

COLOR GUARD, INC., TEST REPORT

SCOPE OF WORK

CONCENTRIC AXIAL LOAD COMPRESSION AND UPLIFT TESTING OF 5 IN SQUARE PVC PORCH POST

REPORT NUMBER

T1918.01-119-16

TEST DATES

12/15/25 - 12/17/25

ISSUE DATE

03/02/26

RECORD RETENTION END DATE

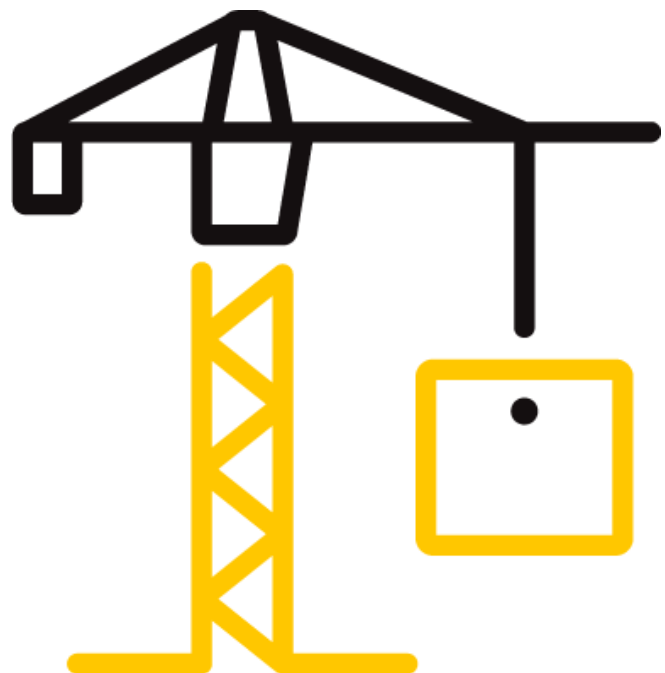
12/17/29

PAGES

18

DOCUMENT CONTROL NUMBER

ATI 00644 (07/24/17)
RT-R-AMER-Test-2793
© 2017 INTERTEK



TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

REPORT ISSUED TO

COLOR GUARD, INC.

320 Range Line Road

P.O. Box 28

Sheboygan Falls, WI 53085

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by Color Guard, Inc., Sheboygan Falls, Wisconsin to evaluate the structural performance of their 5 in square PVC porch post. The evaluation was for concentric axial loads in compression and uplift loads. 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.

Intertek B&C has demonstrated compliance with ISO/IEC International Standard 17025 and is consequently accredited as a Testing Laboratory (TL-144) by International Accreditation Service, Inc. (IAS).

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.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

For INTERTEK B&C:

COMPLETED BY:	Shawn E. Beamer
TITLE:	Technician I
SIGNATURE:	
DATE:	03/02/26

SEB:tah/aas

REVIEWED BY:	Travis A. Hoover
TITLE:	Senior Manager
SIGNATURE:	
DATE:	03/02/26

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample(s) tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

SECTION 2

SUMMARY OF TEST RESULTS

TEST	AVERAGE ULTIMATE LOAD (lb)
Axial Load Compression Tests	10,131
Uplift Load Tests	3,211

Results are average ultimate load capacity and should not be used as safe working values or design load values.

SECTION 3

MATERIAL SOURCE/INSTALLATION

Test samples were provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of four years from the test completion date.

Axial Load Compression Tests

The columns were installed into the compression fixture with no physical connections between the column and fixture. The compression fixture was plumbed using a "PLS-5" laser plumbing device. While applying a minimal preload, to hold the test sample in place, the specimen was plumbed in the fixture. An electronic linear displacement transducer was positioned at the mid-point of each of two axes on each column to measure lateral displacements about the X- and Y-Axes of the column. Tests were conducted at factory ambient temperature. Reference photographs in Section 9 for test setup.

Uplift Load Tests

The testing machine was fitted with steel channel at the top and the bottom to accommodate anchorage of the column brackets. Tests were conducted at lab ambient temperature (68°F ± 4°F). Reference photographs in Section 9 for test setup.

