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FORTRESS BUILDING PRODUCTS
TEST REPORT

SCOPE OF WORK
STRUCTURAL PERFORMANCE TESTING ON THE *INSPIRE* ALUMINUM GUARDRAIL SYSTEM

REPORT NUMBER
M6991.01-119-19 R0

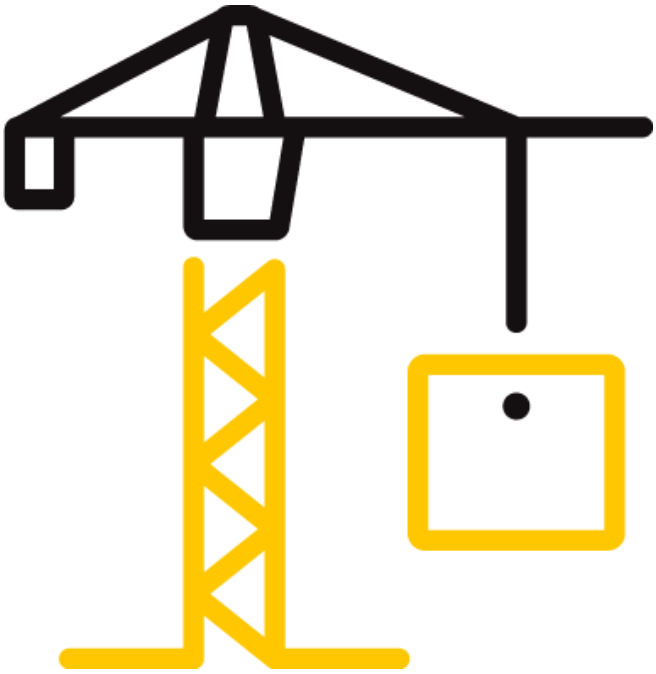
TEST DATES
08/17/21 - 08/18/21

ISSUE DATE
10/12/21

RECORD RETENTION END DATE
08/18/25

PAGES
32

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2846 (02/09/18)



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TEST REPORT FOR FORTRESS BUILDING PRODUCTS
Report No.: M6991.01-119-19 R0
Date: 10/12/21

REPORT ISSUED TO

FORTRESS BUILDING PRODUCTS
1720 North First Street
Suite B
Garland, TX 75040

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Fortress Building Products to perform structural performance testing in accordance with the 2021 IRC on their *Inspire* aluminum guardrail system. This report is in conjunction with Intertek report No. L0293.01-119-19 which includes structural performance testing of the 2-1/2 in aluminum post mount. 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.

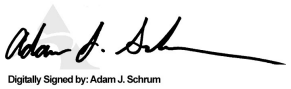
Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek test facility in York, PA. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

The specimens met the 2021 IRC design load performance requirements.

For INTERTEK B&C:

COMPLETED BY:	Adam J. Schrum	**REVIEWED BY:**	V. Thomas Mickley, Jr., P.E.
TITLE:	Project Manager	**TITLE:**	Senior Staff Engineer
SIGNATURE:	 Digitally Signed by: Adam J. Schrum	**SIGNATURE:**	 Digitally Signed by: Virgal Thomas Mickley, Jr.
DATE:	10/12/21	**DATE:**	10/12/21

AJS:vtm/aas

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SECTION 3
TEST METHOD

The specimens were evaluated in accordance with the following:

2021, *International Residential Code®*, International Code Council

Structural tests were performed according to Chapter 17 (Structural Tests and Special Inspections) of IBC 2021.

SECTION 4
MATERIAL SOURCE/INSTALLATION

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

The guardrail assemblies were installed and tested as a single railing section by surface mounting the posts to steel channels (simulated concrete) for the level guardrail and by directly securing the posts to a rigid steel test fixture, which rigidly restrained the posts from deflecting for the stair guardrail. 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 Section 11 for individual test setups.

SECTION 5
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 motion transducers were used to measure deflections.

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Adam J. Schrum	Intertek B&C

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SECTION 7
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.

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.

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SECTION 8
TEST SPECIMEN DESCRIPTION

Fortress Building Products provided the fully-assembled test specimens with the following details:

PRODUCT	*Inspire*
MATERIAL	Aluminum
COLOR	Black
RAIL LENGTH	- Level: 93-1/2 in (inside of post to inside of post) - Stair: 72 in (inside of post to inside of post)
RAIL HEIGHT	- Level: 32-5/8 in (top of top rail to bottom of bottom rail) - Stair: 33-1/2 in (top of top rail to bottom of bottom rail; measured parallel to the baluster) - 36 in (nominal)
TOP RAIL	- Level: Two-piece member consisting of a 1-1/4 in high by 1-1/4 in wide by 0.070 in thick U-shaped aluminum extrusion inner member and a 1-3/8 in high by 1-7/16 in wide by 0.080 in thick inverted U-shaped aluminum extrusion cover piece - Stair: 1-7/16 in high by 1-7/16 in wide by 0.100 in thick box shaped aluminum extrusion
BOTTOM RAIL	- Level: 1-7/16 in high by 1-7/16 in wide by 0.100 in thick inverted U-shaped aluminum extrusion - Stair: 1-7/16 in high by 1-7/16 in wide by 0.100 in thick box shaped aluminum extrusion
PICKETS (IN-FILL)	- Level: 5/8 in square by 0.050 in thick aluminum extrusion - Level/Support Picket: 5/8 in square by 0.050 in thick aluminum extrusion with a 1 in long connection block at each end (first and last baluster only) - Stair: 5/8 in square by 0.080 in / 0.130 in thick aluminum extrusion
RAIL BRACKETS	- Level: 1-5/8 in high by 1-7/8 in wide by 1-1/4 in deep (0.190 in sidewall) cast aluminum - Stair: Two-piece, cast aluminum hinged bracket
SUPPORT BLOCK	Multi-piece, adjustable, pivoting support located at midspan of the bottom rail (stair rail only)
POST	2-1/2 in square by 0.150 in thick hollow aluminum extrusion connected to a 4-1/4 in square by 3/8 in thick aluminum base plate with a 1/4 in continuous fillet weld; the base plate included four 7/16 in diameter holes and one 3/4 in diameter hole

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Report No.: M6991.01-119-19 R0
Date: 10/12/21

Fastening Schedule

CONNECTION	FASTENER
RAIL BRACKET TO POST	Two #12-24 by 3/4" torx drive, flat-head, thread-cutting, coated steel screws
RAIL BRACKET TO RAIL	One #12-24 by 3/4" torx drive, flat-head, thread-cutting, coated steel screw (located on protected side of guardrail)
HINGED BRACKET CONNECTION - STAIR	Two-piece cast aluminum component connected with one, 2-1/4 in overall length, 2-piece connector pin. One piece was 2-1/8 in long female threaded, 0.25 in outside diameter shaft with 0.43 in diameter, Philips drive, mushroom head. Second piece was #8-32 by 1/4 in, Philips drive, mushroom head machine screw
PICKET PLUG TO RAIL - LEVEL	Twist and lock - No mechanical connection
PICKET TO PICKET PLUG - LEVEL	Slip fit - No mechanical connection
SUPPORT PICKET TO PICKET PLUG - LEVEL	One #12-24 by 2-3/8” torx drive, flat head stainless steel screw
PICKET TO RAIL - STAIR	Compression fit hinged connection tack welded to rail
SUPPORT BLOCK TO BOTTOM RAIL	Two #12-24 by 1/4" Philips drive, flat-head, thread-cutting, coated steel screws
STEEL POST MOUNT TO SUBSTRUCTURE	Four 3/8 in Grade 5 hex-head bolts with nut and washer

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SECTION 9
TEST RESULTS

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.

