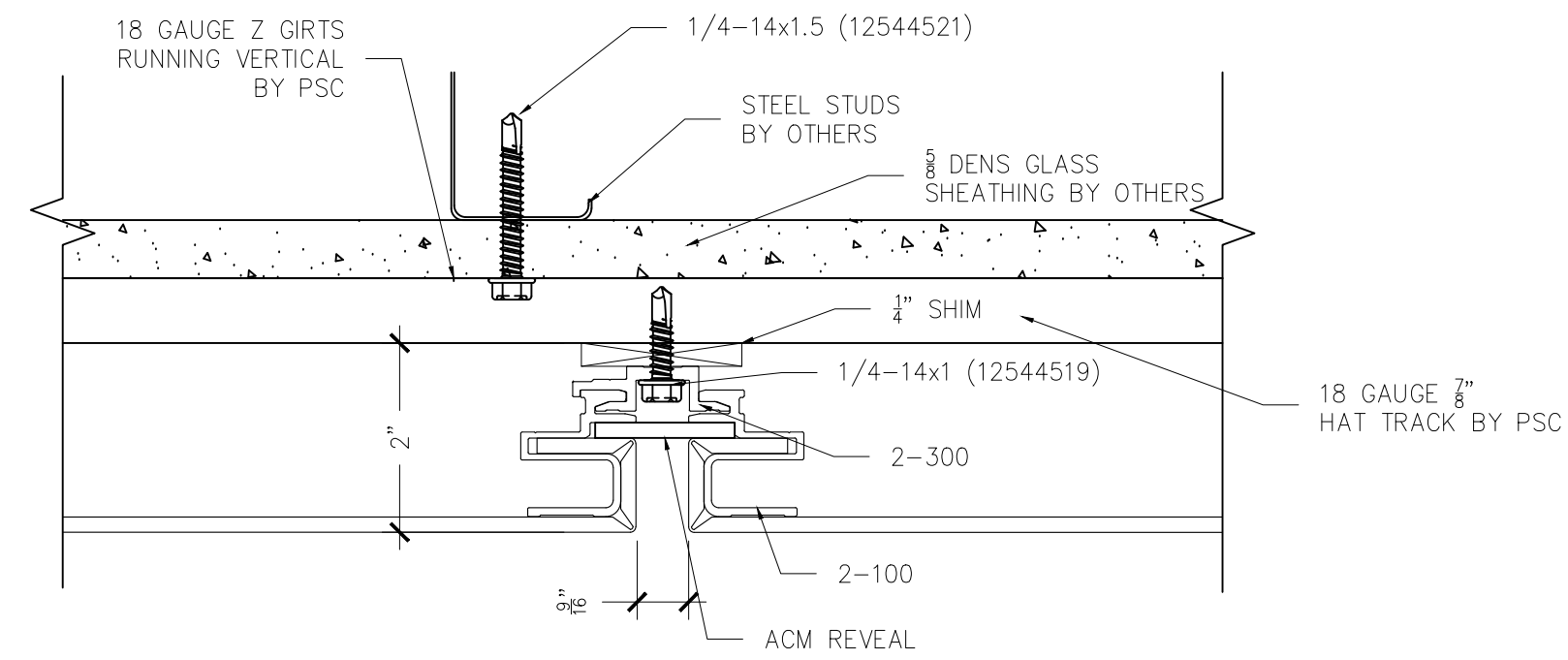
PROJECT NAME & LOCATION:
**CARTER/ETALBOND SYSTEM TESTING
 EVO TESTING**
 SHEET TITLE:
EVO ELEVATIONS