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

SECTION 4 EQUIPMENT

Axial Load Compression Tests

The test fixture consisted of a flat steel support attached to a rigid steel column at the top. The bottom consisted of a hydraulic jack positioned on a leveling fixture, fitted with a flat, steel bearing plate and a 50,000 pound capacity load cell. Test duration, load, and deflection were recorded electronically throughout the test.

Uplift Load Tests

The specimens were tested to ultimate capacity in tension utilizing a SATEC Unidrive, Model MII 50 UD Universal Test Machine (ICN: Y002011).

SECTION 5 LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Shawn E. Beamer	Intertek B&C
Adam J. Schrum	Intertek B&C

SECTION 6 TEST PROCEDURE

Axial Load Compression Tests

Each test sample was inspected prior to testing to verify size and general condition of the materials, assembly, and installation. No potentially compromising defects were observed prior to the tests. Each test began with a small initial load and was loaded at a steady, uniform load rate until the test sample failed. Lateral displacements, test load, and time were electronically recorded throughout the test. The ultimate load and mode of failure were recorded for each test.

Uplift Load Tests

After securing each column into the test machine, the load was applied at a uniform rate of 0.05 in/min. until failure. The test duration, ultimate test load, and mode of failure were recorded for each test.

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

SECTION 7**TEST SPECIMEN DESCRIPTION****Axial Load Compression Specimens**

The axial load specimens for the PVC porch post consisted of 3 in inside diameter by 108 in long by 0.070 in wall extruded 6063-T6 aluminum round insert with 5 in by 5 by 108 in by 0.100 in wall hollow PVC post. Four PVC spacers running the entire length, were located between the aluminum round insert and the PVC post and a cast aluminum cap/base plate was attached at the top and bottom of the post using four (4) #10-16 x 2" pan head, Phillips drive, self-drilling screws.

Uplift Load Specimens

The uplift load specimens for the PVC porch post consisted of 3 in inside diameter by 108 in long by 0.070 in wall extruded 6063-T6 aluminum round insert with 5 in by 5 by 108 in by 0.100 in wall hollow PVC post. Four PVC spacers were located between the aluminum round insert and the PVC post and a cast aluminum cap/base plate was attached at the top and bottom of the post using four (4) #10-16 x 2" pan head, Phillips drive, self-drilling stainless steel screws. Both ends of each test specimen was attached to a steel channel using four 3/8 in hex head bolts with nut and washer.

SECTION 8**TEST RESULTS****Axial Load Compression Tests**

Test loads were concentric axial compression. X- and Y-Axis displacements were measured at the column's mid-height.



Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

5 in Square by 108 in Long PVC Porch Post

Test No. 1

Test Date: 12/15/25

TEST LOAD (lb)	DISPLACEMENT (inches)	
	X-AXIS	Y-AXIS
0	0.00	0.00
1008	0.09	-0.01
2044	0.10	0.01
3069	0.11	0.01
4027	0.12	0.00
5024	0.12	-0.02
6004	0.12	-0.02
7005	0.12	-0.02
8023	0.13	-0.02
9060	0.14	-0.01
10017	0.20	0.15
10093	Ultimate Load - Buckling Failure	

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

Test No. 2

Test Date: 12/15/25

TEST LOAD (lb)	DISPLACEMENT (inches)	
	X-AXIS	Y-AXIS
0	0.00	0.00
1003	0.00	0.00
2009	0.00	0.01
3037	0.03	0.02
4013	0.07	0.03
5021	0.08	0.03
6016	0.09	0.03
7045	0.09	0.05
8020	0.10	0.07
9018	0.11	0.11
10030	0.17	0.17
10666	Ultimate Load - Buckling Failure	

Test No. 3

Test Date: 12/15/25

TEST LOAD (lb)	DISPLACEMENT (inches)	
	X-AXIS	Y-AXIS
0	0.00	0.00
1037	0.05	0.07
2013	0.08	0.12
3002	0.10	0.14
4002	0.12	0.15
5023	0.15	0.15
6011	0.18	0.14
7020	0.21	0.14
8016	0.25	0.15
9011	0.29	0.22
9635	Ultimate Load - Buckling Failure	

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

SECTION 9

SUMMARY OF AXIAL LOAD TESTS

5" Square PVC Porch Post

TEST NO.	ULTIMATE LOAD (lb)	DEVIATION FROM AVERAGE	FAILURE MODE
1	10,093	-0.4%	Buckling
2	10,666	+5.3%	
3	9,635	-4.9%	
AVERAGE	10,131		

Results are ultimate load capacity of individual specimens and should not be used as safe working values or design load values.

