Architectural Testing

TEST REPORT

Rendered to:

BARRETTE OUTDOOR LIVING, INC.

For:

***VersaRail* Aluminum Guardrail Assembly**

Report No: **B8389.01-119-19**
Report Date: **10/31/12**

130 Derry Court
York, PA 17406-8405
phone: 717-764-7700
fax: 717-764-4129
www.archtest.com

Architectural Testing

TEST REPORT

B8389.01-119-19
October 31, 2012

TABLE OF CONTENTS

Architectural Testing

TEST REPORT

Rendered to:

BARRETTE OUTDOOR LIVING, INC.
740 North Main Street
Bulls Gap, Tennessee 37711

Report No.:	B8389.01-119-19
Test Started:	04/20/12
Test Completed:	04/20/12
Report Date:	10/31/12

1.0 General Information

1.1 Product

VersaRail Aluminum Guardrail Assembly

1.2 Project Description

Architectural Testing was contracted by Barrette Outdoor Living Inc. to conduct structural performance tests on their *VersaRail* aluminum guardrail assembly in a level application. The assembly was evaluated for the design load requirements of the following building codes:

2012 *International Residential Code*®, International Code Council

Structural tests were performed according to Chapter 17 (Structural Tests and Special Inspections) of IBC 2012.

1.3 Limitations

All tests performed were to evaluate structural performance of the guardrail assembly to carry and transfer imposed loads to the supporting structure. The test specimens evaluated included the infill, rails, rail brackets, and support posts. Anchorage of support posts to the supporting structure is not included in the scope of this testing and would need to be evaluated separately.

1.4 Qualifications

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

130 Derry Court
York, PA 17406-8405
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1.5 Product Description

Barrette Outdoor Living provided the partially-assembled test specimens with details as listed below. All extruded parts were 6005-T5, 6063-T5 or 6063-T6 alloy aluminum, and all cast parts were AA380.0-F aluminum. See drawings in Appendix A and photographs in Appendix B for additional details.

Top Rail Cap: 2-1/8 in high by 1-3/4 in wide contoured aluminum extrusion with 0.07 in wall

Top Sub-rail and Bottom Rail: 1-3/16 in wide by 1 in deep **U**-shaped aluminum extrusion with 0.07 in wall

Pickets: 3/4 in square, hollow aluminum extrusion with 0.04 in wall

Picket Locking Strip: 3/4 in wide by 0.07 in thick polypropylene extrusion located in bottom and top sub-rail

Rail Brackets: Cast aluminum socket brackets contoured to shape of rails

Fasteners: #8 x 1-1/4 in (18-TPI, 0.162 in major dia., 0.120 in minor dia.) hex head, self-starting, sheet metal screw (four in top bracket / post and two in bottom bracket / post); #8 x 2 in (18-TPI, 0.165 in major dia., 0.113 in minor dia.) pan head, square drive, self-starting, carbon steel screw (two in top bracket / rail)

Posts: 2-1/2 in square by 0.07 in thick extruded aluminum attached to a 5-1/4 in square by 0.25 in thick AISI 1010 steel base plate with four 1/4 in by 2-1/2 in (20-TPI, 0.245 in major dia., 0.185 in minor dia., type F point) trim head, phillips drive, stainless steel screws.

2.0 Structural Performance Testing of Assembled Railing Systems

2.1 Test Equipment

The guardrail was tested in a self-contained structural frame designed to accommodate anchorage of the guardrail assembly and application of the required test loads. The specimens were loaded using an electric winch mounted to a rigid steel test frame. High strength steel cables, nylon straps, and load distribution beams were used to impose test loads on the specimens. Applied load was measured using an electronic load cell located in-line with the loading system. Electronic linear displacement transducers were used to measure deflections.

2.2 Test Setup

The 8 ft by 36 in *VersaRail* aluminum guardrail assembly was installed and tested as a single railing section by directly securing the posts into a simulated mock wood deck with four 5/16 in Gr. 5 bolts with washers and nuts. Additional wood blocking was added to the simulated wood deck per the manufacturer's instructions. See blocking instructions in Appendix C for additional information. Transducers mounted to an independent reference frame were located to record movement of reference points on the guardrail system components (ends and mid-point) to determine net component deflections. See photographs in Appendix B for individual test setups.

2.3 Test Procedure

Each test specimen 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 testing. An initial load, not exceeding 50% of design load, was applied and transducers were zeroed. Load was then applied at a steady uniform rate until reaching 2.0 times design load in no less than 10 seconds. After reaching 2.0 times design load, the load was released. After allowing a minimum period of one minute for stabilization, load was reapplied to the initial load level used at the start of the loading procedure, and deflections were recorded and used to analyze recovery. Load was then increased at a steady uniform rate until reaching 2.5 times design load or until failure occurred. The testing time was continually recorded from the application of initial test load until the ultimate test load was reached.

2.4 Test Results

The following tests were performed on the guardrail assemblies for the design load requirements of the referenced codes. Deflection and permanent set were component deflections relative to their end-points; they were not overall system displacements. All loads and displacement measurements were horizontal, unless noted otherwise.

Key to Test Results Tables:

Load Level: Target test load

Test Load: Actual applied load at the designated load level (target).

Elapsed Time (E.T.): The amount of time into the test with zero established at the beginning of the loading procedure.

2.4 Test Results (Continued)

Test Series No. 1
93-1/2 in by 36 in *VersaRail* Aluminum Level Guardrail System
Limited to IRC – One- and Two-Family Dwellings

Specimen No. 1 of 1

Test No. 1 – 04/20/12 **Design Load: 50 lb / 1 Square Ft at Center of In-Fill (Two Pickets)**						
Load Level	**Test Load (lb)**	**E.T. (min:sec)**	**Picket Displacement (in)**			
			End	**Mid**	**End**	**Net [1]**
Initial Load	26	00:00	0.00	0.00	0.00	0.00
2.0 x Design Load	101	00:16	0.42	0.97	1.14	0.19
Initial Load	26	01:52	0.00	0.00	0.04	0.00
100% Recovery from 2.0 x Design Load						
2.5 x Design Load	125	02:12	Achieved Load without Failure			

[1] *Net displacement was the picket displacement relative to its top and bottom.*

Test No. 2 – 04/20/12 **Design Load: 50 lb / 1 Square Ft at Bottom of In-Fill (Two Pickets)**						
Load Level	**Test Load (lb)**	**E.T. (min:sec)**	**Bottom Rail Displacement (in)**			
			End	**Mid**	**End**	**Net [1]**
Initial Load	25	00:00	0.00	0.00	0.00	0.00
2.0 x Design Load	101	00:25	0.11	1.72	0.13	1.60
Initial Load	25	02:08	0.00	0.01	0.01	0.01
99% Recovery from 2.0 x Design Load						
2.5 x Design Load	126	02:49	Achieved Load without Failure			

[1] *Net displacement was the bottom rail displacement relative to its ends.*

Test No. 3 – 04/20/12 **Design Load: 200 lb Concentrated Load at Mid-Span of Top Rail**						
Load Level	**Test Load (lb)**	**E.T. (min:sec)**	**Rail Displacement (in)**			
			End	**Mid**	**End**	**Net [1]**
Initial Load	80	00:00	0.00	0.00	0.00	0.00
2.0 x Design Load	401	00:56	1.10	2.89	0.77	1.96
Initial Load	80	02:47	0.15	0.20	0.09	0.08
96% Recovery from 2.0 x Design Load						
2.5 x Design Load	500	03:51	Achieved Load without Failure			

[1] *Net displacement was mid-rail displacement relative to the support posts.*

2.4 Test Results (Continued)

Test Series No. 1 (Continued)

Test No. 4 - 04/20/12 Design Load: 200 lb Concentrated Load at End of Top Rail (Bracket) and Post Tests [1]				
Load Level	**Test Load (lb)**	**E.T. (min:sec)**	**Displacement (in)**	
			Post #1	**Post #2**
Initial Load	101	00:00	0.00	0.00
2.0 x Design Load	802	01:04	2.60	2.02
Initial Load	101	02:45	0.57	0.38
78% Post #1 Recovery from 2.0 x Design Load 81% Post #2 Recovery from 2.0 x Design Load				
2.5 x Design Load	1002	04:07	Achieved Load without Failure	

[1] *Transducers were mounted to the posts.*

2.5 Summary and Conclusions

Using performance criteria of withstanding an ultimate load of 2.5 times design load, the test results met the test load requirements (design load plus factor of safety of two and one-half) of the referenced building codes for the nominal 8 ft wide by 36 in high *VersaRail* aluminum guardrail assembly and its support posts reported herein. Anchorage of support posts to the supporting structure is not included in the scope of this testing and would need to be evaluated separately.

