

WORTHINGTON ARMSTRONG VENTURE TEST REPORT

SCOPE OF WORK

UL 580 AND UL 1897 UPLIFT RESISTANCE TESTING OF
12" LINEAR CLASSICS, METAL PANEL CEILING SYSTEM

REPORT NUMBER

T4244.01-109-44

TEST DATES

03/11/26 – 03/12/26

ISSUE DATE

06/17/26

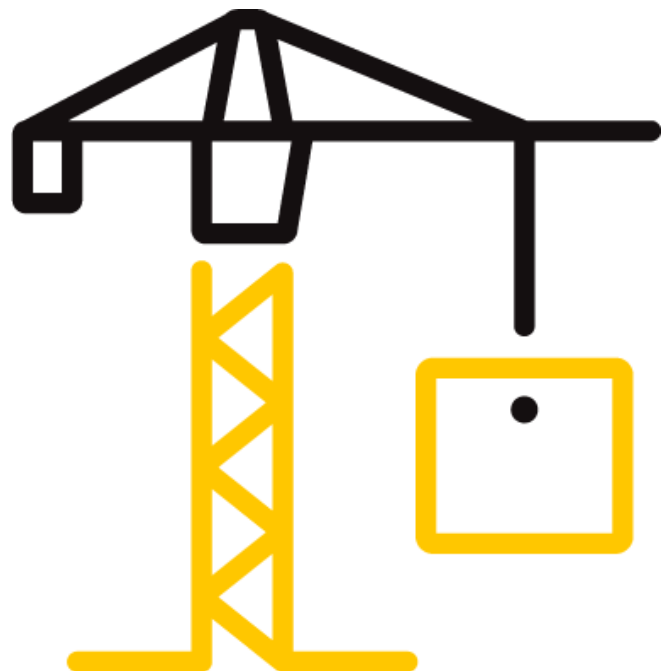
PAGES

17

DOCUMENT CONTROL NUMBER

RT-R-AMER-Test-7806 (07/12/22)

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TEST REPORT FOR WORTHINGTON ARMSTRONG VENTURE

Report No.: T4244.01-109-44

Date: 06/17/26

REPORT ISSUED TO

WORTHINGTON ARMSTRONG VENTURE

101 Lindenwood Drive

Suite 350

Malvern, Pennsylvania 19355

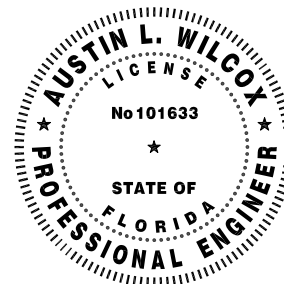
SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Worthington Armstrong Venture to perform testing in accordance with UL 580 and UL 1897 on their 12" Linear Classics, metal panel ceiling system. Results obtained are tested values and were secured by using the designated test method(s). Uplift testing was conducted at the Intertek B&C test facility in York, Pennsylvania.

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 four 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.



For INTERTEK B&C:

COMPLETED BY:	Richard E. Hartman III
TITLE:	Team Lead - Product Testing
SIGNATURE:	 Digitally Signed by: Richard Hartman III
DATE:	06/17/26

REH:mas

REVIEWED BY:	2026.06.17 09:34:11 -04'00' Austin L. Wilcox, P.E.
TITLE:	Project Engineer - Product Testing
SIGNATURE:	 Digitally Signed by: Austin L. Wilcox
DATE:	06/17/26

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SECTION 2**SUMMARY OF TEST RESULTS****Product Type:** Metal Panel Ceiling System**Series/Model:** 12" Linear Classics**Specimen 1 - Ultimate Test Load Achieved:** (-112 psf)**SECTION 3****TEST METHOD(S)**

The specimen was evaluated in accordance with the following:

ANSI/UL 580 2009 (R2024), *Standard for Tests for Uplift Resistance of Roof Assemblies***ANSI/UL 1897-2023**, *Standard for Uplift Tests for Roof Covering Systems***SECTION 4****MATERIAL SOURCE/INSTALLATION**

Test specimen(s) was provided by the client.