Test Series No. 1
8 ft (93-1/2 in) by 36 in *Inspire* Level Guardrail System

Test No. 1 - 08/17/21
Design Load: 50 lb / 1 Square ft at Center of In-fill (on 2 Pickets)

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	DISPLACEMENT (in)			
			END	MID	END	NET
Initial Load	25	00:00	--	0.00	--	--
2.0x Design Load	102	00:18	--	0.66	--	--
Initial Load	25	01:45	--	0.01	--	--
98% Recovery from 2.0 x Design Load						
2.5x Design Load	130	02:00	Achieved load without failure			

Test No. 2 - 08/17/21
Design Load: 50 lb / 1 Square ft at Bottom of In-fill (on 2 Pickets)

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	DISPLACEMENT (in)			
			END	MID	END	NET
Initial Load	25	00:00	--	0.00	--	--
2.0x Design Load	102	00:17	--	0.55	--	--
Initial Load	25	01:44	--	0.01	--	--
98% Recovery from 2.0 x Design Load						
2.5x Design Load	126	02:05	Achieved load without failure			

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Test No. 3 - 08/17/21
Design Load: 200 lb Horizontal Concentrated Load at Midspan of Top Rail

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	RAIL DISPLACEMENT (in)			
			END	MID	END	NET [1]
Initial Load	50	00:00	0.00	0.00	0.00	0.00
2.0x Design Load	406	00:53	0.48	2.85	0.56	2.33
Initial Load	50	02:24	0.03	0.18	0.03	0.15
94% Recovery from 2.0 x Design Load						
2.5x Design Load	504	03:04	Achieved load without failure			

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

Test No. 4 - 08/17/21
Design Load: 200 lb Vertical Concentrated Load at Midspan of Top Rail

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	RAIL DISPLACEMENT (in)			
			END	MID	END	NET
Initial Load	50	00:00	--	0.00	--	--
2.0x Design Load	407	00:38	--	1.49	--	--
Initial Load	50	02:06	--	0.05	--	--
97% Recovery from 2.0 x Design Load						
2.5x Design Load	510	02:31	Achieved load without failure			

Test No. 5 - 08/17/21
Design Load: 200 lb Horizontal Concentrated Load at Ends of Top Rail (Brackets)

LOAD LEVEL [1]	TEST LOAD (lb)	E.T. (min:sec)	RAIL DISPLACEMENT (in)	
			RAIL END #1	RAIL END #2
Initial Load	80	00:00	0.00	0.00
(2.0x Design Load) x 2	807	00:41	1.26	1.38
Initial Load	80	02:12	0.26	0.24
79% Recovery (Rail End #1) and 83% Recovery (Rail End #2) from 2.0 x Design Load				
(2.5x Design Load) x 2	1003	02:54	Achieved load without failure	

[1] *A spreader beam was used to impose loads on* both *ends of the railing system; therefore, loads were doubled.*

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Test Series No. 2
6 ft (72 in) by 36 in by 40° *Inspire* Stair Guardrail System

Test No. 1 - 08/18/21
Design Load: 50 lb / 1 Square ft at Center of In-fill (on 2 Pickets)

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	DISPLACEMENT (in)			
			END	MID	END	NET
Initial Load	25	00:00	--	0.00	--	--
2.0x Design Load	100	00:17	--	0.31	--	--
Initial Load	25	01:50	--	0.01	--	--
97% Recovery from 2.0 x Design Load						
2.5x Design Load	127	02:01	Achieved load without failure			

Test No. 2 - 08/18/21
Design Load: 50 lb / 1 Square ft at Bottom of In-fill (on 2 Pickets)

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	DISPLACEMENT (in)			
			END	MID	END	NET
Initial Load	25	00:00	--	0.00	--	--
2.0x Design Load	101	00:16	--	0.33	--	--
Initial Load	25	01:52	--	0.00	--	--
100% Recovery from 2.0 x Design Load						
2.5x Design Load	130	02:07	Achieved load without failure			

Test No. 3 - 08/18/21
Design Load: 200 lb Horizontal Concentrated Load at Midspan of Top Rail

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	RAIL DISPLACEMENT (in)			
			END	MID	END	NET [1]
Initial Load	50	00:00	0.00	0.00	0.00	0.00
2.0x Design Load	406	00:34	0.17	1.61	0.19	1.43
Initial Load	50	02:12	0.00	0.02	0.01	0.02
99% Recovery from 2.0 x Design Load						
2.5x Design Load	503	02:40	Achieved load without failure			

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

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Test No. 4 - 08/18/21
Design Load: 200 lb Vertical Concentrated Load at Midspan of Top Rail

LOAD LEVEL	TEST LOAD (lb)	E.T. (min:sec)	RAIL DISPLACEMENT (in)			
			END	MID	END	NET
Initial Load	50	00:00	--	0.00	--	--
2.0x Design Load	408	00:32	--	0.18	--	--
Initial Load	50	02:04	--	0.02	--	--
89% Recovery from 2.0 x Design Load						
2.5x Design Load	507	02:28	Achieved Load without Failure			

Test No. 5 - 08/18/21
Design Load: 200 lb Horizontal Concentrated Load at Ends of Top Rail (Brackets)

LOAD LEVEL [1]	TEST LOAD (lb)	E.T. (min:sec)	RAIL DISPLACEMENT (in)	
			RAIL END #1	RAIL END #2
Initial Load	80	00:00	0.00	0.00
(2.0x Design Load) x 2	806	00:43	0.49	0.48
Initial Load	80	02:12	0.05	0.03
90% Recovery (Rail End #1) and 94% Recovery (Rail End #2) from 2.0 x Design Load				
(2.5x Design Load) x 2	1007	02:42	Achieved Load without Failure	

[1] *A spreader beam was used to impose loads on* both *ends of the railing system; therefore, loads were doubled.*

SECTION 10
CONCLUSION

Using performance criteria of withstanding an ultimate load of 2.5 times design load, the test results substantiate compliance with the design load requirements of the referenced building codes for the 8 ft (93-1/2 in) wide by 36 in high (level) and 6 ft (72 in) wide by 36 in high by 40° (stair) *Inspire* aluminum railing assemblies 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.