3.0 Closing Statement

Detailed drawings, data sheets, representative samples of test specimens, a copy of this test report, and all other supporting evidence will be retained by Architectural Testing for a period of four years from the original test date. At the end of this retention period, said materials shall be discarded without notice, and the service life of this report by Architectural Testing shall expire. Results obtained are tested values and were secured using the designated test methods. This report neither constitutes certification of this product nor expresses an opinion or endorsement by this laboratory; it is the exclusive property of the client so named herein and relates only to the tested specimens. This report may not be reproduced, except in full, without the written approval of Architectural Testing.

For ARCHITECTURAL TESTING:

Digitally Signed by: Kyle Evans

Kyle J. Evans
Technician II
Structural Systems Testing

Digitally Signed by: Virgal Thomas Mickley, Jr.

Virgal T. Mickley, Jr., P.E.
Senior Project Engineer
Structural Systems Testing

KJE:vtm/drm

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

- Appendix A - Drawings (14)
- Appendix B - Photographs (4)
- Appendix C - Blocking Instructions (1)

Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	10/31/12	N/A	Original report issue

APPENDIX A

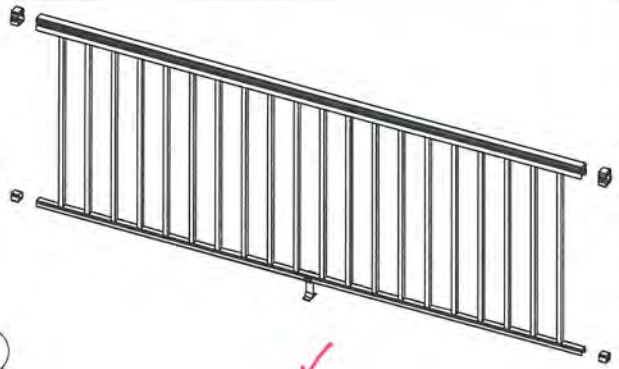
Drawings

POWDER COAT OPTIONS

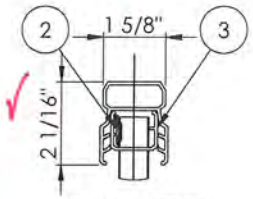
BLACK FINISH
8' X 36" VERSARAIL SQ BAL W/ BRKTS 73013139

WHITE FINISH
8' X 36" VERSARAIL SQ BAL W/ BRKTS 73013140

THESE ARE UNASSEMBLED KITS



ITEM	DESCRIPTION	QTY.
1	HAND RAIL	1
2	CORIGIN STRIP	8
3	INFILL CHANNEL	2
4	BALUSTER	20
5	UPPER LINE BRACKET	2
6	LOWER LINE BRACKET	2
7	SCREW LOCATION TEMPLATE	1
8	CRUSH BLOCK	1
9	SCREW KIT	1



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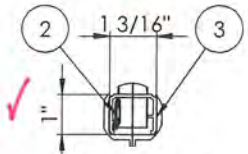
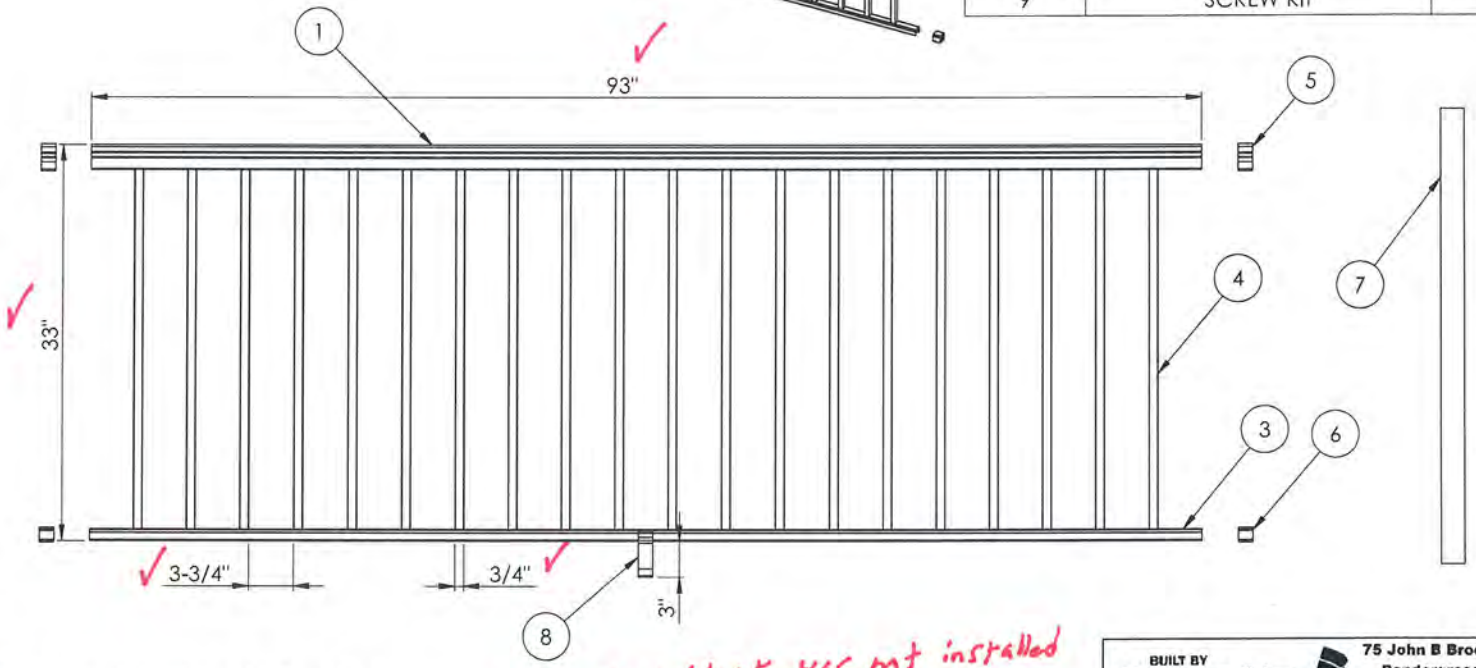
SCALE 1 : 3



DETAIL - LOWER
SCALE 1 : 3



Note: Foot block was not installed on test specimen.

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/26/12 Tech KJE

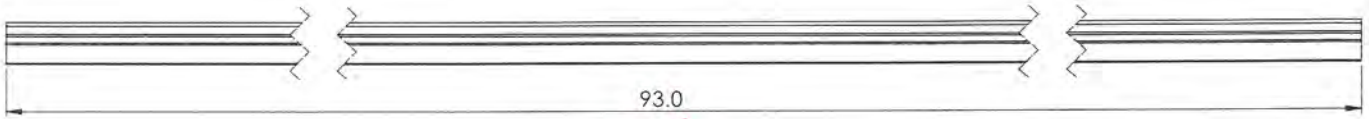
BUILT BY
Barrette Outdoor Living
75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

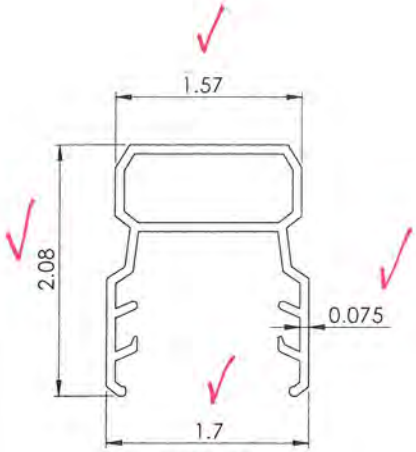
DRAWN BY:	DATE:	SCALE:
Ray Clark	10/18/2012	1:10

TITLE: VERSARAIL 36" H X 8 FT w/BALUSTERS

EQUIPMENT No:	SECTION:	REVISION:	DRAWING No:
REFERENCE No:	2 of 6	0	36 X 8'

ITEM NO.	DESCRIPTION	LENGTH	QTY.
1	8 FT VERSARAIL HANDRAIL	93"	1





DETAIL A
SCALE 1 : 1

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/25/12 Tech KJE

Weight = 5.27 lbs
Material = 6063-T5 Aluminum

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH (u/f)	125 RMS
UNLESS OTHERWISE SPECIFIED	