Installation of the tested product was performed the client.

SECTION 5**EQUIPMENT**

Weather Station: 63316

Tape Measure Verification: 63788

Linear Transducer: 003439, INT03249, 62182, 64325, 64368, Y003056, INT03250

Blower: INT04199, 004869

SECTION 6**LIST OF OFFICIAL OBSERVERS**

NAME	COMPANY
Michael Hehnly	Worthington Armstrong Venture
Austin L. Wilcox, P.E.	Intertek B&C
Richard E. Hartman III	Intertek B&C

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SECTION 7

TEST PROCEDURE

This test evaluates the comparative resistance of ceiling assemblies to positive and negative pressures by simulating the effects of wind gusts by use of oscillating exterior pressure and constant interior pressures. One assembly was tested per UL 580 at each class rating. (Reference Chart No. 1 for test pressures and load durations). The measurements were taken via linear transducers.

		NEGATIVE PRESSURE		POSITIVE PRESSURE	
TEST PHASE	DURATION minutes	POUNDS PER SQUARE FOOT psf (kPa)	INCHES OF WATER inches (mm)	POUNDS PER SQUARE FOOT psf (kPa)	INCHES OF WATER inches (mm)
Class 30					
1	5	16.2 (0.79)	3.1 (79)	0.0 (0.00)	0.0 (0)
2	5	16.2 (0.79)	3.1 (79)	13.8 (0.66)	2.7 (69)
3	60	8.1 - 27.7 (0.39 - 1.33)	1.5 - 5.3 (38 - 135)	13.8 (0.66)	2.7 (69)
4	5	24.2 (1.16)	4.7 (119)	0.0 (0.00)	0.0 (0)
5	5	24.2 (1.16)	4.7 (119)	20.8 (1.00)	4.0 (102)
Class 60					
1	5	32.3 (1.55)	6.2 (157)	0.0 (0.00)	0.0 (0)
2	5	32.3 (1.55)	6.2 (157)	27.7 (1.33)	5.3 (135)
3	60	16.2 - 55.4 (0.79 - 2.66)	3.1 - 10.7 (79 - 272)	27.7 (1.33)	5.3 (135)
4	5	40.4 (1.94)	7.8 (198)	0.0 (0.00)	0.0 (0)
5	5	40.4 (1.94)	7.8 (198)	34.6 (1.66)	6.7 (170)
Class 90 (maximum combined uplift pressure of 105 psf)					
1	5	48.5 (2.33)	9.3 (236)	0.0 (0.00)	0.0 (0)
2	5	48.5 (2.33)	9.3 (236)	41.5 (1.99)	8.0 (203)
3	60	24.2 - 48.5 (1.16 - 2.33)	4.7 - 9.3 (119 - 236)	41.5 (1.99)	8.0 (203)
4	5	56.5 (2.71)	10.9 (277)	0.0 (0.00)	0.0 (0)
5	5	56.5 (2.71)	10.9 (277)	48.5 (2.33)	9.3 (236)

Chart No. 1

TAS 125 Load Table Test Pressures

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SECTION 8

TEST SPECIMEN DESCRIPTION

Product Type: Metal Panel Ceiling System

Series/Model: 12" Linear Classics

Product Size(s):

OVERALL AREA:	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
8.8 m ² (95.1 ft ²)				
Overall size	2972	117	2972	117
Panel size	2438	96	318	12-1/2
Panel size	533	21	318	12-1/2

Test Chamber Construction:

The test chamber was constructed of steel C-channel that measured 10' long. The steel was stacked and welded to form one side of a four-sided chamber that measured 45" deep. Five W6 x 31 steel I-beams were flushed with the top of the chamber and equally spaced, welded at each end of the chamber. 2x10 Spruce-Pine-Fir wood was secured to the underside of the I-beams with #10 x 1-1/2" pan head screws, spaced 24" on center. The sides of the chamber utilized 2x10 Spruce-Pine-Fir wood, recessed at the bottom of the chamber, secured with #10 x 1-1/2" pan head screws, and spaced 18" on center. Sealant was utilized along the perimeter of the lumber.