SECTION 10

SUMMARY OF UPLIFT LOAD TESTS

5 in Square Porch Post

Test Date: 02/26/21

SPECIMEN NO.	ULTIMATE LOAD (lb)	DEVIATION FROM AVERAGE	FAILURE MODE
1	2942	-8.4%	Post Mounting Bracket
2	3321	+3.4%	
3	3371	+5.0%	
AVERAGE	3211		

Results are ultimate load capacity of individual specimens and should not be used as safe working values or design load values.

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

SECTION 11 PHOTOGRAPHS



Photo No. 1
Axial Load Compression Test Setup



Photo No. 2
Axial Load Compression Test - Buckling Failure

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26



Photo No. 3
Typical Uplift Test Setup



Photo No. 4
Typical Uplift Test Failure



Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

SECTION 12

DRAWINGS

The "As-Built" drawings for the 3-1/4 in square aluminum porch post, which follow, have been reviewed by Intertek B&C and are representative of the project reported herein. Project construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

REVISIONS

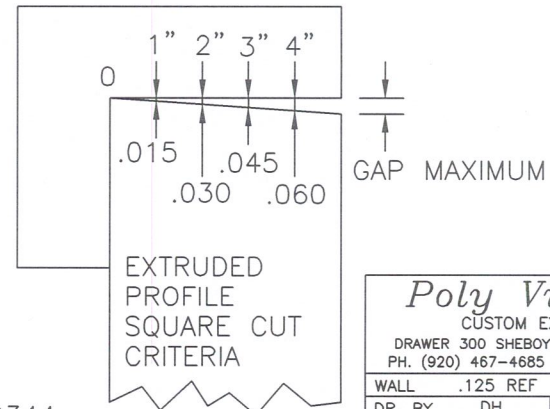
- 1. 2/22/05 ~~REWORDED NOTE FOR DROP DART TEST PER E.C.R. #2284 DH~~
- 2. 9/14/06 ~~REMOVED NOTE FOR MEASURING WALL PER E.C.R. #4864 DH~~
- 3. 5/19/14 ADDED .625 TO ALL 38BP AND 44BP PER NEWEL CAP PROJECT DH
- 4. 5/19/14 PART NUMBERS REMOVER FROM PRINT SPC55-144BP 144.00±.50, 10000542 96.00±.250, 10000543 107.00±.250, 10000544 96.00±.250, 10000546 96.00±.250, 10000547 84.00 +1.00
- 5. 9/16/25 CHANGED TOLERANCE ON PART 10000545 FROM ±.125 TO ±.250 KPB

WALLS MAY BE CONVEX OR CONCAVE
 .045 MAX FROM STRAIGHT LINE
 ALL 4 SIDES

5.000
 ± .030

REV	PART #	LENGTH	CC
REL	W55-38BP	38.625 ± .125	#017
REL	W55-44BP	44.625 ± .125	#017
REL	W55-96BP	96.000 ± .250	#017
REL	W55-108BP	108.50 ± .50	#017
REL	T55-38BP	38.625 ± .125	#015
REL	T55-44BP	44.625 ± .125	#015
REL	T55-96BP	96.000 ± .250	#015
REL	T55-108BP	108.50 ± .50	#015
REL	C55-38BP	38.625 ± .125	#014
REL	C55-44BP	44.625 ± .125	#014
REL	C55-96BP	96.000 ± .250	#014
REL	C55-108BP	108.50 ± .50	#014
REL	10000541	107.625 ± .250	#014
REL	10000543	107.625 ± .250	#015
REL	10000545	107.625 ± .250	#017
REL	10000548	72.000 ± .250	#017
REL	10000549	107.625 ± .250	#016
REL	10000625	38.000 ± .125	#017

ADD .015 PER EACH ADDITIONAL
 INCH OVER 4"



Wall thickness - 0.100" ✓

intertek

Test sample complies with these details.
 Deviations are noted.