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TEST REPORT FOR FORTRESS BUILDING PRODUCTS
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SECTION 11
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

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Photo No. 3
Horizontal Concentrated Load Test at Midspan of Top Rail

Photo No. 4
Vertical Concentrated Load Test at Midspan of Top Rail

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Photo No. 5
Concentrated Load Test at Ends of Top Rail (Brackets)

Photo No. 6
Cast Aluminum Bracket for Level Top Rail

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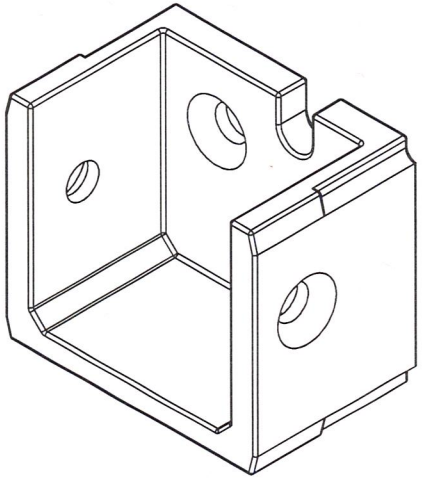
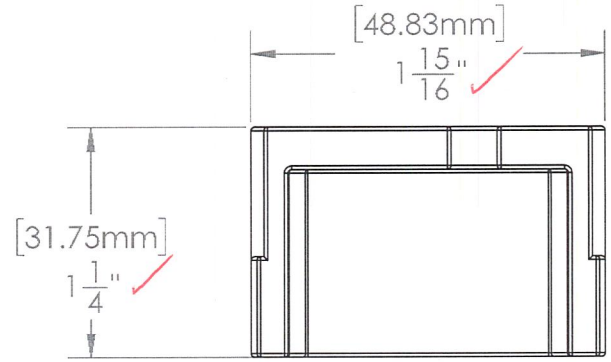
Photo No. 7
Cast Aluminum Bracket for Stair Top Rail

SECTION 12
DRAWINGS

The "As-Built" drawings for the *Inspire* aluminum guardrail system 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.





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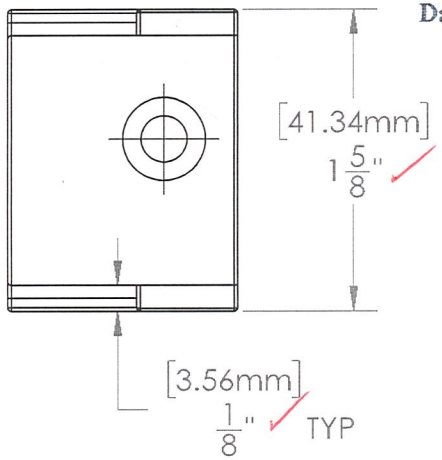
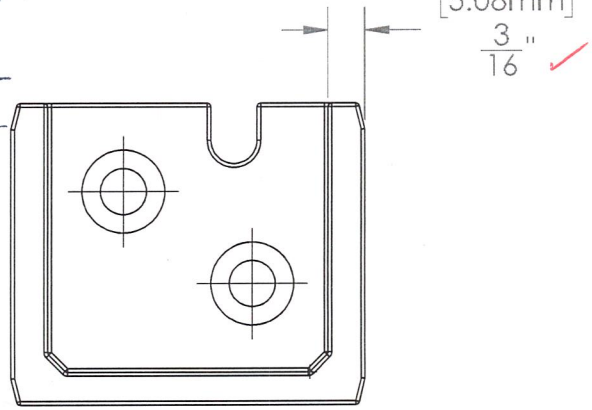
Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 Tech AJS





REV	DATE	BY	DESCRIPTION
66	10/7/21	MS	Initial Drawing

FORTRESS RAILING PRODUCTS

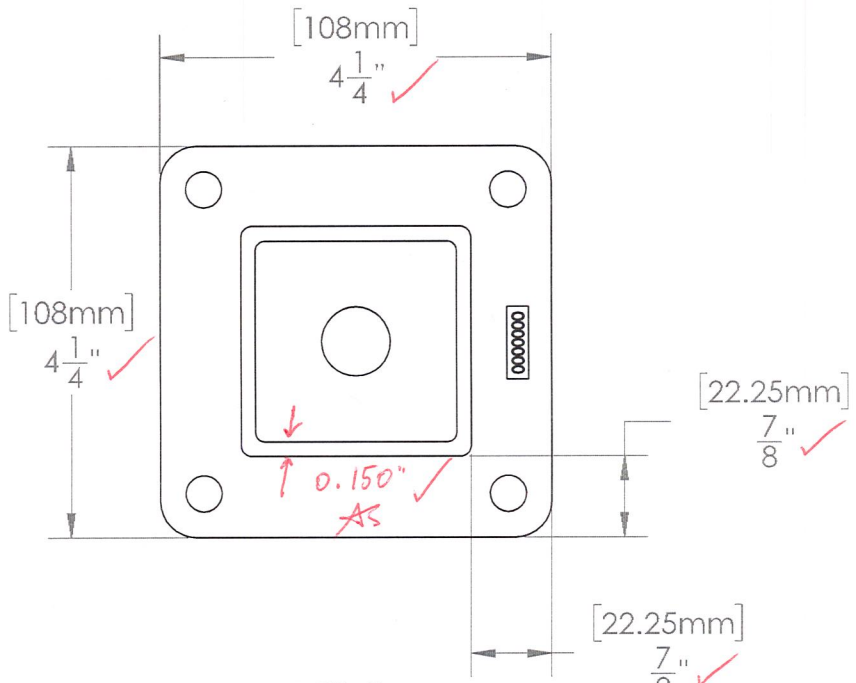
Fortress Railing
1720 N 1st Street
Garland, Tx 75040

DESCRIPTION: INSPIRE STRAIGHT BRACKET CUP

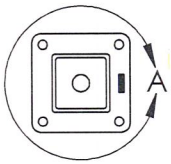
DRAWN BY: MichaelS | SCALE: AS SHOWN

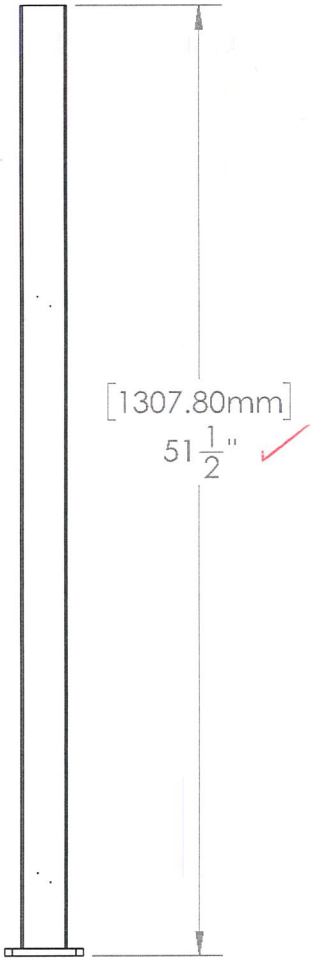
DATE: 10/07/2021 | DIVISION: RAILING

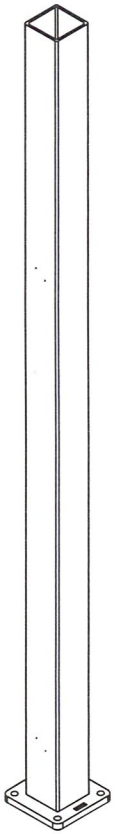
Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4034-11472A | REV: 6



DETAIL A
SCALE 1 : 2







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Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS

FORTRESS
—RAILING PRODUCTS—

Fortress Railing
1720 N 1st Street
Garland, Tx 75040

REV	DATE	BY	DESCRIPTION
5	10/7/21	MS	Initial Drawing

DESCRIPTION: INSPIRE RAIL 2.5" X 51" ALUMINUM POST

DRAWN BY: MichaelS
DATE: 10/07/2021
DIVISION: Fortress Railing

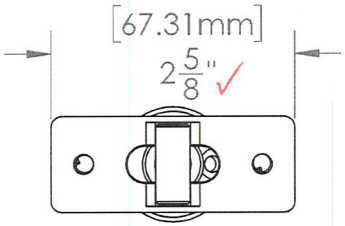
SCALE: 1:10

Sheet: 1 OF 1

ITEM #:

FILE NAME/PART #: R4035-11274A

REV: 5



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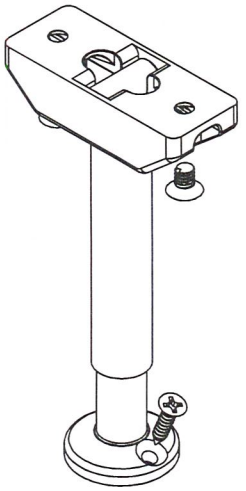
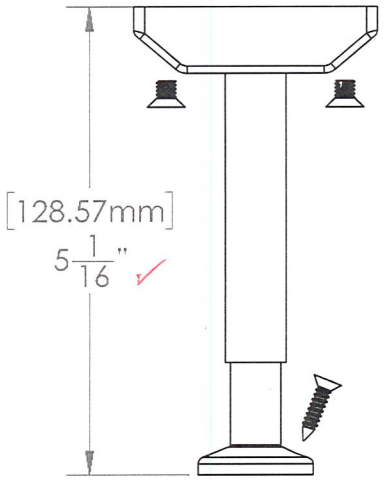
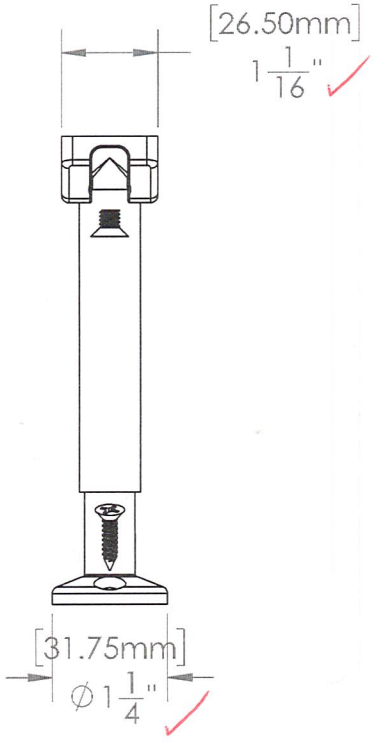
Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 Tech AJS







REV	DATE	BY	DESCRIPTION
6	10/7/21	MS	Initial Drawing

FORTRESS RAILING PRODUCTS

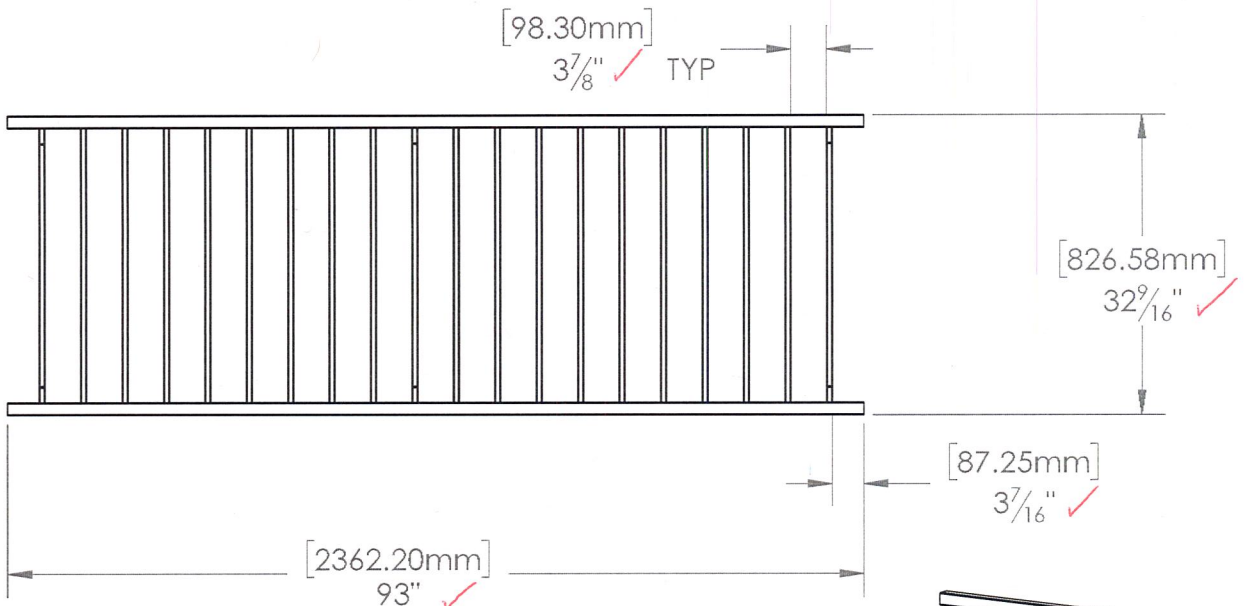
Fortress Railing
1720 N 1st Street
Garland, Tx 75040

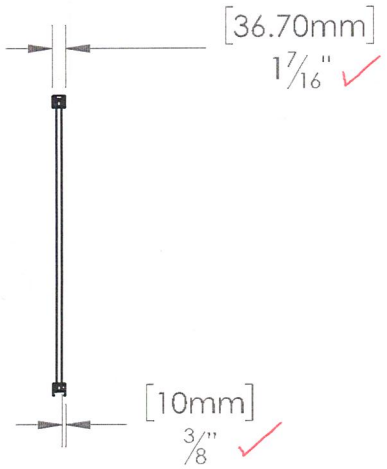
DESCRIPTION: INSPIRE ADJUSTABLE I-SUPPORT

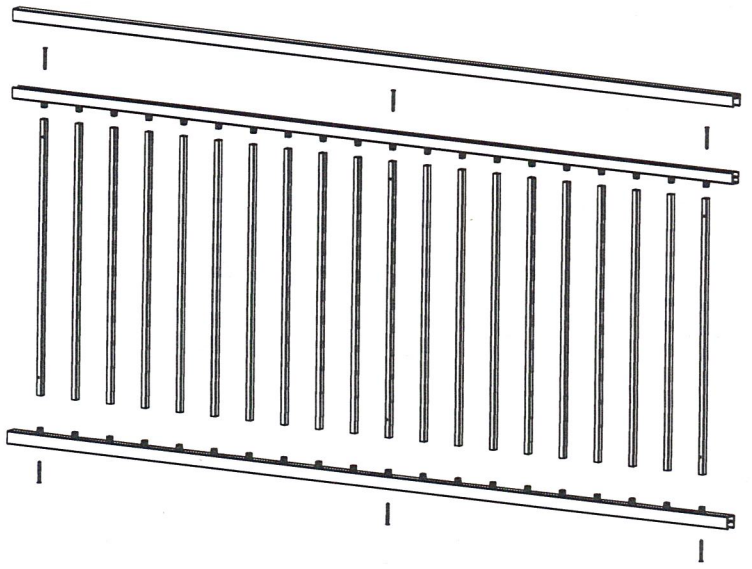
DRAWN BY: MichaelS | SCALE: AS SHOWN

DATE: 10/7/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: 5853219X | FILE NAME/PART #: R4039-11492A | REV: 6







intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991-01-119-19

Date 10/14/21 **Tech** AJS

REV	DATE	BY	DESCRIPTION
	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION: INSPIRE LEVEL ASSEMBLY

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: Fortress Railing

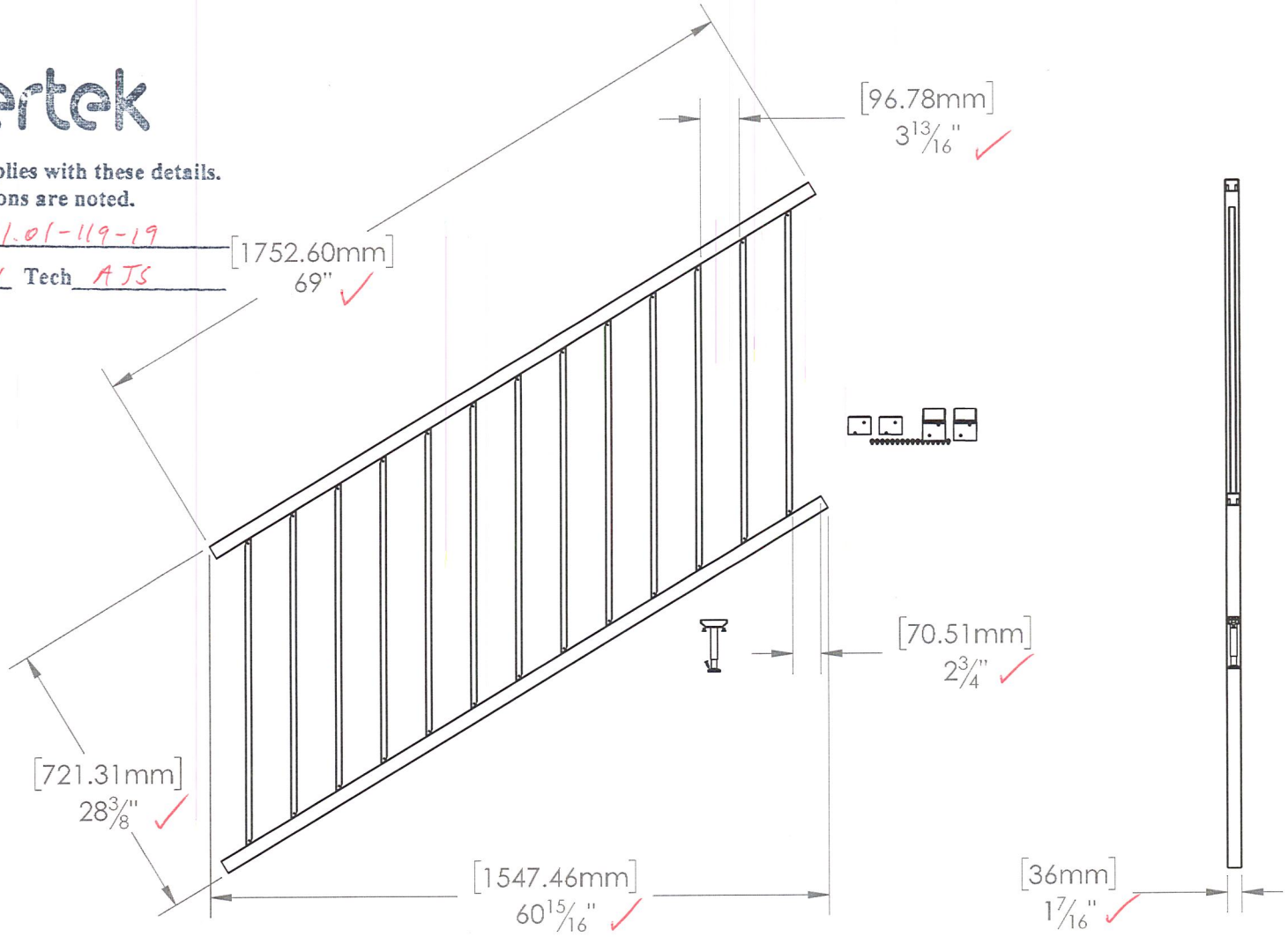
Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: INSPIRE LEVEL ASSEMBLY | REV:

intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 Tech AJS



REV	DATE	BY	DESCRIPTION
11	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

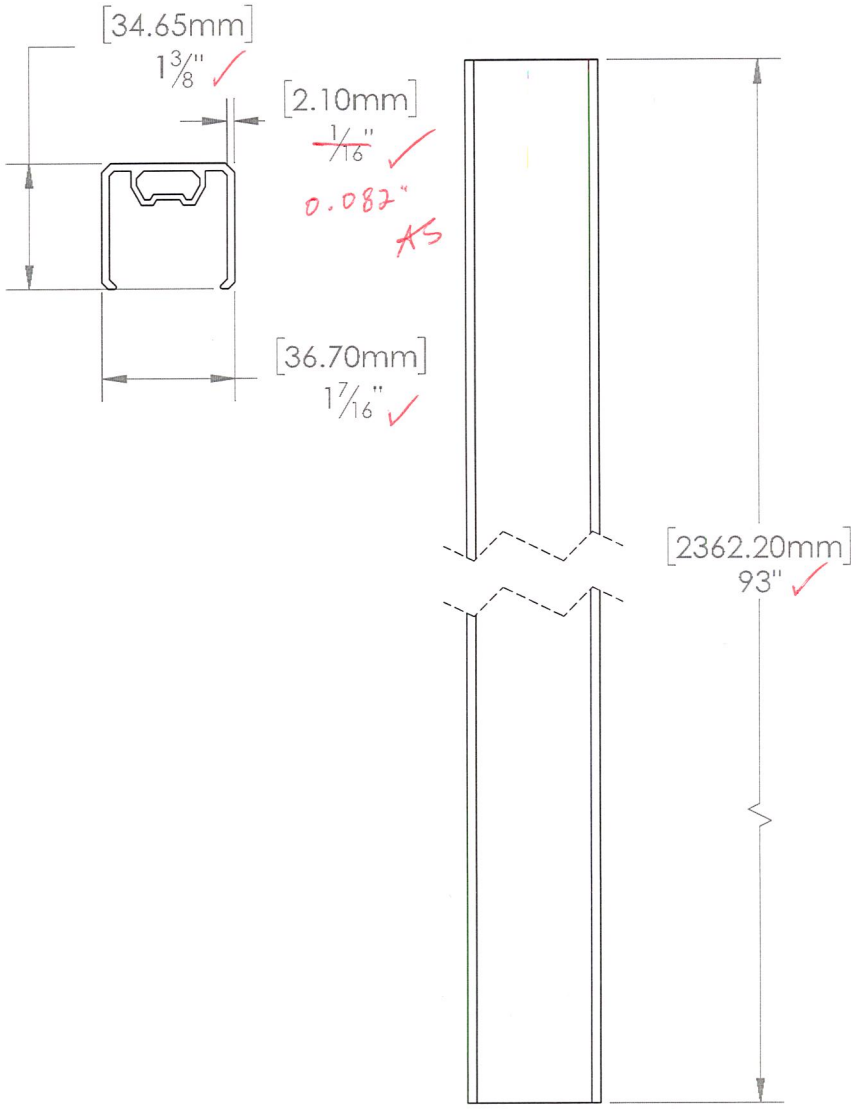
Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION: INSPIRE 32.5" X 6FT STAIR PANEL

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: 5823269X | FILE NAME/PART #: R4036-11359A | REV: 11