No	NAME	DATE	DESCRIPTION
			REVISION

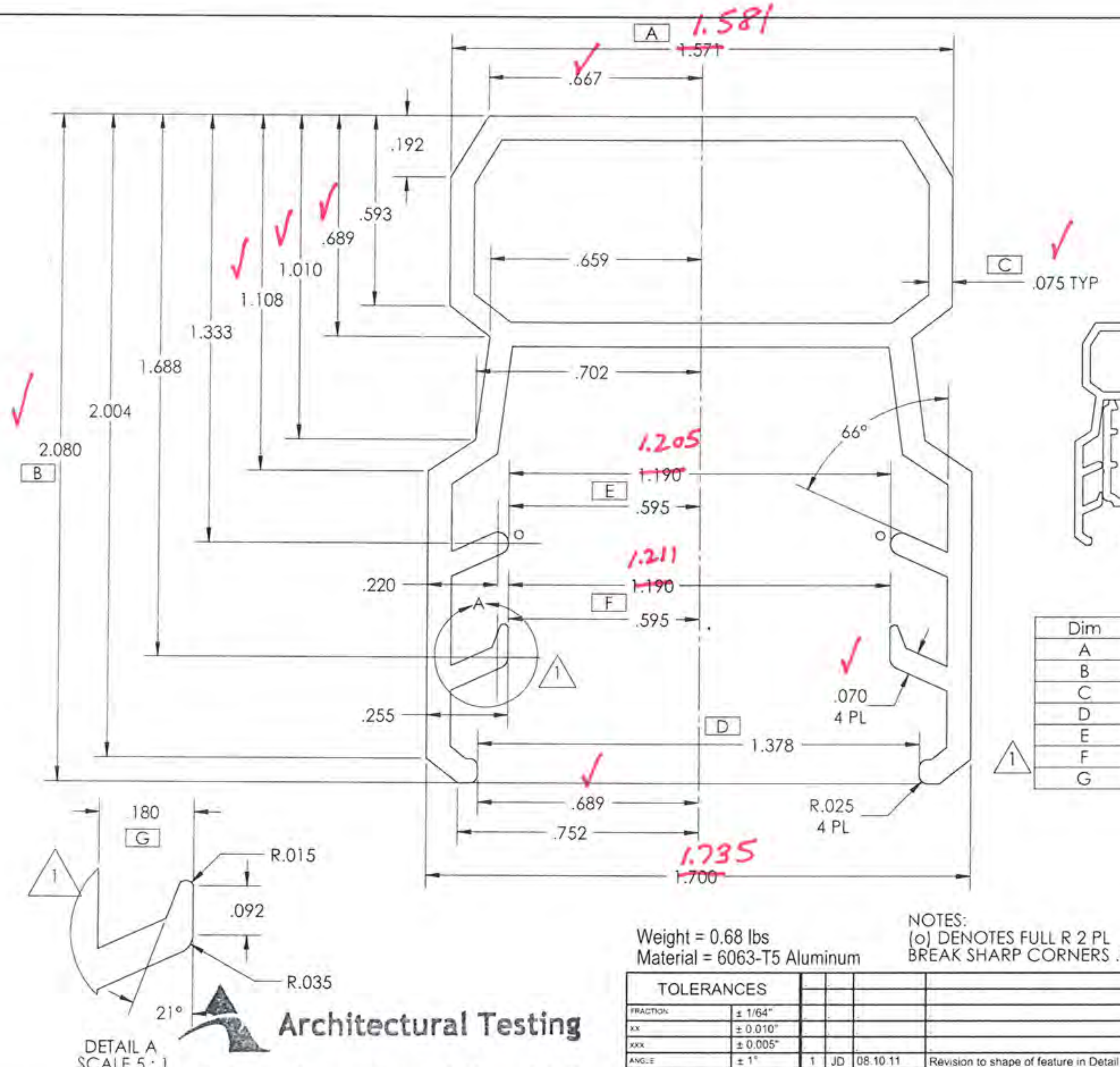
BUILT BY Barrette Outdoor Living
75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

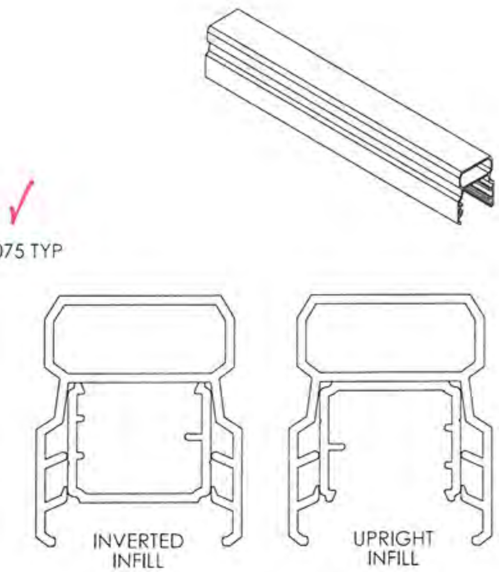
DRAWN BY: Ray Clark | DATE: 10/18/2012 | SCALE: 1:6

TITLE: P:\Engineering 2011\Research and Development\RND75044\Apm\Drawings for Testing Docs\

8 FT VERSARAIL HANDRAIL

EQUIPMENT No	SECTION	REVISION	DRAWING No
REFERENCE No	2 of 3	0	





Dim	Print	Min.	Max	Actual
A	1.571			
B	2.080			
C	0.075			
D	1.378			
E	0.595			
F	0.595			
G	0.180			

Weight = 0.68 lbs
Material = 6063-T5 Aluminum

NOTES:
(o) DENOTES FULL R 2 PL
BREAK SHARP CORNERS .015 R

BUILT BY **Barrette Outdoor Living**

75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH	125 RMS
UNLESS OTHERWISE SPECIFIED	

No	NAME	DATE	DESCRIPTION
1	JD	08.10.11	Revision to shape of feature in Detail "A"

REVISION

DRAWN BY: Ray Clark | DATE: 10/25/2012 | SCALE: 3:1

TITLE: VERSARAIL HANDRAIL

EQUIPMENT No: | SECTION: | REVISION: 1 | DRAWING No: Sheet1

REFERENCE No: | 1 of 1

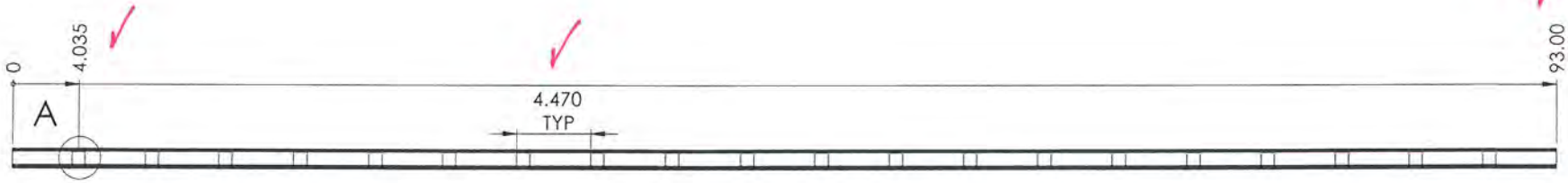
Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/25/12 Tech KJE

ITEM NO.	DESCRIPTION	LENGTH	QTY.
1	8 FT INFILL	93"	1



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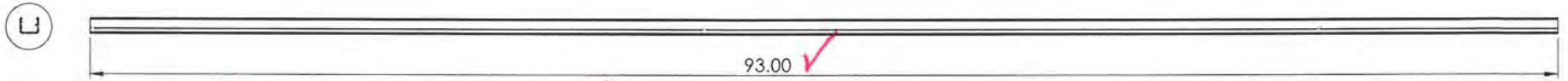

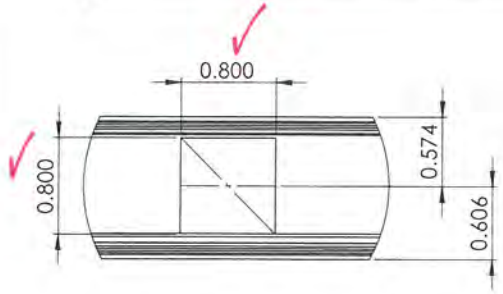

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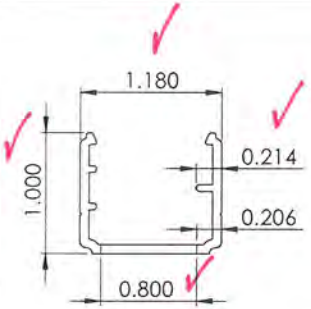


DETAIL B
SCALE 1 : 1

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/25/12 Tech KJE

Raw Mat Wt = 2.16 lbs
Weight = 2.06 lbs
Material = 6063-T5 Aluminum

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH (µ")	125 RMS
UNLESS OTHERWISE SPECIFIED	

No	NAME	DATE	DESCRIPTION

REVISION

BUILT BY
Barrette Outdoor Living
75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

DRAWN BY: Ray Clark | DATE: 10/18/2012 | SCALE: 1:6.5

TITLE: P:\Engineering 2011\Research and Development\RND75044\Acrit\Drawings for Testing Docs\

8 FT INFILL

EQUIPMENT No: | SECTION: | REVISION: 0 | DRAWING No:

REFERENCE No: | 2 of 3

PRINT APPROVAL

PLEASE INDICATE EXPOSED SURFACES
PLEASE INDICATE WHERE INTEX I.D. GOES

COMPANY _____

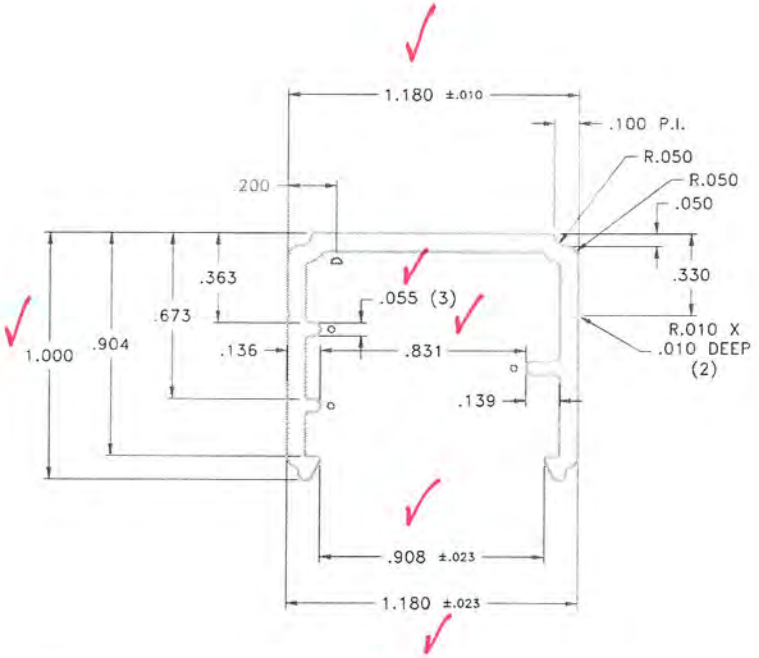
SIGNATURE _____

DATE _____

YOUR SIGNATURE INDICATES NO CHANGES TO DIMENSIONS OR TOLERANCES AS SHOWN ON THIS DRAWING. THIS IS NOT AN INTERNATIONAL EXTRUSIONS DESIGN. IT IS AN INTERPRETATION OF THE CUSTOMER'S DRAWING. NO WARRANTY OF FITNESS OR APPLICATION OF USE IS IMPLIED. ALL DIMENSIONAL CHECKS WILL BE DONE USING THIS PRINT ONLY.

KE-10509

VERSION TWO DRAWING

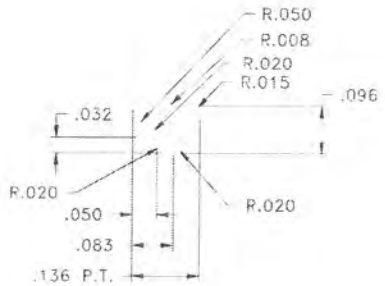


Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/25/12 Tech KJE



Material = 6063-T5

(a) R.01 X .01 DEEP I.D. MARK
(o) DENOTES FULL R. (3)
TYPICAL UNMARKED WALL .075
BREAK SHARP CORNERS .015 R

INTERNATIONAL EXTRUSIONS

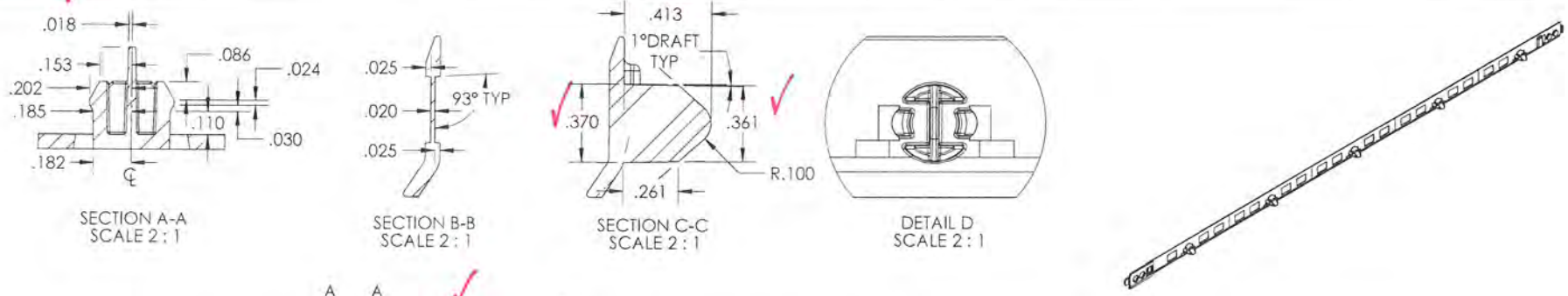
ALUMINUM ASSOCIATES STANDARD EXTRUSION TOLERANCES WILL APPLY UNLESS OTHERWISE NOTED ON PRINT

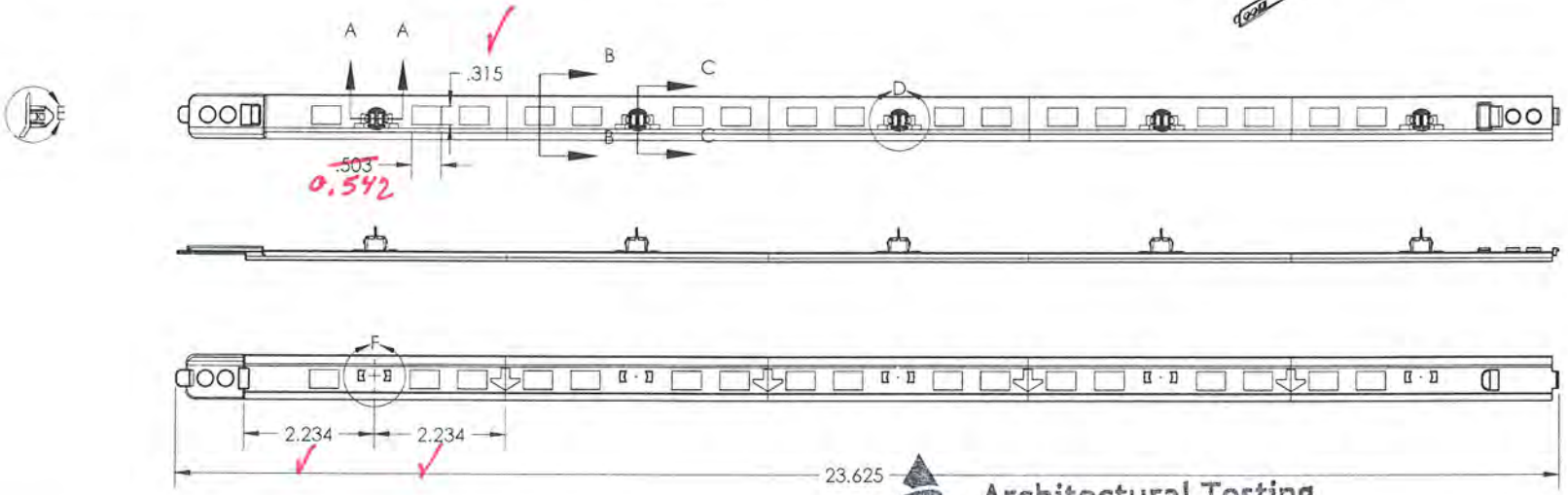
DIMENSIONS CHKD BY	
EST. AREA	.237
EST. WT. FT.	.285
EST. PER.	6.562
FIN. PER.	
CLASS	SOLID
CIRCLE SIZE	1.500
CUST. REVIEW	NONE

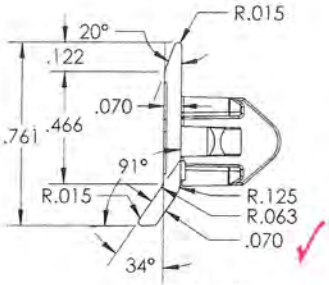
DESCRIPTION: INFILL PROFILE

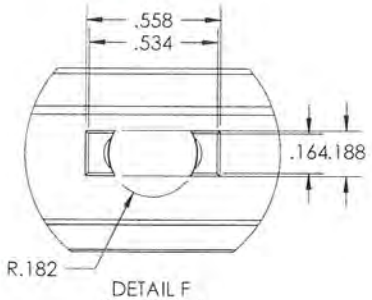
DR. BY EGP DATE 6-22-2011
SLS 97 SCALE 2X
FILE PLUTO DIE NO
DWG# 11B173B2

CUSTOMER: BARRETTE OUTDOOR PRODUCTS
PART NO: NONE









Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389 01-119-19

Date 10/25/12 Tech KJE

Weight = 0.05 lbs
Material = PP/Glass 30%

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH (u)	125 RMS
UNLESS OTHERWISE SPECIFIED	

No	NAME	DATE	DESCRIPTION
			REVISION

BUILT BY Barrette Outdoor Living
75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

DRAWN BY	DATE	SCALE
Ray Clark	11/15/2011	1:2

TITLE: CORIGIN STRIP WITH ENDS

PART No.	SECTION	REVISION	DRAWING No.
61104553	2 of 2	0	61104553

REFERENCE No.