Ceiling System:

COMPONENTS	DETAILS	ATTACHMENT METHOD
Carrier wall molding	Steel	Secured to the 2x10 wood perimeter with #8 x 1" truss head screws spaced 3" from each end and 8" on center
Structural 2x4, 20 gauge	Steel	Secured 24" x 32" on center to the wood support at the top of the test chamber using two #8 x 1" truss head screws per stud
Offset clip	Steel	Secured to the bottom of each structural stud using two #8 x 1/2" truss head screws
Carrier beam	Steel	Secured to each offset clip using two #8 x 1/2" truss head screws and fastened to the carrier wall molding at each end, spaced 24" on center
2' Cross Tee	Steel	Interlocked to the carrier beam at each end, spaced 32" on center
12" Linear panel	Steel	Interlocked with the carrier beam, each course utilized an alternating joint, the adjacent panels were fastened together using two #8 x 1/2" truss head screws
Pressure spring clips	Steel	One clip utilized per each panel end located between the panel and the carrier wall molding

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SECTION 9

UPLIFT TEST RESULTS

The temperature during testing was 18 -21°C (65 - 70°F). The results are tabulated as follows.

Test Specimen #1

TEST TITLE	OBSERVATIONS	DEFLECTION MEASUREMENTS	RESULTS
Class 30, Phases 1-5	No visible damage to system	Reference Table No. 1	PASSED
Class 60, Phases 1-5	Deformation of studs observed	Reference Table No. 1	PASSED
Class 90, Phases 1-5	Studs continued to deform	Reference Table No. 1	PASSED
Supplemental Loads -112 psf	Studs continued to deform	Reference Table No. 2	PASSED
Supplemental Loads -127 psf	Carrier buckled as target load was achieved due to stud deformation	Reference Table No. 2	FAILED

Notes:

Reference Chart No. 1 for test pressures and load durations.

Reference Sketch No. 1 for location of deflection measurement devices.

A loose fitting pleated 4-mil plastic film was utilized to assist in obtaining uniform pressure on the ceiling system. The plastic film was located at the interior side of the assembly to facilitate testing. In our opinion, this did not influence test results.

TEST REPORT FOR WORTHINGTON ARMSTRONG VENTURE

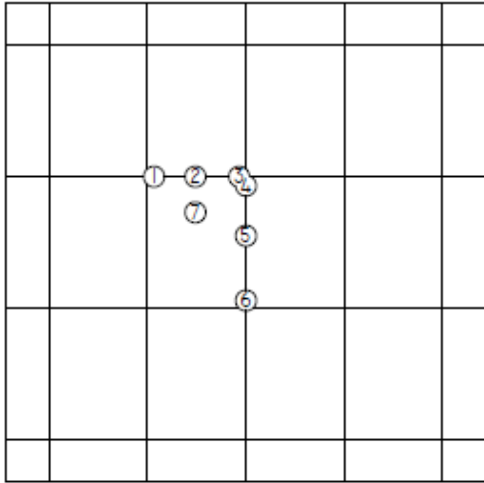
Report No.: T4244.01-109-44

Date: 06/17/26

SECTION 10

SKETCH

REV	DATE	DESCRIPTION	BY



PROJECT NO: T4244.01 109-44	PROJECT NAME: UL 580 & UL 1887 CLIENT: WORTHINGTON ARMSTRONG VENTURE		DRAWING: SKETCH #1 INDICATOR LOCATIONS	DWG. BY: TJM DATE: 5/27/26	SHEET 1 OF 1
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Sketch No. 1
Indicator Locations