Report # T1918.01
 Date 3/2/26 Tech [Signature]

NOTES:

- 1 CF-0336 & CF-0344
- 2 CUTS MUST BE TO SQUARE CUT DIAGRAM

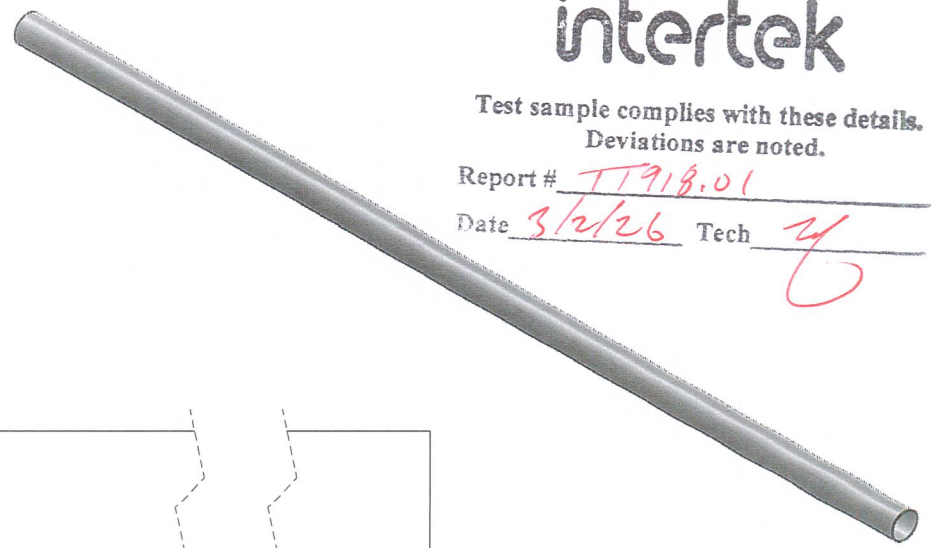
Poly Vinyl Co.
 CUSTOM EXTRUSIONS
 DRAWER 300 SHEBOYGAN FALLS, WI 53085
 PH. (920) 467-4685 FAX. (920) 467-3271

WALL	.125 REF	
DR. BY	DH	LOG
DATE	2/9/07	REV.
SCALE	FULL	AREA-
DIE	3390	FLEXIBLE RIGID
		2.438

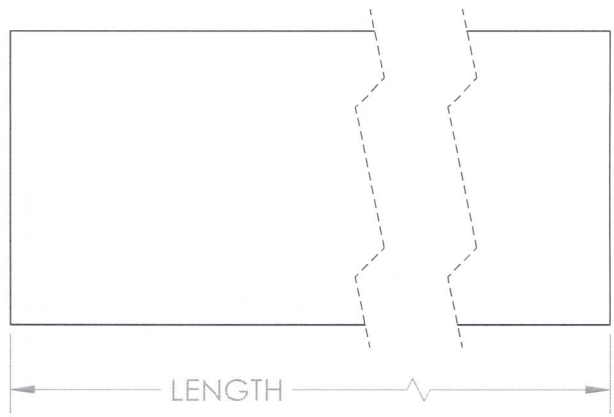
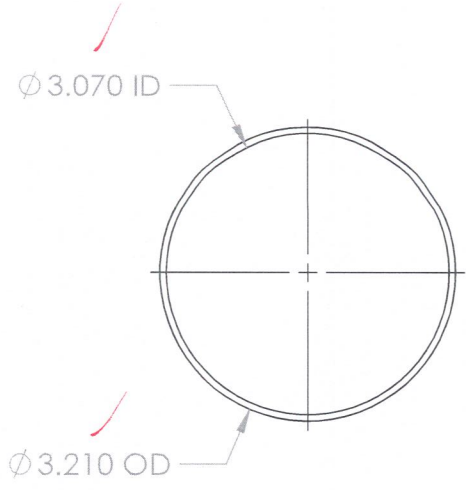
intertek

Test sample complies with these details.
Deviations are noted.