ITEM NO.	DESCRIPTION	LENGTH	QTY.
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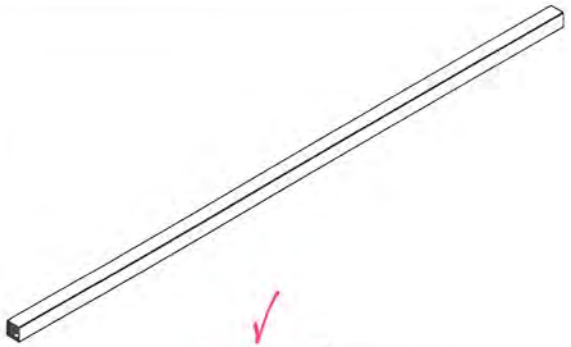
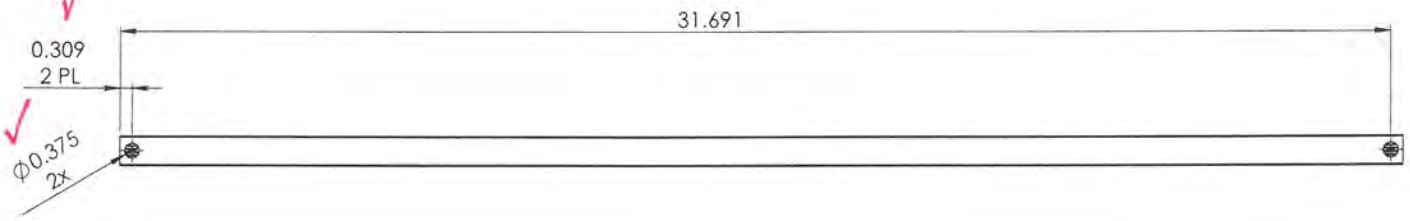


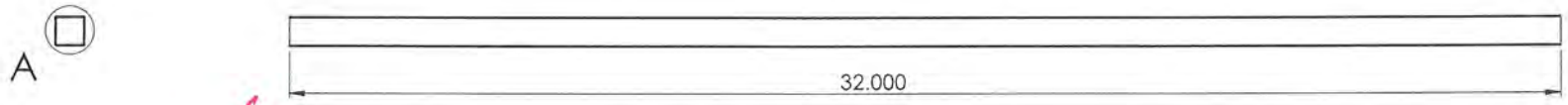
Architectural Testing

Test sample complies with these details.
Deviations are noted.

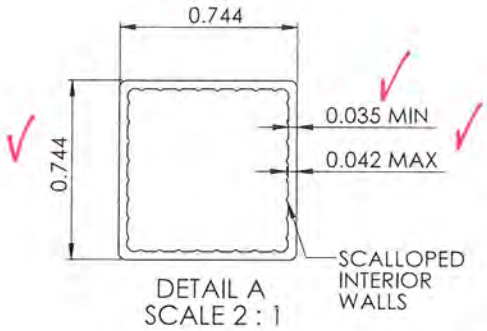
Report # B8389.01-119-19

Date 10/25/12 Tech KJE





32" BALUSTER FOR 3 FOOT RAILING



DETAIL A
SCALE 2 : 1

Weight = 0.321 lbs
Material = 6063-T6 Aluminum

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH (Ra)	125 RMS
UNLESS OTHERWISE SPECIFIED	

No	NAME	DATE	DESCRIPTION

REVISION

BUILT BY Barrette Outdoor Living

75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

DRAWN BY: Ray Clark	DATE: 10/18/2012	SCALE: 1:3

TITLE: SERRATED 3/4" BALUSTER

EQUIPMENT No	SECTION	REVISION	DRAWING No
REFERENCE No	1 of 2	0	32"

PRINT APPROVAL

PLEASE INDICATE EXPOSED SURFACES

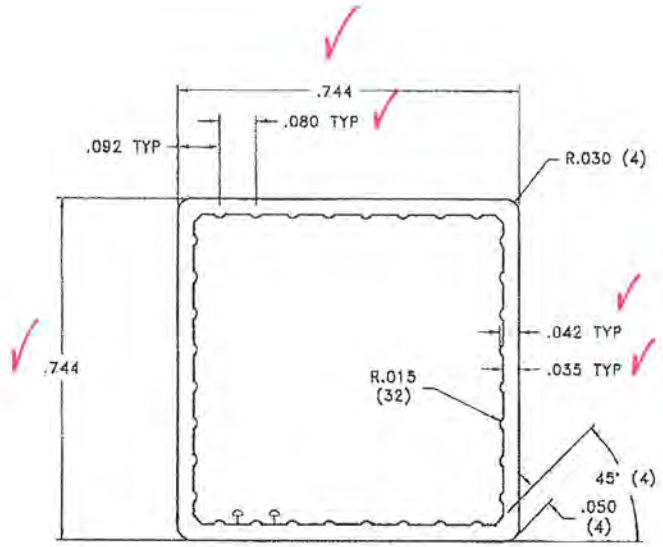
PLEASE INDICATE I.D. OR O.D.S

COMPANY Satellite Mfg. Inc.

SIGNATURE

DATE 4/20/11

YOUR SIGNATURE INDICATES NO CHANGES TO DIMENSIONS OR TOLERANCES AS SHOWN ON THIS DRAWING. THIS IS NOT AN INTERNATIONAL EXTRUSIONS DESIGN. IT IS AN INTERPRETATION OF THE CUSTOMER'S DRAWING. NO WARRANTY OF FITNESS OR APPLICATION OF USE IS IMPLIED. ALL DIMENSIONAL CHECKS WILL BE DONE USING THIS PRINT ONLY.



EXTERIOR PERIMETER EXPOSED

ACTUAL SIZE

PRELIMINARY DRAWING

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # 88389.01-119-19

Date 10/25/12 Tech KJE

Material = 6063-T5

(a) R.01 X .01 HI I.D. MARK
BREAK SHARP CORNERS .010 R

International Extrusions
5800 Venoy Rd. – Garden City MI 48135

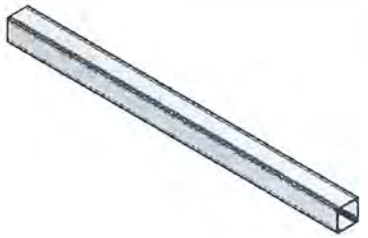
ALUMINUM ASSOCIATES STANDARD EXTRUSION TOLERANCES WILL APPLY UNLESS OTHERWISE NOTED ON PRINT

DIMENSIONS CHKD BY				
EST. AREA	.103	DESCRIPTION	DR. BY ECP	DATE 4-20-2011
EST. WT. FT.	.124	NEW 3/4" SQUARE COMMERTIAL PICKET	SLS 97	SCALE 4X
EST. PER.	2.924		FILE PLUTO	DIE NO.
FIN. PER.	2.924		DWG# 11S11082	
CLASS	HOLLOW			
CIRCLE SIZE	1.250	CUSTOMER		PART NO.
CUST REV LEV	NONE	BARRETTE OUTDOOR PRODUCTS		RND75040

POWDER COAT OPTIONS

BLACK FINISH
2-1/2" X 2-1/2" X 39" POST 73013174

WHITE FINISH
2-1/2" X 2-1/2" X 39" POST 73013175

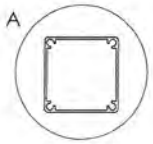


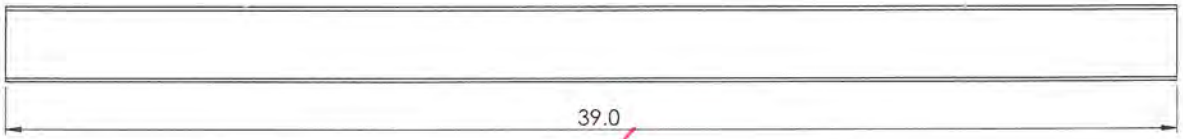
Architectural Testing

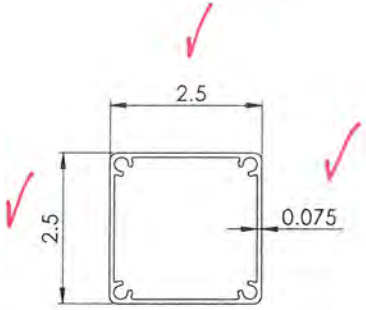
Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/25/12 Tech KJE