#	DATE	DESCRIPTION
6	----	----
5	----	----
4	----	----
3	----	----
2	----	----
1	----	----

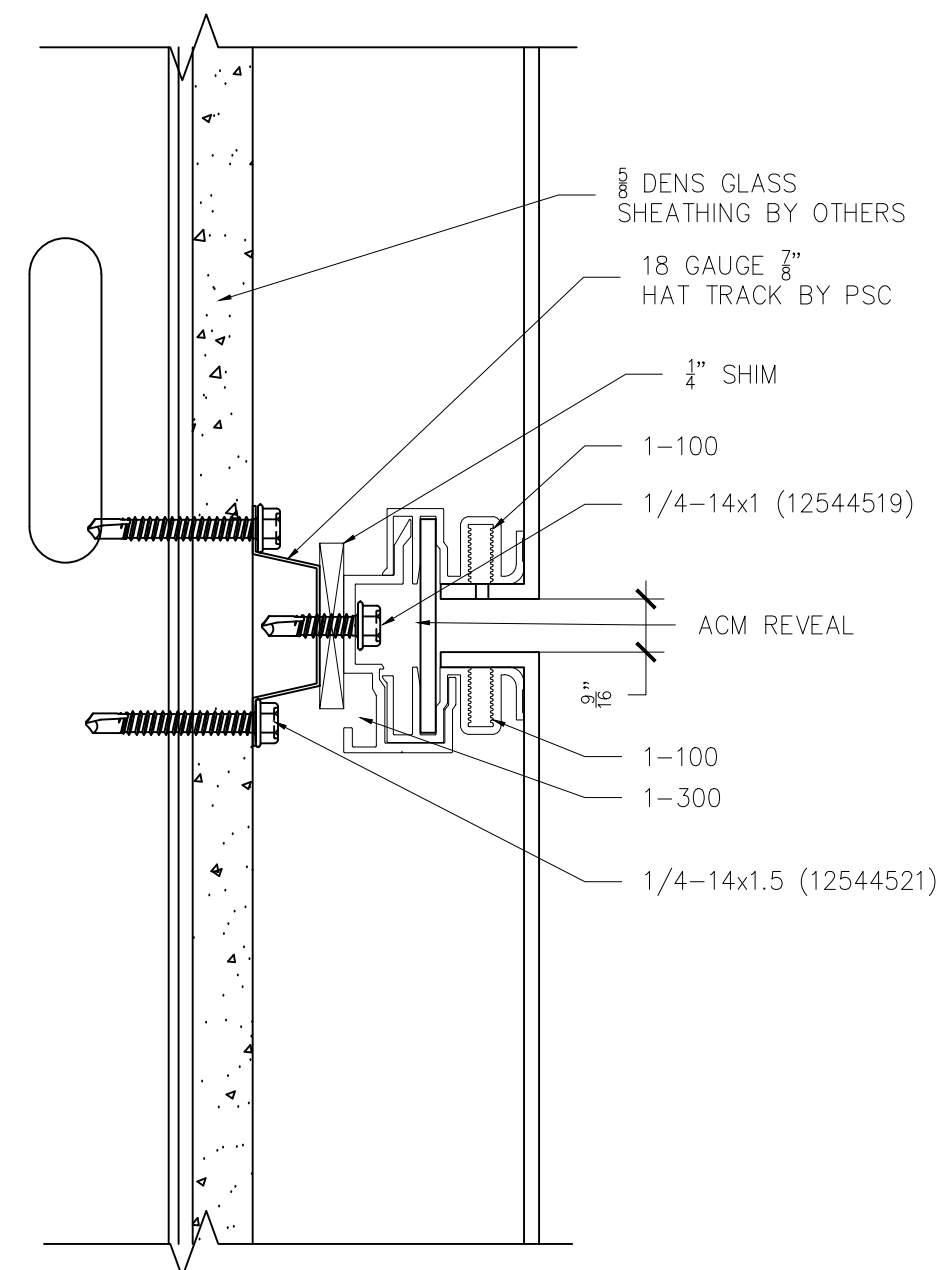
CHECKED BY:
JPM
 DWN BY:
EPS
 DATE:
01/31/2022
 JOB #:
22-001
 SHEET:
200