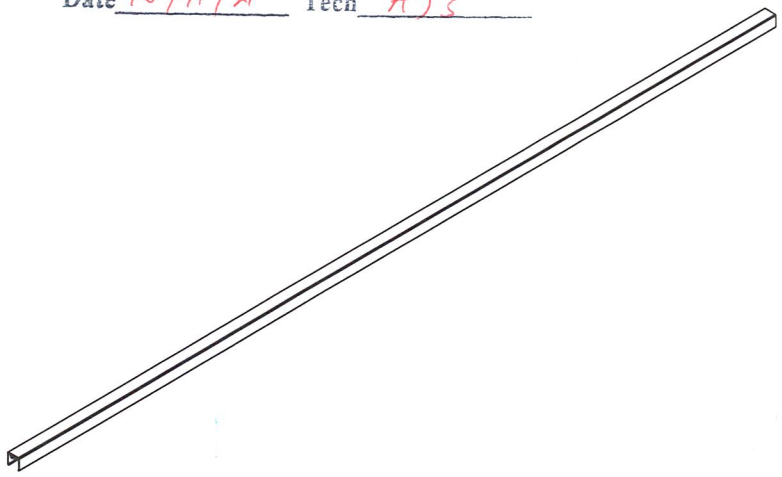


intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS



REV	DATE	BY	DESCRIPTION
9	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

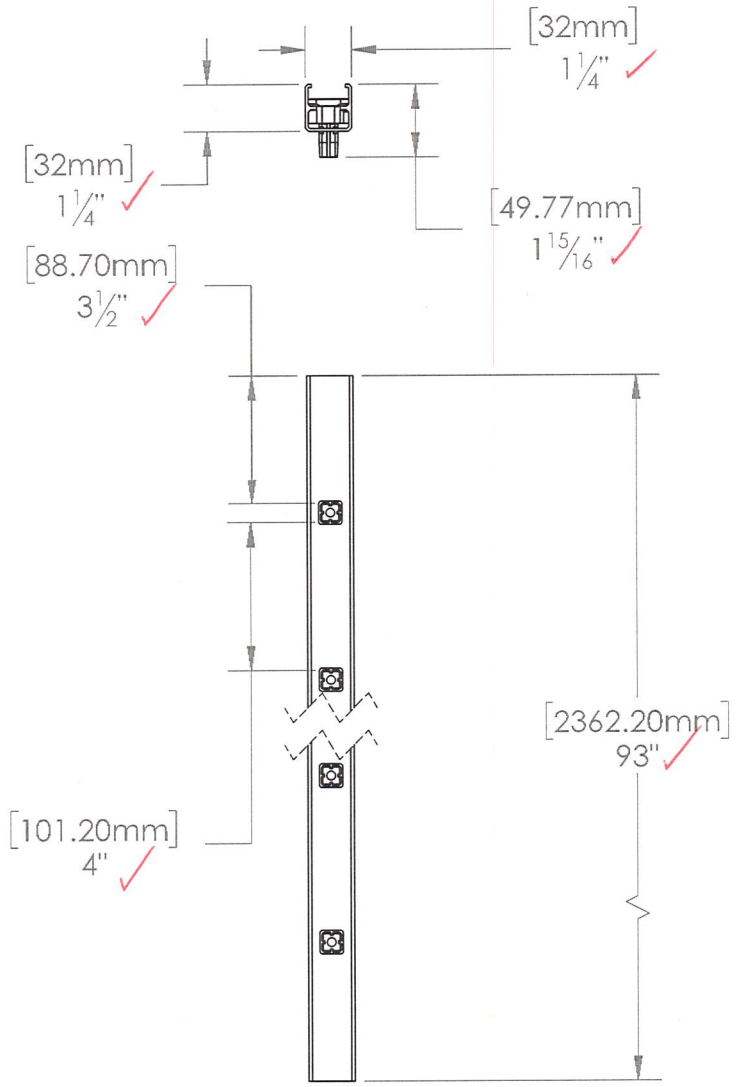
Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION: INSPIRE RAIL COVER