DETAIL A
SCALE 1 : 2

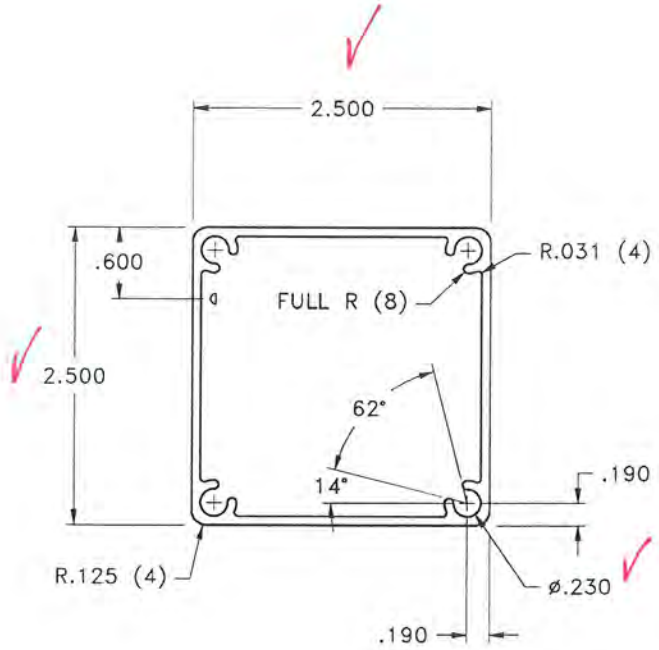
BUILT BY Barrette Outdoor Living
75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

DRAWN BY	DATE	SCALE
Ray Clark	1/16/2012	1:4

TITLE: 2.5 sq x 39 in RAILING POST

EQUIPMENT No.	SECTION	REVISION	DRAWING No.
REFERENCE No.	1 of 3	0	39 in

KE9582



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/25/12 Tech KJE

Material = 6005-T5
EXTERIOR PERIMETER EXPOSED

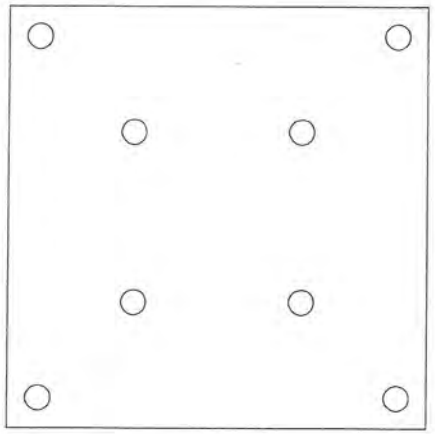
(a) R.01 X .01 HI I.D. MARK
TYPICAL UNMARKED WALL .075
BREAK SHARP CORNERS .015 R

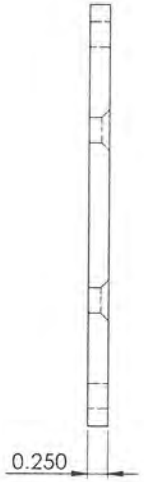
International Extrusions
5800 Venoy Rd. - Garden City MI 48135

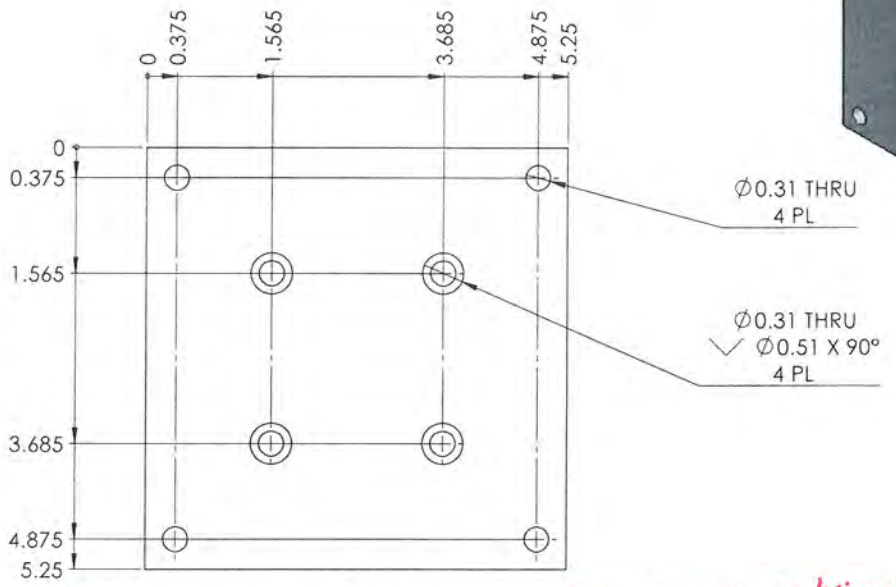
ALUMINUM ASSOCIATES STANDARD EXTRUSION TOLERANCES WILL APPLY UNLESS OTHERWISE NOTED ON PRINT

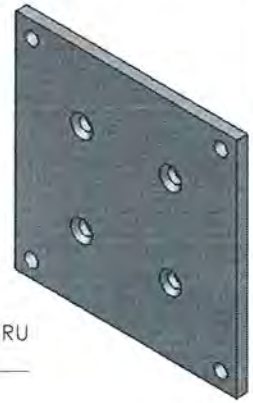
DIMENSIONS CHKD BY				
EST. AREA	.828	DESCRIPTION	DR. BY EGP	DATE 7-16-2008
EST. WT. FT.	.994	2-1/2" POST	SLS 97	SCALE FULL
EST. PER.	9.785		FILE PLUTO	DIE NO. KE9582
FIN. PER.	9.785		DWG# 08S198B1	
CLASS	HOLLOW			
CIRCLE SIZE	3.500	CUSTOMER		PART NO.
CUST REV LEV	NONE	BARRETTE OUTDOOR PRODUCTS		NONE

ITEM NO.	DESCRIPTION	LENGTH	QTY.
1	5.25" Base for 2.5" Hand Rail Post	5.25"	1









Note: Sample of component was not retained by ATI. Dimensions could not be verified.

Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/26/12 Tech KJE

Weight = 1.91 lbs
Material = AISI 1010 Steel, hot rolled bar

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH (μ")	125 RMS
UNLESS OTHERWISE SPECIFIED	

No	NAME	DATE	DESCRIPTION
REVISION			

BUILT BY
Barrette Outdoor Living

75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

DRAWN BY	DATE	SCALE
Ray Clark	10/18/2012	1:1.5

TITLE P:\Engineering 2011\Research and Development\RND75044\April\Drawings for Testing Docs\

5.25" Base for 2.5" Hand Rail Post

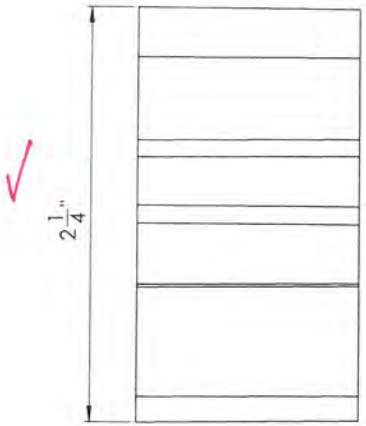
EQUIPMENT No.	SECTION	REVISION	DRAWING No
REFERENCE No.	1 of 1	0	

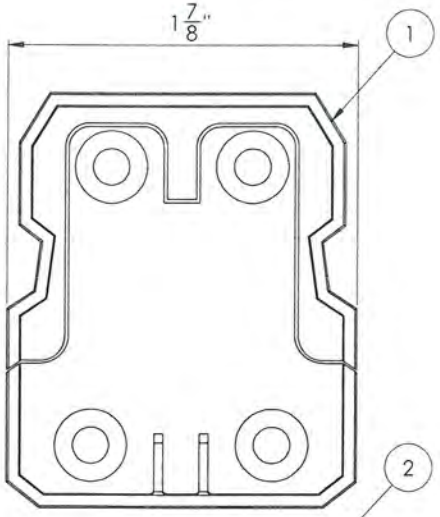
POWDER COAT OPTIONS

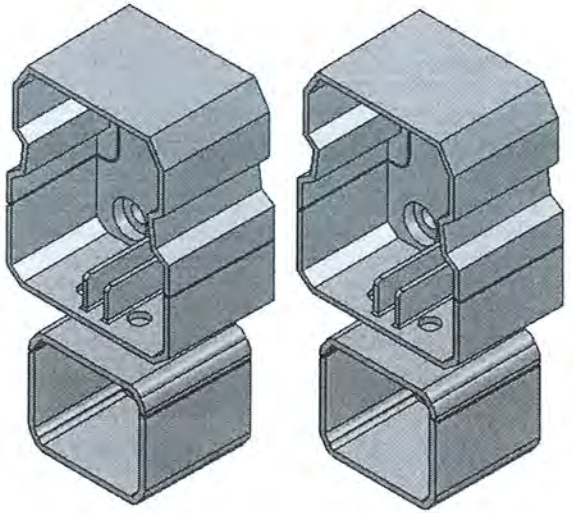
BLACK FINISH
VERSARAIL LINE BRACKET KIT 73017727