Report # TT918.01
Date 3/2/26 Tech zy



PART No	LENGTH
720601	107.50
TBA	10.50



STRAIGHTNESS: .010 / 12"
LENGTH: +0 / -.25
CUT SQUARENESS: ±1° EACH AXIS
CONCENTRICITY: 0.15 TIR

B	11-14-25	TBA LENGTH WAS 12.0	UNLESS OTHERWISE SPECIFIED:	NAME	DATE
			DIMENSIONS ARE IN INCHES	DRAWN	JAR
			TOLERANCES:	CHECKED	1-23-25
			FRACTIONAL ±	ENG APPR.	
			ANGULAR: MACH ± BEND ±	MFG APPR.	
			TWO PLACE DECIMAL ±	Q.A.	
			THREE PLACE DECIMAL ±	COMMENTS:	
			INTERPRET GEOMETRIC TOLERANCING PER:		
			MATERIAL		
			6063 T6 ALUMINUM		
			FINISH		
			APPLICATION		
			DO NOT SCALE DRAWING		

Poly Vinyl Co.

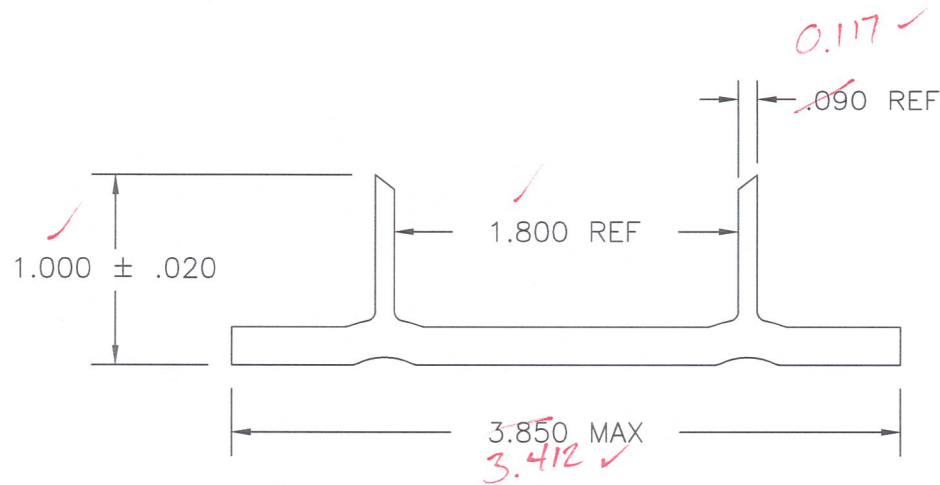
TITLE:
AL PST 107.50"+0-.25 (7.426#)

SIZE	DWG. NO.	REV
A	720601	B

SCALE: 1:24 WEIGHT: SHEET 1 OF 1

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF POYVINYL CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF POLY VINYL CO IS PROHIBITED.

REV	PART #	LENGTH ± .25
	10000510	42.75
	10000511	22.25



intertek

Test sample complies with these details.
Deviations are noted.

Report # TT918.01
Date 3/2/26 Tech zf

NOTES:

1 CF-0426

2

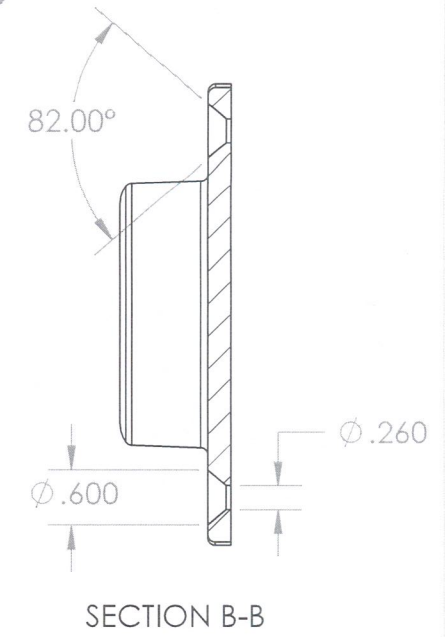
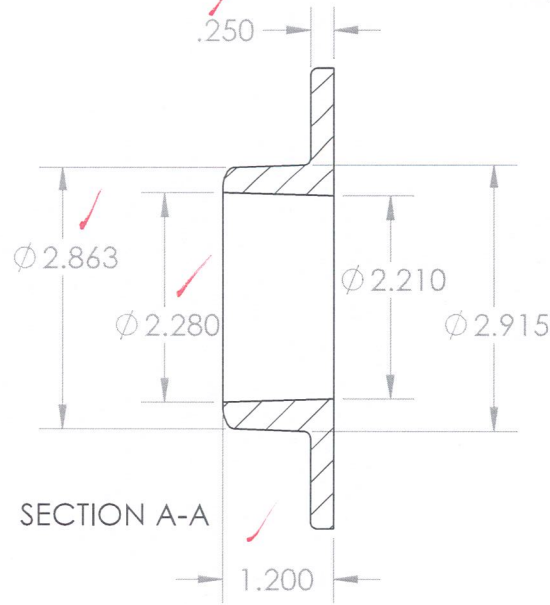
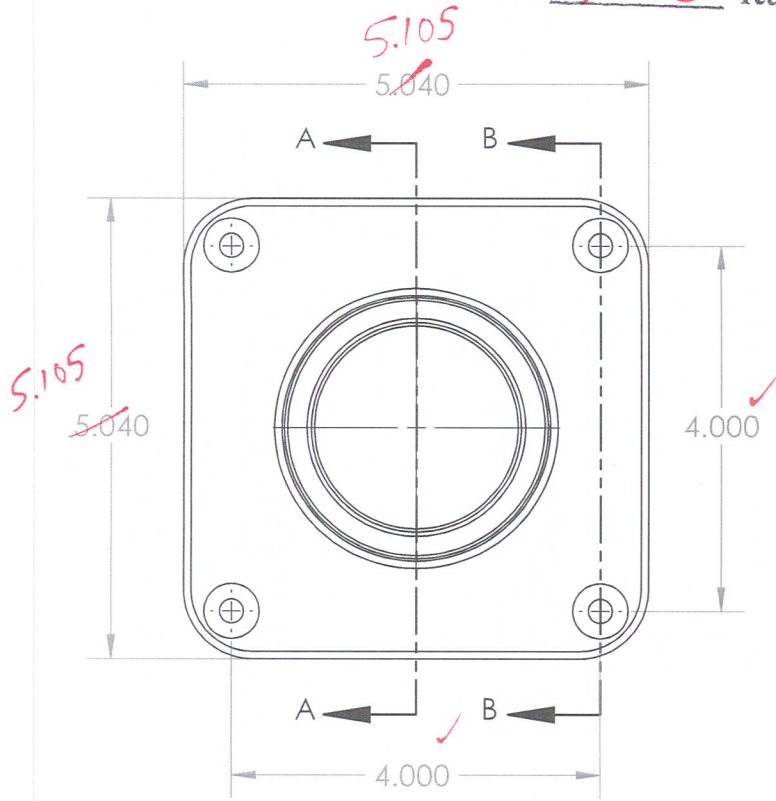
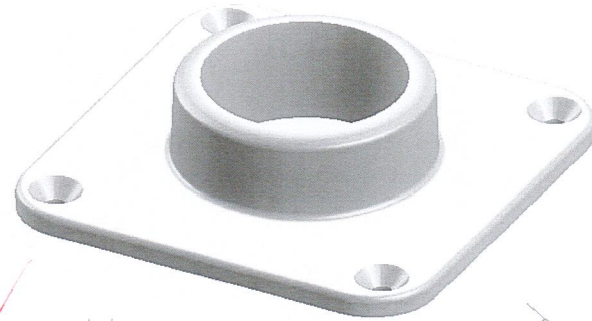
Poly Vinyl Co.
CUSTOM EXTRUSIONS
DRAWER 300 SHEBOYGAN FALLS, WI 53085
PH. (920) 467-4685 FAX. (920) 467-3271

WALL		
DR. BY	DH	LOG
DATE	3/27/01	REV. SEE CHART
SCALE	FULL	AREA-
DIE	3264	FLEXIBLE RIGID .851

Test sample complies with these details.
Deviations are noted.