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SECTION 11
TABLES

CLASS	PHASE	DEFLECTION MEASUREMENTS (inches)						
		INDICATOR						
		#1	#2	#3	#4	#5	#6	#7
30	1	0.20	0.13	0.08	0.09	0.15	0.19	0.36
	2	0.32	0.25	0.18	0.18	0.26	0.27	0.54
	3 Minimum	0.34	0.28	0.22	0.23	0.31	0.32	0.58
	3 Maximum	0.36	0.29	0.24	0.24	0.33	0.33	0.63
	4	0.34	0.26	0.21	0.21	0.28	0.30	0.53
	5	0.37	0.29	0.24	0.24	0.32	0.33	0.62
	Final (0.0 psf)	0.15	0.14	0.13	0.11	0.14	0.14	0.17
60	1	0.35	0.28	0.23	0.23	0.30	0.32	0.57
	2	0.46	0.38	0.32	0.33	0.41	0.41	0.75
	3 Minimum	0.53	0.53	0.51	0.40	0.53	0.46	0.66
	3 Maximum	0.75	0.77	0.82	0.67	0.83	0.63	1.20
	4	0.67	0.64	0.64	0.55	0.67	0.55	0.97
	5	0.72	0.73	0.78	0.66	0.80	0.61	1.15
	Final (0.0 psf)	0.41	0.42	0.43	0.31	0.39	0.31	0.42
90	1	0.68	0.66	0.69	0.59	0.71	0.57	1.02
	2	0.78	0.80	0.87	0.72	0.87	0.65	1.25
	3 Minimum	0.73	0.74	0.77	0.65	0.78	0.60	1.13
	3 Maximum	0.76	0.80	0.88	0.71	0.88	0.65	1.26
	4	0.73	0.73	0.75	0.63	0.77	0.61	1.11
	5	0.89	1.02	1.22	0.99	1.14	0.71	1.49
	Final (0.0 psf)	0.53	0.56	0.61	0.49	0.50	0.31	0.59

Table No. 1
Deflection Measurements

VACUUM (psf)	UPLIFT (psf)	LOAD (psf)	SUPPLEMENTAL DEFLECTION MEASUREMENTS (inches)						
			INDICATOR						
			#1	#2	#3	#4	#5	#6	#7
-63.5	-48.5	-112.0	0.94	1.09	1.31	1.08	1.22	0.73	1.58

Table No. 2
Supplemental Deflection Measurements

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SECTION 12

PHOTOGRAPHS



Photo No. 1
12" Linear Classics, Metal Panel Ceiling System



Photo No. 2
View of Test Specimen Failure



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SECTION 13

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.



~~MW Classics 6" Planks~~

MBC @ 36" O.C., Compression Posts 24" OC



MW Classics 12" Planks

MBC @ 24" O.C., Compression Posts 32" OC

Assembly Notes:

Perimeters:

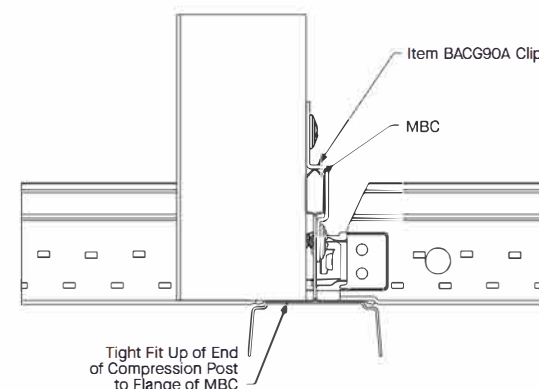
- DGS portion of carrier laying on top of Flex Carrier Molding and screw attached with #8x 1/2" sharp point
- Long sides of cut planks pop-riveted to bottom of Flex Carrier Molding (4' OC spacing?)
- Pressure Springs used on short ends of planks
- No BERC2's

Plank Splices:

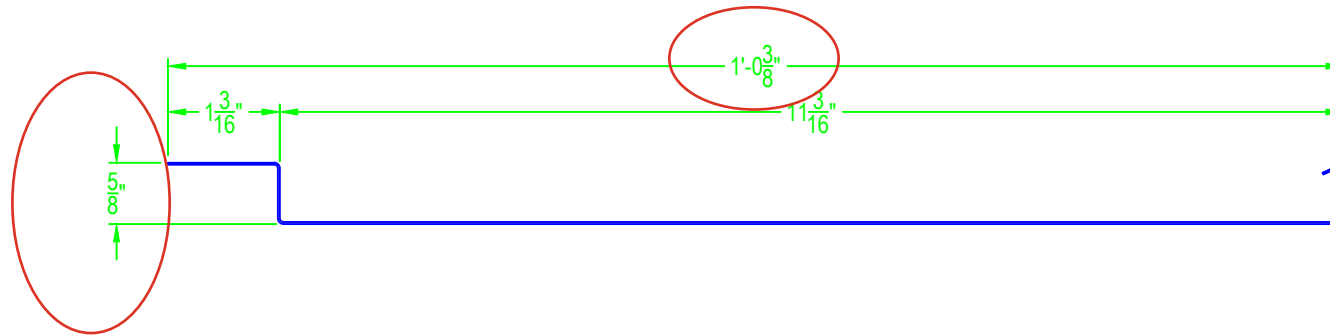
- For 6" planks: CRC screw attached perpendicular to DGS cross tees for bracing above plank splices
- For 12" Planks: splices must be located under Main Beam Carriers
- Splice plates not required (only for aesthetics)
- Alternate or stagger splice locations

Screws:

- ~~Flex Carrier Molding to frame - #8x1" truss head lathing screw~~
 - 3" from corners and 8" OC
- Steel studs to deck - #8x1" truss head lathing screw
 - 2 per stud
- Steel studs to carrier with BACG90 - #8x1" truss head lathing screw
 - 4 per clip



item	qty	Description
5574	8 PCS	Carrier Wall Molding 120" Lg x 1" x 1"
7177	5 PCS	Linear Classics Carrier Beam 144" Lg
XL8926G90	20 PCS	2' DGS XL Cross Tee, Exterior
60	60 FT	Structural Stud 2x4, 20 gauge (362S162-33) 12 FT
BACG90A	20 PCS	Wind Uplift Clip
5570	22 PCS	96" x 12" MW Linear Panel
8161	32 PCS	Pressure Spring Clips



These drawings show typical conditions in which the Armstrong product depicted is installed. They are not a substitute for an architect's or engineer's plan and do not reflect the unique requirements of local building codes, laws, statutes, ordinances, rules and regulations (Legal Requirements) that may be applicable for a particular installation.

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PROJECT NAME:

**12IN PLANK
CROSS SECTION**

DWG. NO.

PATH:

REV: .

DATE: .

DATE:

SCALE: **1:2**

DESC.: .

DRAWN BY:

CHK BY:

2

1

PART TABLE

BP Number	A	Description
BP8161	1.170	.625in Pressure Spring
BP????	2.170	1.625in Pressure Spring

REVISION HISTORY

ZONE	REV	DESCRIPTION	DATE	BY
	A	RELEASED FOR PRODUCTION	05/10/17	KAP
	B	ADDED NEW DEPTH	08/03/17	KAP
B2	C	ADDED RADIUS 0.020	09/25/17	KAP

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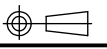
Report #: T4244.01

Date: 05/12/26

Verified by: *Richard E. H. H.*

TOLERANCES EXCEPT AS NOTED

INCHES	MM
.0 +/- 0.040"	0 +/- 1.0mm
.00 +/- 0.020"	.0 +/- 0.5mm
.000 +/- 0.010"	.00 +/- 0.25mm
ANGLES: +/- 0.5°	SQUARENESS: +/- 0.020"