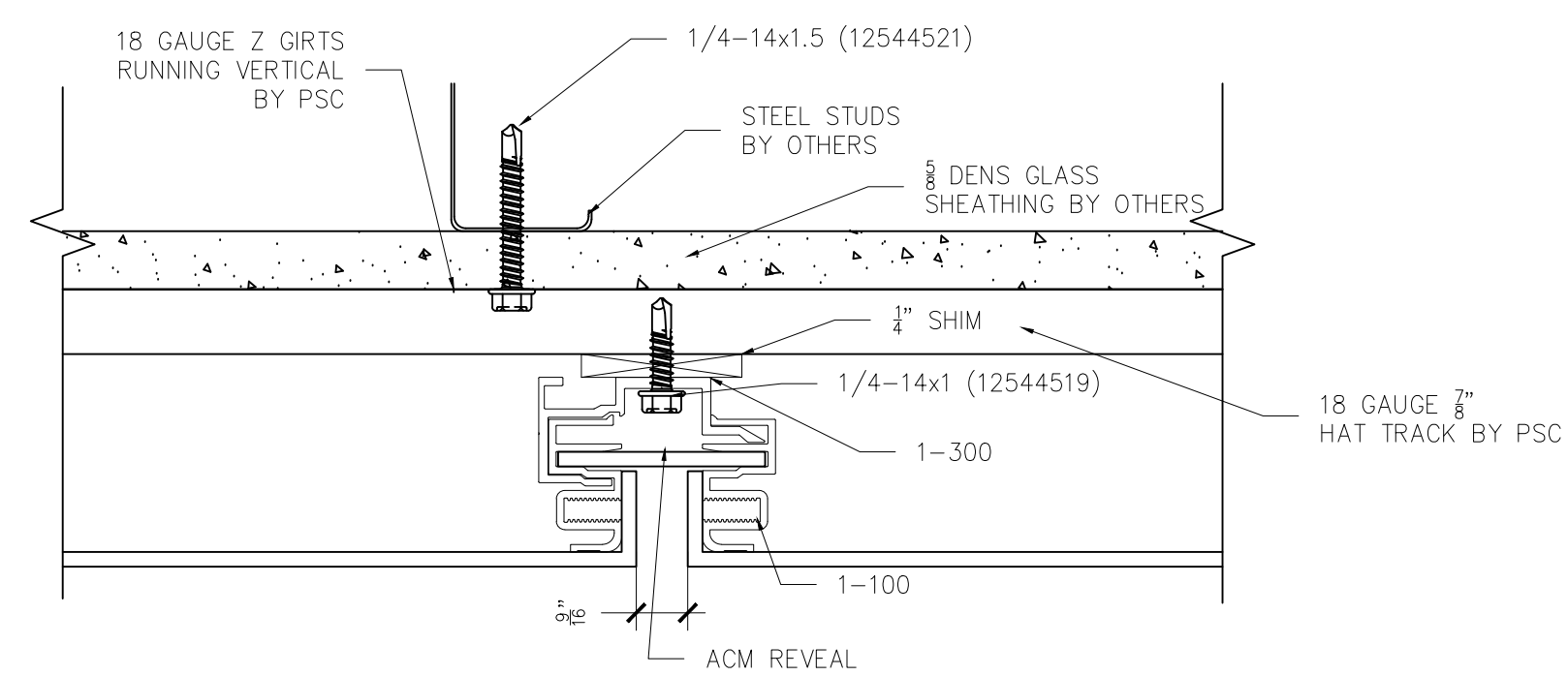
1 HORIZONTAL EVO JOINT DETAIL
 6" = 1'-0"



2 VERTICAL EVO JOINT DETAIL
 6" = 1'-0"



3 HORIZONTAL FUSION JOINT DETAIL
 6" = 1'-0"



2 VERTICAL FUSION JOINT DETAIL
 6" = 1'-0"

ARCHITECT INFO:

PROJECT NAME & LOCATION:
CARTER/METALBOND SYSTEM TESTING

SHEET TITLE:
DETAILS

#	DESCRIPTION	DATE
6	----	----
5	----	----
4	----	----
3	----	----
2	----	----
1	----	----

CHECKED BY:
JPM

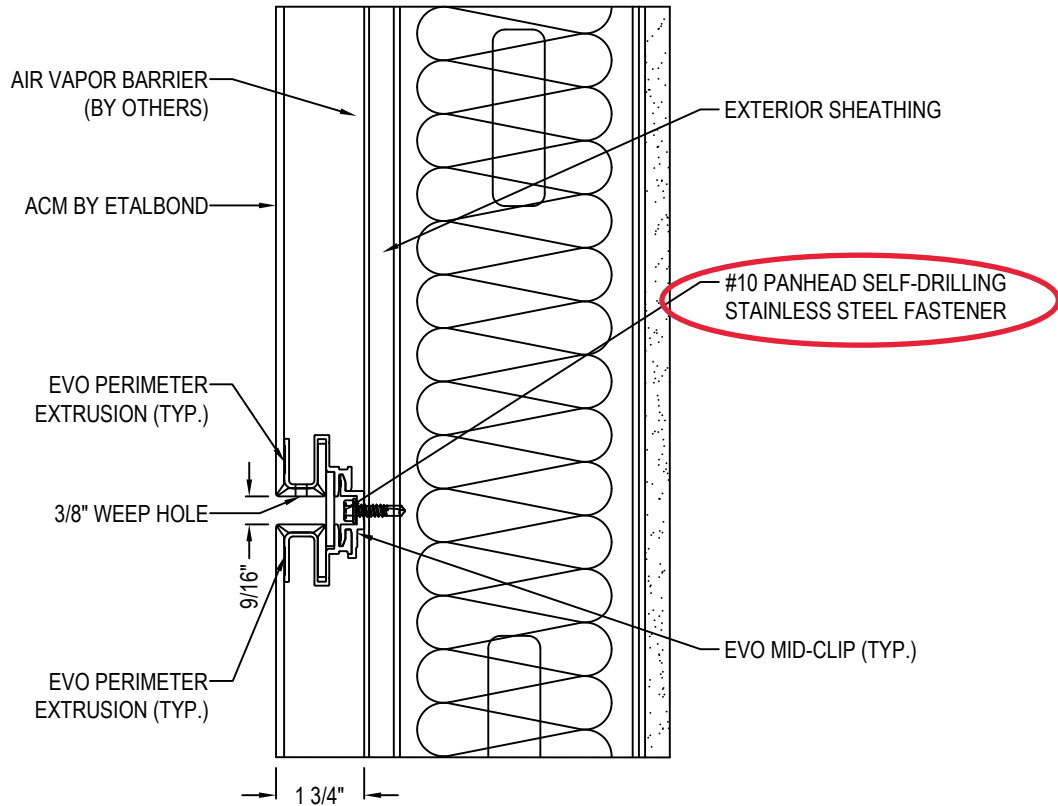
DWN BY:
EPS

DATE:
01/31/2022

JOB #:
22-001

SHEET:
400

 Total Quality. Assured.	Report #:	L6029.01
	Date:	12/14/22
	Verified by:	<i>J.R.Z.</i>