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4031-11425A | REV: 9

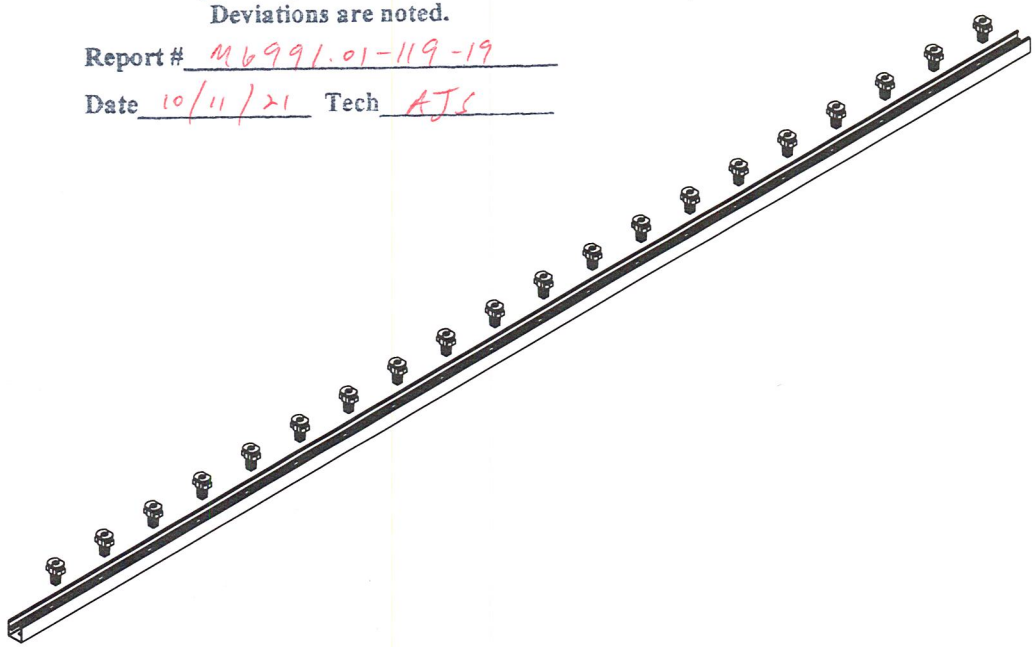


intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS



REV	DATE	BY	DESCRIPTION
2	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

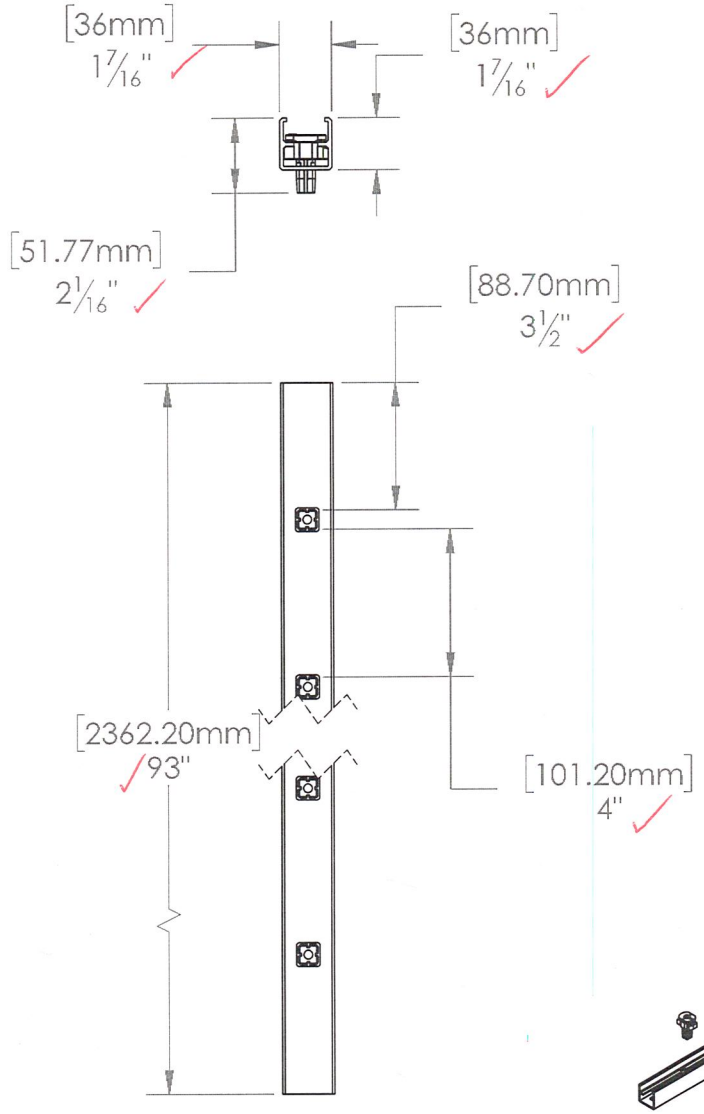
Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION:
8FT INSPIRE TOP RAILING COMPONENTS

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: Fortress Railing

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4031-11876A | REV: 2

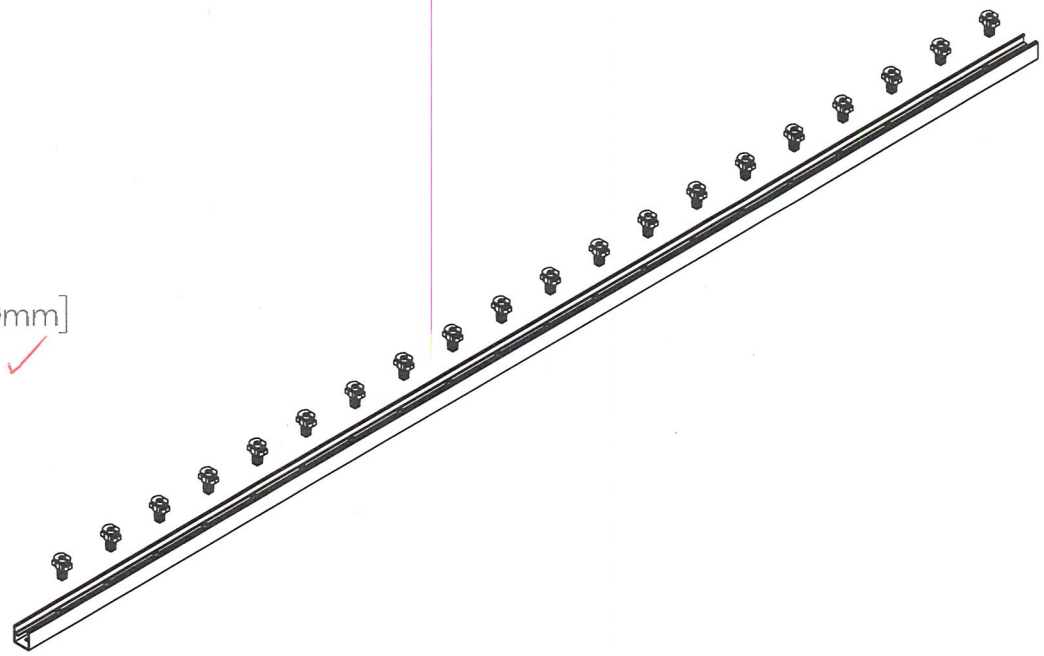


intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS



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REV	DATE	BY	DESCRIPTION
3	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

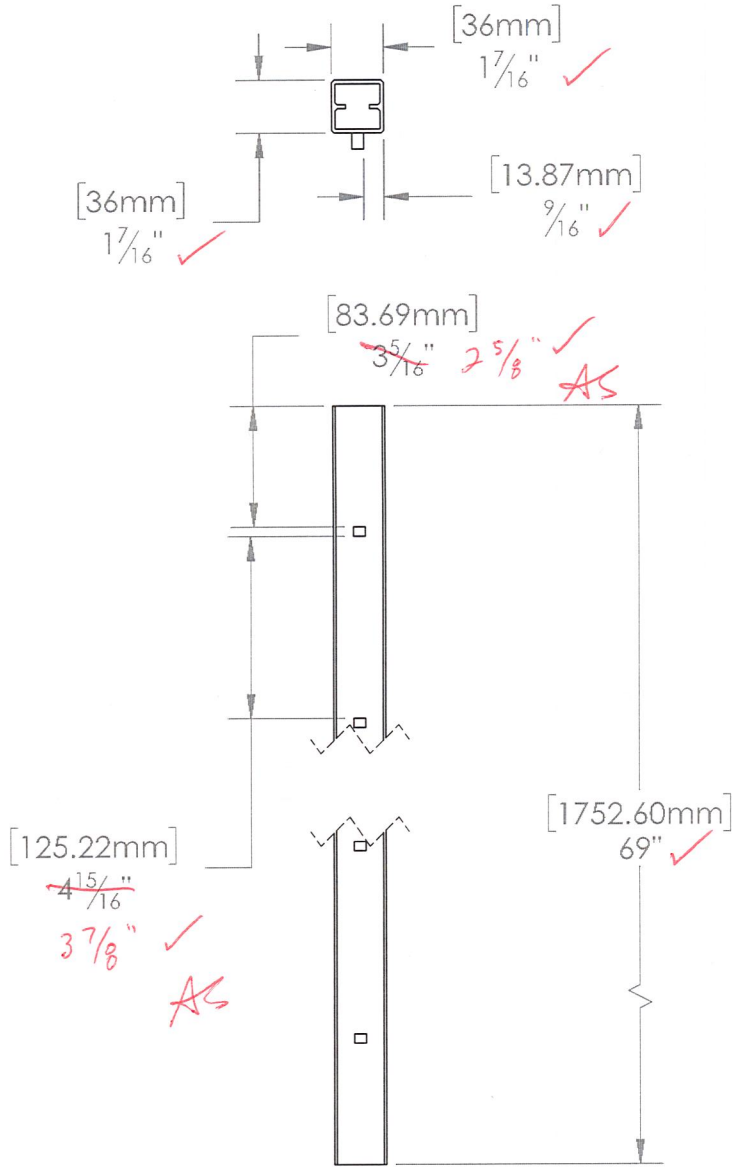
Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION: 8FT INSPIRE BOTTOM RAILING COMPONENTS

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: Fortress Railing

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4031-11877A | REV: 3

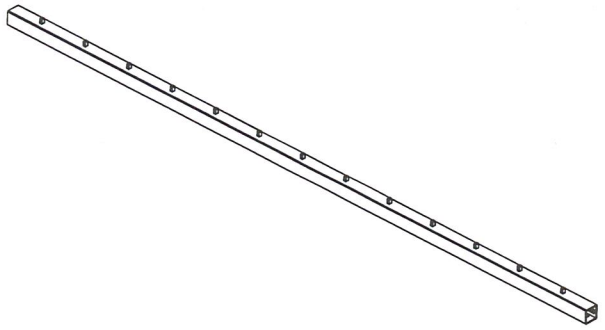


intertek

Test sample complies with these details.
Deviations are noted.