MATERIAL	0.8mm Cold Rolled Steel	THIRD ANGLE PROJECTION 
FINISH	Unfinished	
DRAWN	KAPlace	1/23/2017
CHECKED	-	
APPROVED	-	
MFG	-	

Armstrong®

ABP Product Design

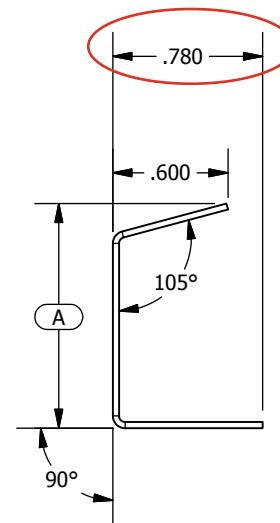
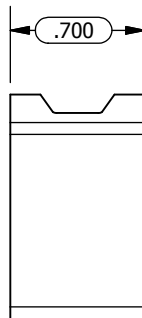
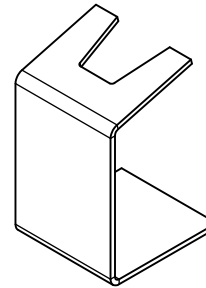
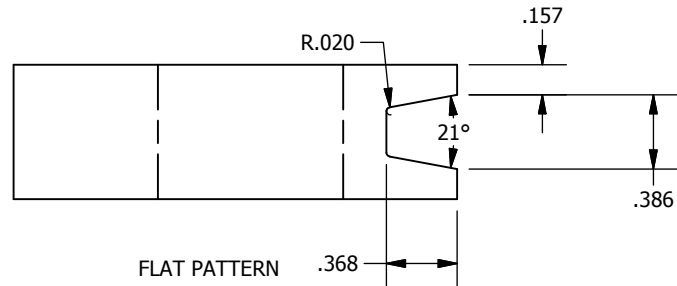
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PROJECT MW Linear	ITEM NO. See Part Table
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DESCRIPTION
Pressure Spring

SIZE A	DWG NO. 213710	REV C
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SCALE: 1 : 1 SHEET 1 OF 1