Report # TT918.01

Date 3/12/26 Tech W

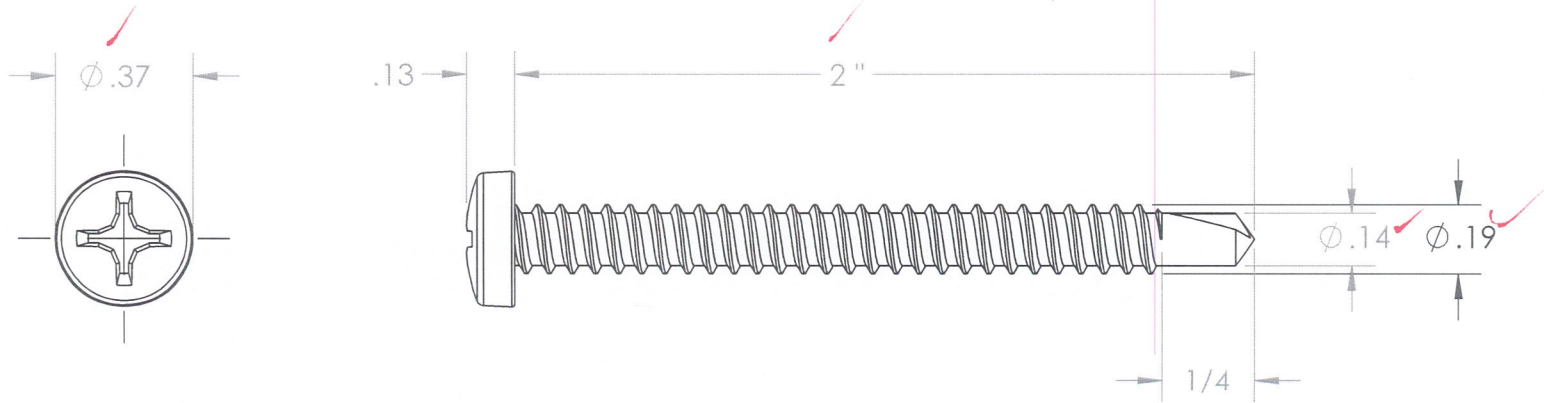


5.105

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF POYVINYL CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF POLY VINYL CO IS PROHIBITED.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES		DRAWN	JAR 1-22-25
		TOLERANCES:		CHECKED	
		FRACTIONAL ±		ENG APPR.	
		ANGULAR: MACH ± BEND ±		MFG APPR.	
		TWO PLACE DECIMAL ±		Q.A.	
		THREE PLACE DECIMAL ±		COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		319 ALUMINUM			
		FINISH			
		WHITE POWDER COAT			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

Poly Vinyl Co.		
TITLE:		
ALUMINUM TIE DOWN BRACKET		
SIZE	DWG. NO.	REV
A	720672	A
SCALE: 1:2	WEIGHT:	SHEET 1 OF 1



HEAD TYPE	PAN
DRIVE STYLE	PHILLIPS
DRIVE SIZE	#2
DIA / THREAD SIZE	#10 - 16
LENGTH	2"
TIP TYPE	SELF DRILLING SCREW
POINT TYPE	#3
MATERIAL	STAINLESS STEEL
GRADE	410
FINISH	1000 HR COAT

intertek

Test sample complies with these details.
Deviations are noted.

Report # T1918.01
Date 3/2/26 Tech zy

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF POYVINYL CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF POLY VINYL CO IS PROHIBITED.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Poly Vinyl Co. TITLE: SCREW SS 10X2 PPH SDS S/S #3	
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±		DRAWN	JAR		5-6-25
		INTERPRET GEOMETRIC TOLERANCING PER:		CHECKED			
		MATERIAL		ENG APPR.			
		FINISH		MFG APPR.			
NEXT ASSY	USED ON			Q.A.			
APPLICATION		DO NOT SCALE DRAWING		COMMENTS:			
				SIZE	DWG. NO.	REV	
				A	721288SS	A	
				SCALE: 1:1	WEIGHT:	SHEET 1 OF 1	