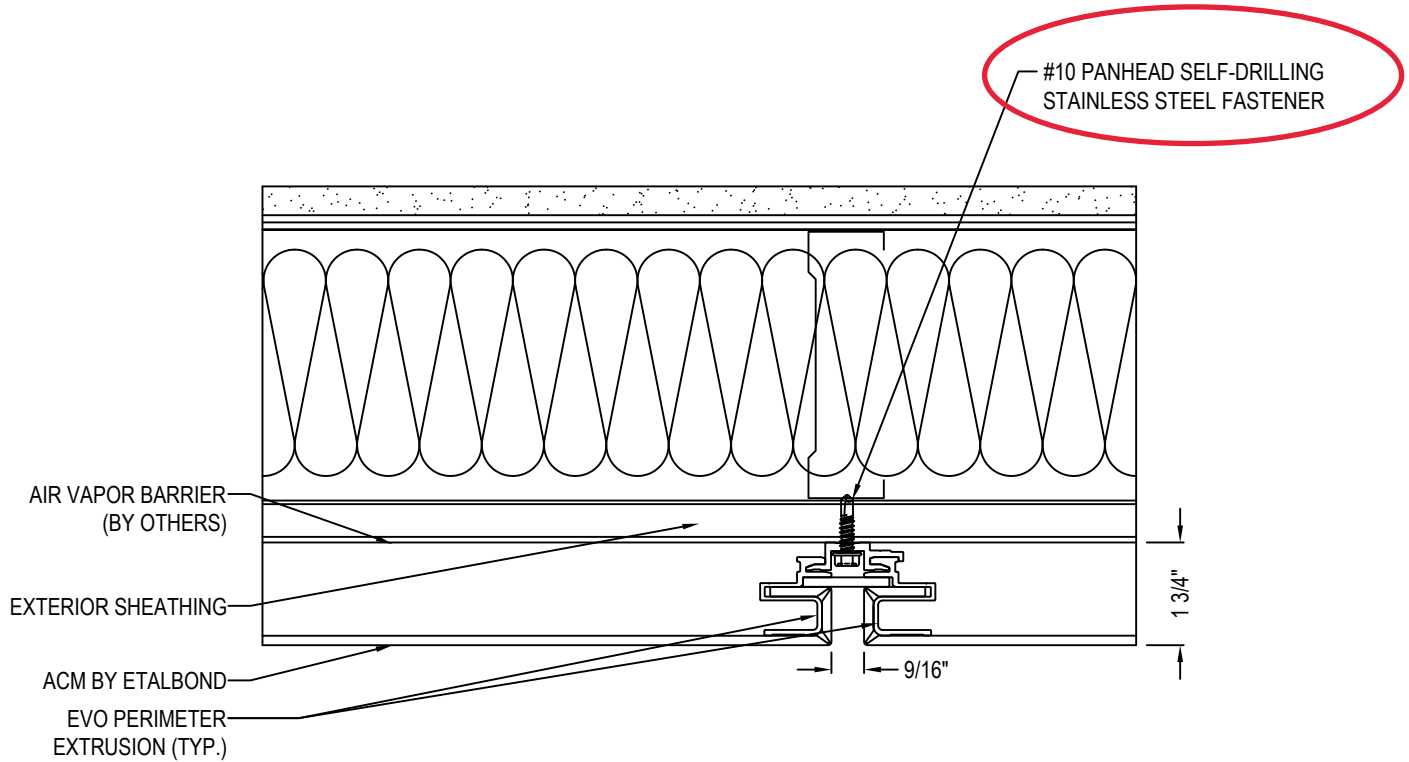


SECTION DETAIL

NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 5124-005

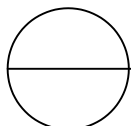
 **HORIZONTAL JOINT**
EVO™ PANEL SYSTEM: HORIZONTAL JOINT DETAIL (SECTION)