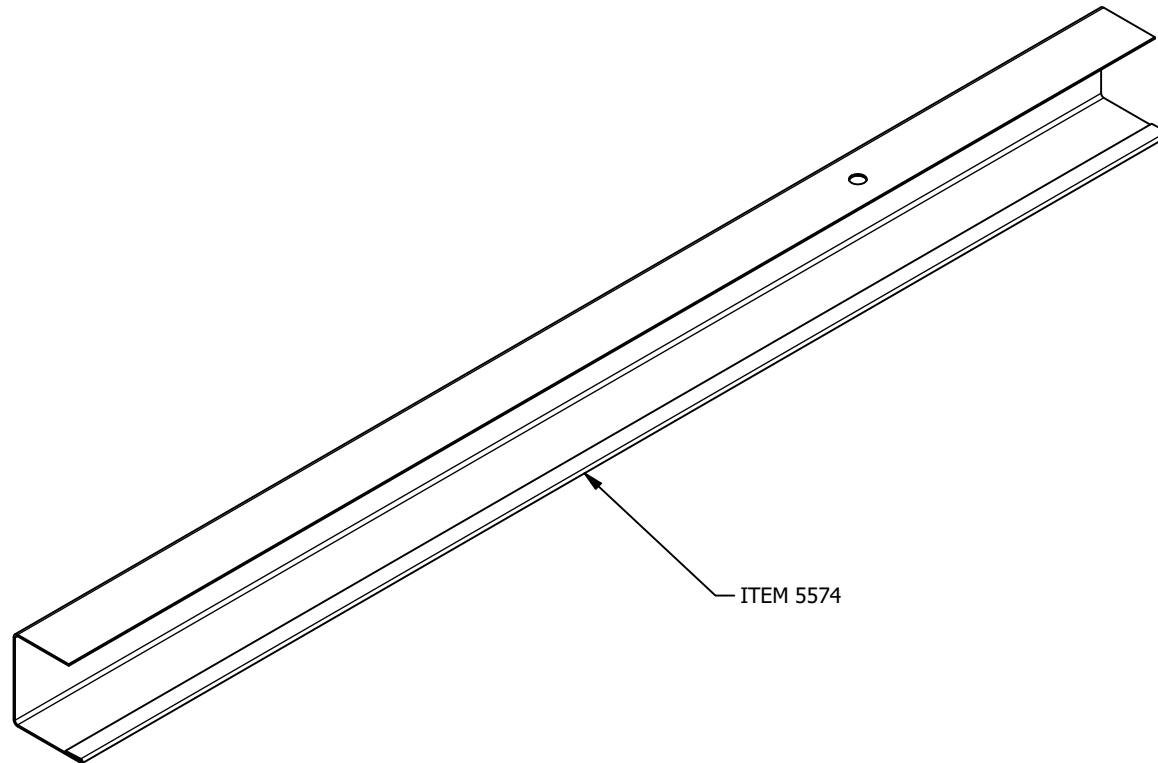


NOTES:

1. INTERNAL BEND RADII EQUAL TO MATERIAL THICKNESS
2. CRITICAL TO QUALITY DIMENSIONS MARKED WITH AN OVAL

2

1



ITEM 5574

BP5574 ISO VIEW
SCALE 1 / 2

Armstrong®
World Industries

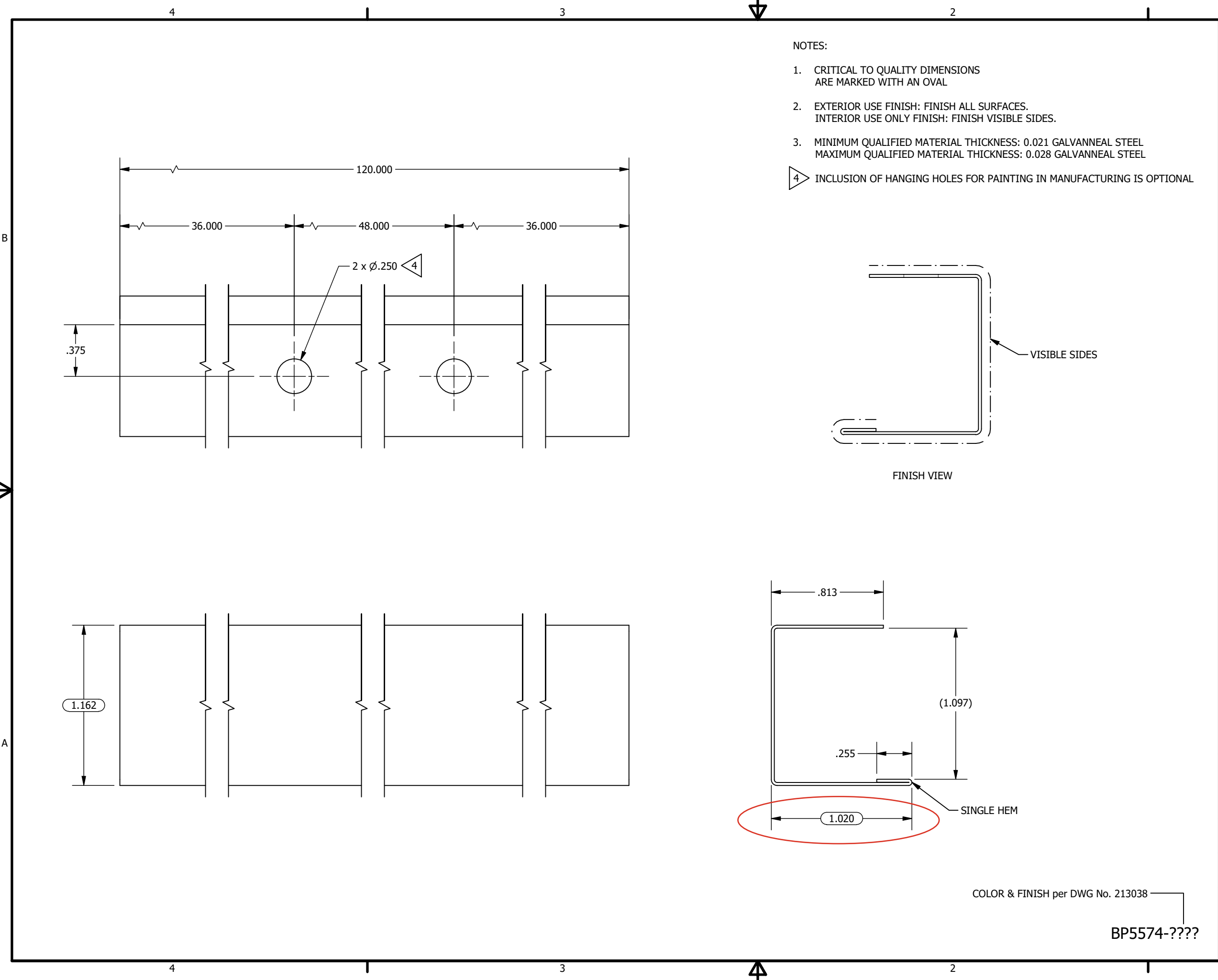
MW LINEAR SYNCHRO
WALL MOLDING, BP5574 - ISO VIEW