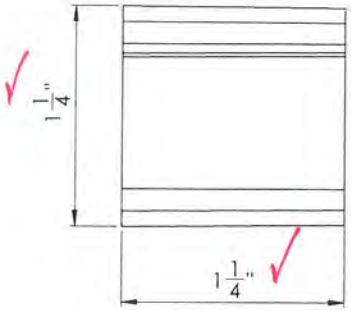
WHITE FINISH
VERSARAIL LINE BRACKET KIT 73017729

ITEM	DESCRIPTION	QTY.
1	UPPER LINE BRACKET W/ COVERS	2
2	LOWER LINE BRACKET W/COVERS	2
3	LINE BRACKET SCREW KIT	1









LINE BRACKET SCREW KIT

DESCRIPTION	QTY
8 x 3/4" Pan head square drive type "A" 18-8 stainless, black powder coat head	12
8 x 2" Pan head square drive, self drilling screw, carbon steel, 1000 hr coating	4

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30567
706-693-4062
706-693-4064 fax

DRAWN BY	DATE	SCALE
Ray Clark	10/18/2012	1.5:1

TITLE: LINE BRACKET KIT

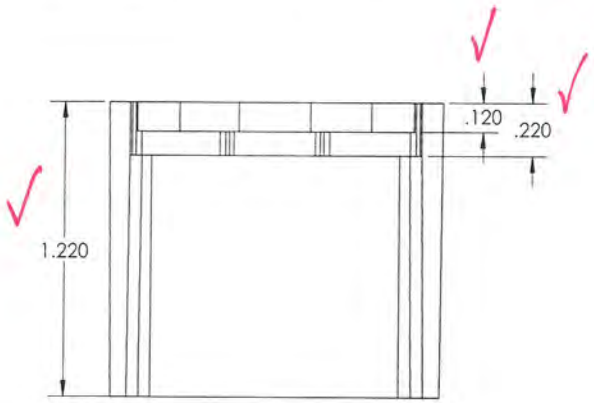
EQUIPMENT No.	SECTION	REVISION	DRAWING No.
REFERENCE No.	1 of 1	0	Sheet1

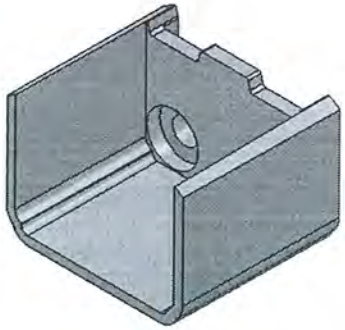
Architectural Testing

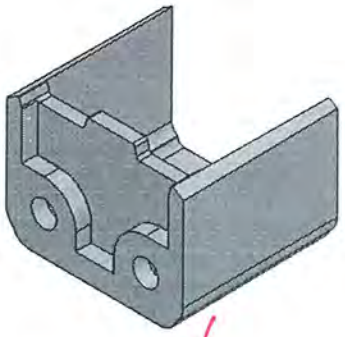
Test sample complies with these details.
Deviations are noted.

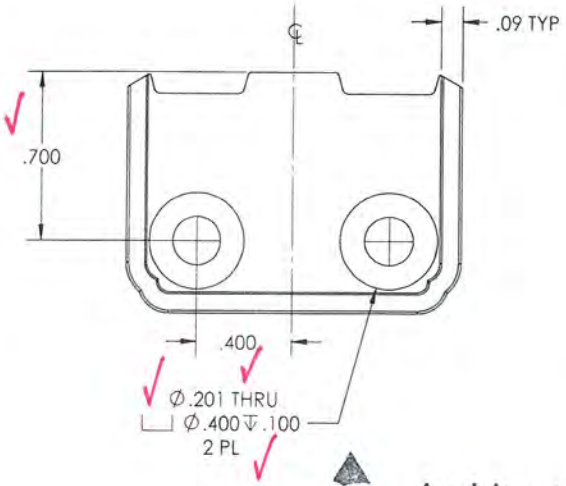
Report # B5389.01-119-19

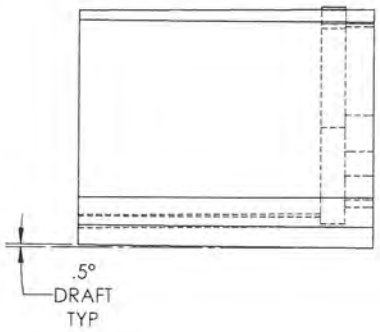
Date 10/25/12 Tech KJE

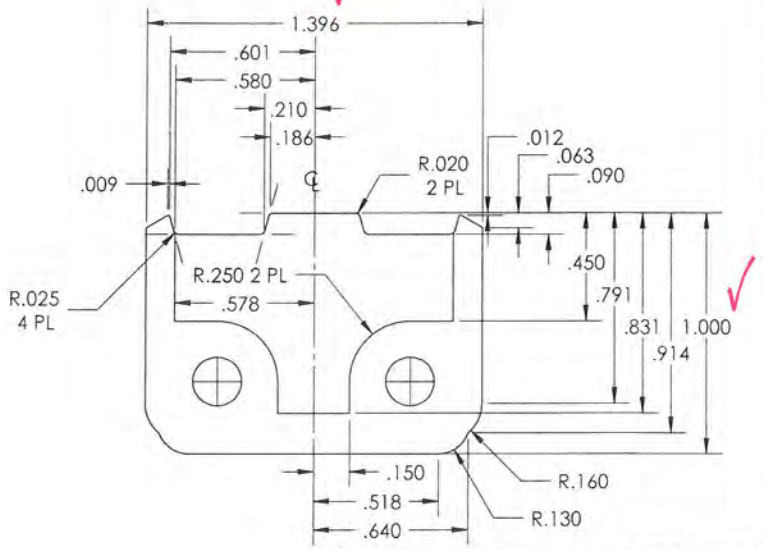












Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # B8389.01-119-19

Date 10/25/12 Tech KJE

Weight = 0.0413 lbs
Material = AA380.0-F die Aluminum

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH (√)	125 RMS
UNLESS OTHERWISE SPECIFIED	

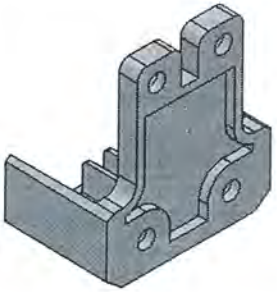
No	NAME	DATE	DESCRIPTION
			REVISION

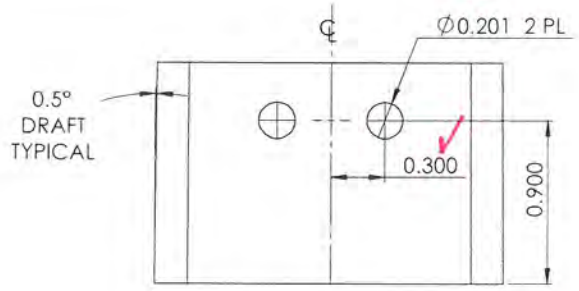
BUILT BY
Barrette Outdoor Living
75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