SECTION DETAIL

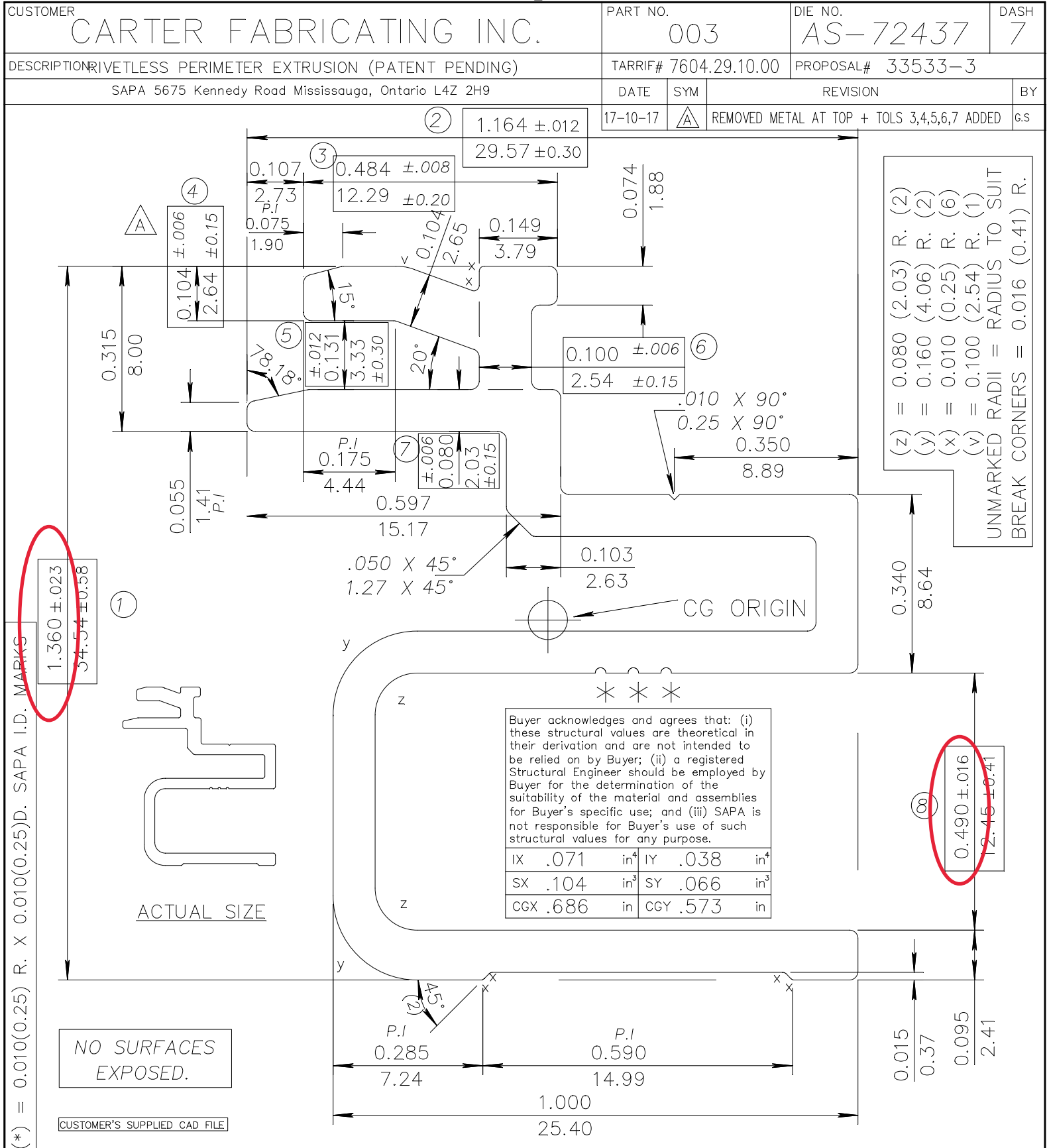
NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 5124-006



VERTICAL JOINT

EVO™ PANEL SYSTEM: VERTICAL JOINT DETAIL (SECTION)



CUSTOMER
CARTER FABRICATING INC.