DRAWN BY: DJ5

DATE: 4/4/2024

PD

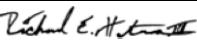
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- NOTES:
- CRITICAL TO QUALITY DIMENSIONS ARE MARKED WITH AN OVAL
 - EXTERIOR USE FINISH: FINISH ALL SURFACES.
INTERIOR USE ONLY FINISH: FINISH VISIBLE SIDES.
 - MINIMUM QUALIFIED MATERIAL THICKNESS: 0.021 GALVANNEAL STEEL
MAXIMUM QUALIFIED MATERIAL THICKNESS: 0.028 GALVANNEAL STEEL
- 4 INCLUSION OF HANGING HOLES FOR PAINTING IN MANUFACTURING IS OPTIONAL

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	BY
	A	Released for Production	08/27/21	PRW
A2 B2 B3 B4	B	Re-oriented Drawing Views Lengthened .813" Screwing Flange to be 2" Added Paint Hanging Holes Added Note #4 Removed BP8153 from drawing	11/17/21	PRW
A2 B3 B4	C	0.813" Horizontal Flange was 2.000" Positioned 0.25" Painting Holes to Correct Locations Released for Production per ECN081022MW	08/10/22	PRW

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Date: 05/12/26
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TOLERANCES EXCEPT AS NOTED	
INCHES	MM
.0 +/- 0.040"	0 +/- 1.0mm
.00 +/- 0.020"	.0 +/- 0.5mm
.000 +/- 0.010"	.00 +/- 0.25mm
ANGLES: +/- 0.5°	SQUARENESS: +/- 0.020"

COMPLIANCE	ALL MATERIALS & FINISHES ARE SUBJECT TO THE REQUIREMENTS OF ARMSTRONG MATERIAL SPEC S10399	
MATERIAL	See Note 3	THIRD ANGLE PROJECTION 
FINISH	See Note 2	
DRAWN	KAPlace	8/3/2017
CHECKED	-	
APPROVED	-	
MFG	-	

 **ABP Product Design**

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PROJECT MW Linear		ITEM NO. BP5574
DESCRIPTION Carrier Wall Molding		
SIZE B	DWG NO. 213715	REV C
SCALE: 2 : 1		SHEET 1 OF 1



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130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
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SECTION 14

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	06/17/26	N/A	Original Report Issue