DRAWN BY	DATE	SCALE
Ray Clark	1/17/2012	2:1

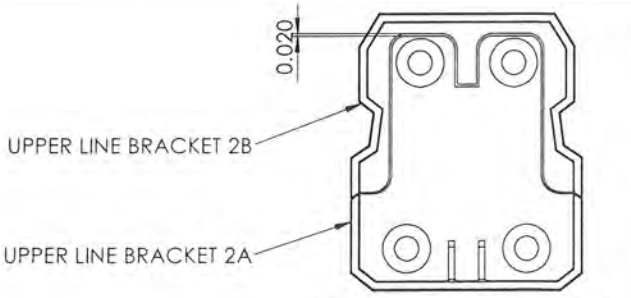
TITLE: LOWER LINE BRACKET - BOTTOM

EQUIPMENT No	SECTION	REVISION	DRAWING No
REFERENCE No	1 of 2	0	PART A

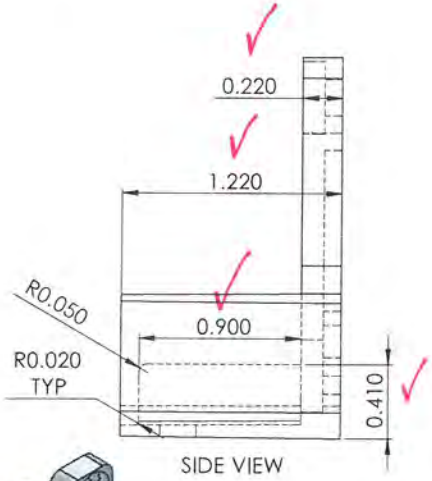




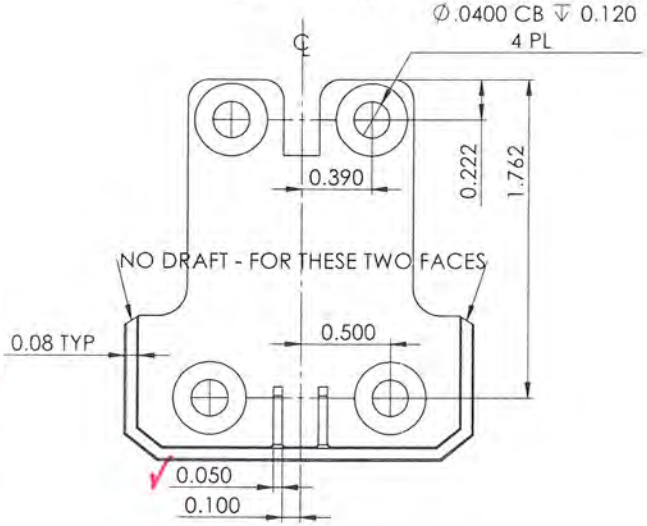
BOTTOM VIEW



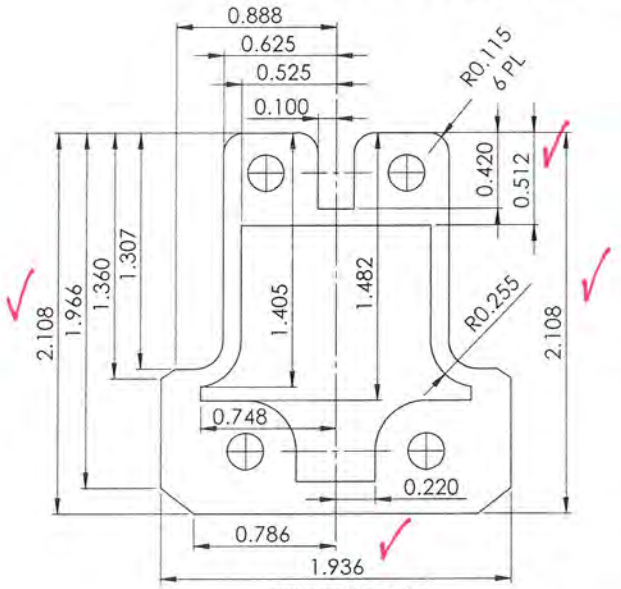
RELATIONSHIP TO OTHER PART



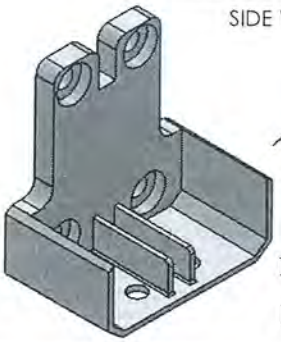
SIDE VIEW



FRONT VIEW



VIEW OF BACK



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report # BP389.01-119-19

Date 10/25/12 Tech KJE

Weight = 0.0709 lbs
Material = AA380.0-F die Aluminum

TOLERANCES	
FRACTION	± 1/64"
XX	± 0.010"
XXX	± 0.005"
ANGLE	± 1°
UNSPECIFIED FINISH (Ra)	125 RMS
UNLESS OTHERWISE SPECIFIED	

No	NAME	DATE	DESCRIPTION
			REVISION

BUILT BY Barrette Outdoor Living

75 John B Brooks Rd
Pendergrass, Ga
30567
706-693-4062
706-693-4064 fax

DRAWN BY	DATE	SCALE
Ray Clark	1/17/2012	1.5:1

TITLE: UPPER LINE BRACKET 2A

EQUIPMENT No	SECTION	REVISION	DRAWING No
REFERENCE No	1 of 1	0	Sheet1

APPENDIX B

Photographs

Photo No. 1
In-Fill Load Test at Center of Two Pickets

Photo No. 2
In-Fill Load Test at Bottom of Two Pickets

Photo No. 3
Concentrated Load Test at Mid-Span of Top Rail

Photo No. 4
Concentrated Load Test at End of Top Rail (Bracket) and Post Tests

Photo No. 5
Post Mount Attached to Mock Wood Deck

Photo No. 6
Top Rail Bracket-to-Rail Connection

Photo No. 7
Bottom Rail Bracket-to-Rail Connection

APPENDIX C

Blocking Instructions

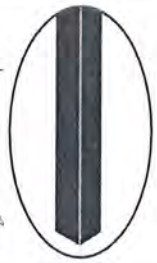
NEW CASTLE / SOMERSET / ELITE ALUMINUM RAIL POST INSTALLATION INSTRUCTIONS

*2 person installation recommended

It is the responsibility of the installer to meet and/or exceed all code and safety requirements, and to obtain all required building permits. The deck and railing installer should determine and implement appopriate installation techniques for each installation. Barrette Outdoor Living and its distributors shall not be held liable for improper or unsafe installations.

What is Included:

- Post
- Mounting Plate
- Installation Plate
- Base Trim
- ¼" x 2½" Phillips Head Screws



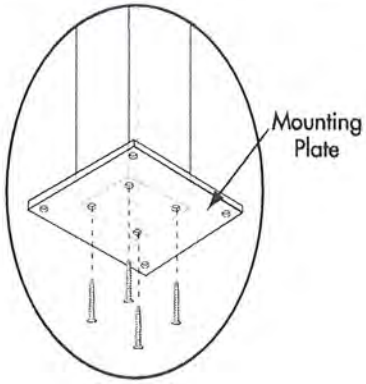


Figure 1

Deck/Wood Surface

1.) Attach mounting plate to posts with ¼" x 2½" phillips head screws *Figure 1*.

2.) Cut a 2x8 wood spacer block (not included) *Figure 2* and attach underneath the deck surface to substructure joists directly under the post location with 3" deck screws (not included). Length of the spacer block should be the distance between the existing deck joists.

3.) Cut one 2x8 joist (same length as spacer block cut in Step 3) (not included) *Figure 3*. Box in the spacer block with this newly cut joist with 3" deck screws (not included).

Figure 2

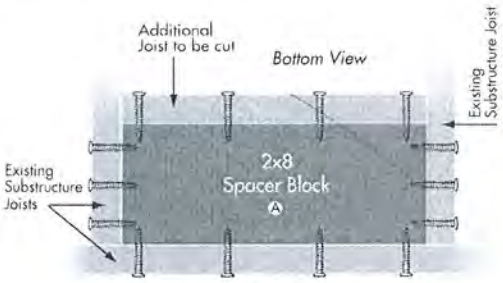


Figure 3

Install Posts to Deck

4.) Mark holes with a pencil through bottom of installation plate *Figure 4* onto deck surface. Drill ⅜" holes in all four locations.

5.) Push ⅝" bolts (not included) through installation plate and attach separate bottom plate *Figure 5 (C)* from underneath deck surface (posts can be leveled as needed by using steel washers as shims).

- Purchase ⅝" bolts with nuts approximately 1" longer than the distance between plates (minimum 3⅞" long).

6.) Install base trim *Figure 5 (D)* around deck post at deck surface before installing rail.

Figure 4

Concrete Surface

1.) Purchase four ⅝" masonry anchors according to local building codes.

2.) Mark holes through mounting plate onto concrete surface and follow anchor installation instructions.

3.) Install base trim *Figure 5* (D) around deck post at deck surface before installing rail.

Installing Remainder of Deck Posts

1.) Measure the length of your rail section and add ¾" to measurement for brackets and expansion clearance. This is the distance between posts.

2.) Follow installation instructions from above.

Architectural Testing
Test sample compiles with these details.
Deviations are noted.
Report # B8389.01-119-19
Date 10/25/12 Tech KJE

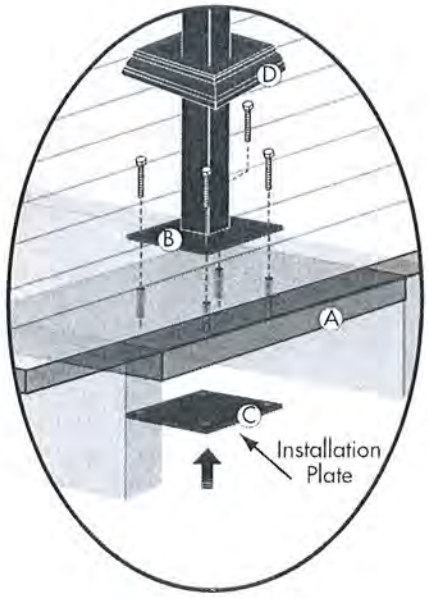


Figure 5