DESCRIPTION: RIVETLESS PERIMETER EXTRUSION (PATENT PENDING)

SAPA 5675 Kennedy Road Mississauga, Ontario L4Z 2H9

DATE: 17-10-17 SYM: A REVISION: REMOVED METAL AT TOP + TOLS 3,4,5,6,7 ADDED BY: GS

1.360 ± 0.023
34.54 ± 0.58

NO SURFACES EXPOSED.

CUSTOMER'S SUPPLIED CAD FILE

ACTUAL SIZE

UNMARKED RADII = RADIUS TO SUIT
BREAK CORNERS = 0.016 (0.41) R.

PART NO. 003
DIE NO. AS-72437
DASH 7

TARRIF# 7604.29.10.00
PROPOSAL# 33533-3

1.164 ± 0.012
29.57 ± 0.30

0.107
0.484 ± 0.008
12.29 ± 0.20

0.104 ± 0.006
2.64 ± 0.15

0.100 ± 0.006
2.54 ± 0.15

0.175 ± 0.006
0.080 ± 0.006
2.03 ± 0.15

0.080 (2.03) R. (2)
0.160 (4.06) R. (2)
0.010 (0.25) R. (6)
0.100 (2.54) R. (1)

0.490 ± 0.016
12.45 ± 0.41

0.015
0.37
0.095
2.41

sapa:		UNSPECIFIED WALL THICKNESS	
		0.080(2.03) ± 0.006(0.15)	
EST. AREA	0.385 IN ² 248 MM ²	OUT PER.	— IN — MM
EST. WT.	0.462 LBS/FT. 0.688 KG/M	FACTOR	20
EST. PER.	9.150 IN 232 MM	C.C.D.	1.709 IN 43 MM
DWN BY	Sandra ALLOY 6061-T6	SCALE	4:1 DATE 16-01-15