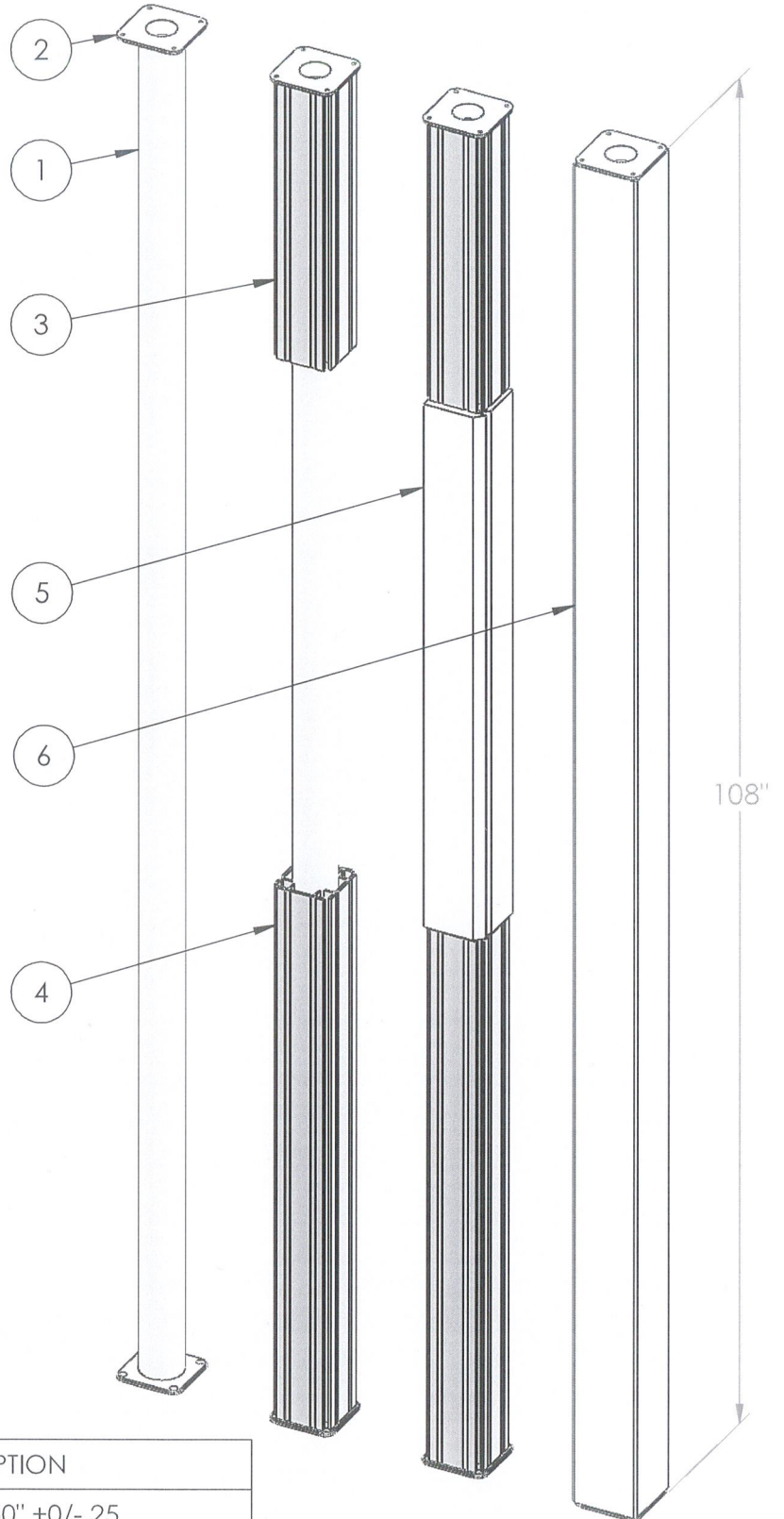
W55-108SP ASSEMBLY



Test sample complies with these details.
Deviations are noted.

Report # T1918.01

Date 3/2/26 Tech [Signature]



ITEM	QTY	PART No	DESCRIPTION
1	1	720601	AL PST 107.50" +0/-0.25
2	2	720672	ALUM BRKT TIE DOWN WHT
3	4	10000510	POST FILLER X 42.75" LONG
4	4	10000511	POST FILLER X 22.25" LONG
5	2	720641	CTN FOAM BLCK 42 X 4-5/8 X 3-7/8
6	1	10000545	POST WHT BLANK 5 X 107.625"



Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

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

TEST REPORT FOR COLOR GUARD, INC.,

Report No.: T1918.01-119-16

Date: 03/02/26

SECTION 13

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	03/02/26	N/A	Original Report Issue