intertek Report #: L6029.01
Date: 12/14/22
Verified by: *J.R.R.*

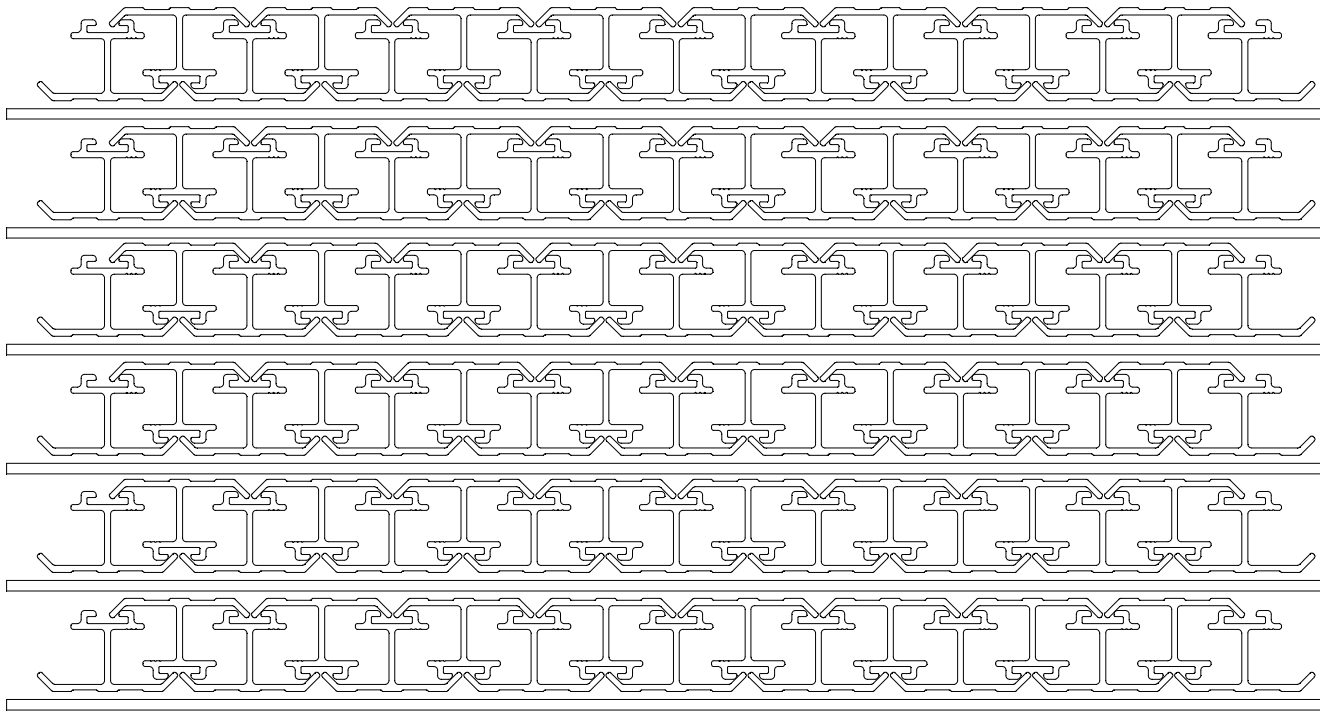
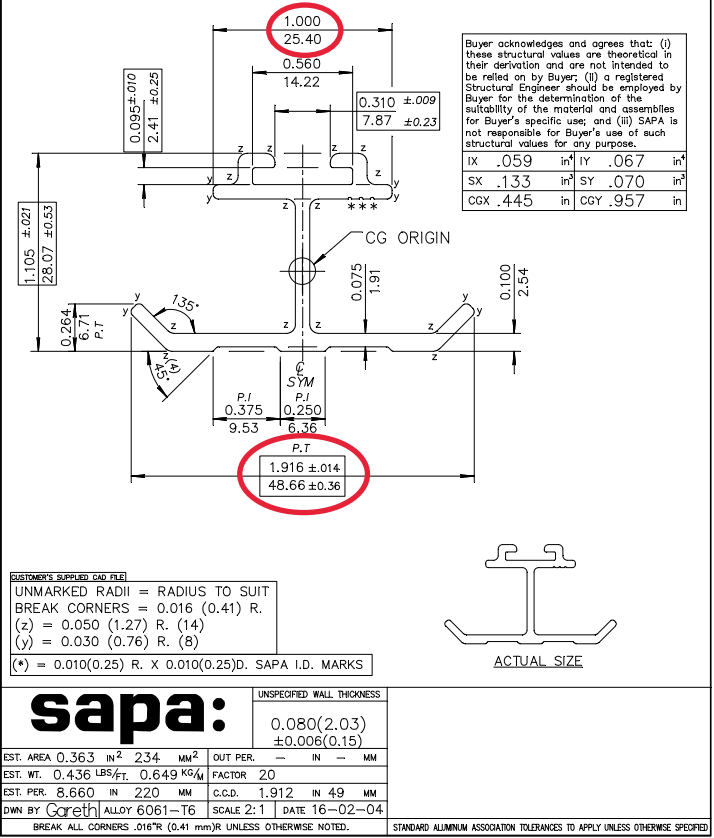
BREAK ALL CORNERS .016"R (0.41 mm)R UNLESS OTHERWISE NOTED.

STANDARD ALUMINUM ASSOCIATION TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED

CUSTOMER: CARTER FABRICATING INC.	PART NO. 009	DIE NO. AS-72490	DASH 1
DESCRIPTION: EVO INTEGRATED STIFFENER	TARIFF# 7604.29.10.00	PROPOSAL# 33592-1A	
SAPA 5675 Kennedy Road Mississauga, Ontario L4Z 2H9	DATE	SYM	REVISION

PACKAGING @ SAW

17pcs per row x 6 high



intertek Report #: L6029.01
 Total Quality. Assured. Date: 12/14/22
 Verified by: *J.R.F.*



Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR CARTER ARCHITECTURAL PANELS, INC.

Report No.: L6029.01-109-18

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SECTION 13

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	01/26/23	N/A	Original Report Issue