Report # MB991.01-119-19

Date 10/11/21 **Tech** AJS



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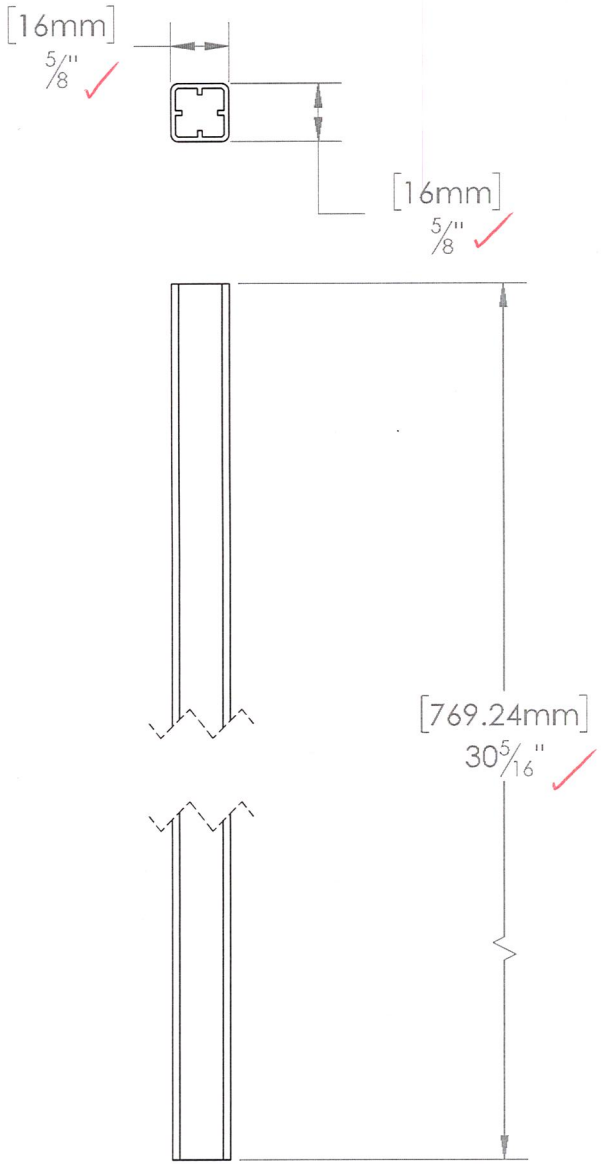
REV	DATE	BY	DESCRIPTION
9	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION: INSPIRE 6' RAIL ADJ WELDMENT
DRAWN BY: CollinR
DATE: 08/24/2021
DIVISION: Fortress Railing
SCALE: AS SHOWN
Sheet: 1 OF 1
ITEM #:
FILE NAME/PART #: R4031-11424A
REV: 9



intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS

REV	DATE	BY	DESCRIPTION
6	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

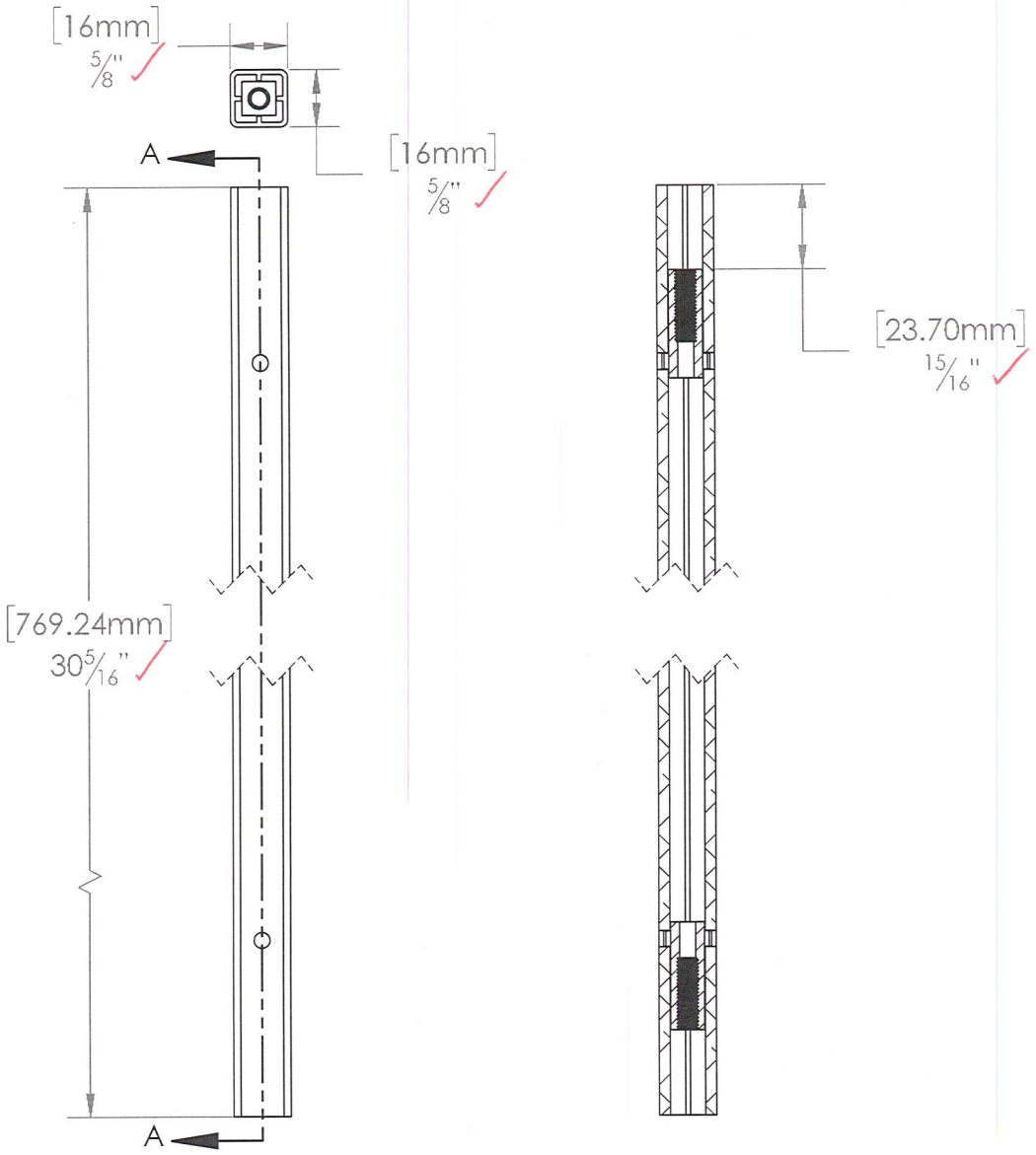
Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION: INSPIRE 32.5" BALUSTER

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4031-11279A | REV: 6



intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 Tech AJS

SECTION A-A

REV	DATE	BY	DESCRIPTION
2	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

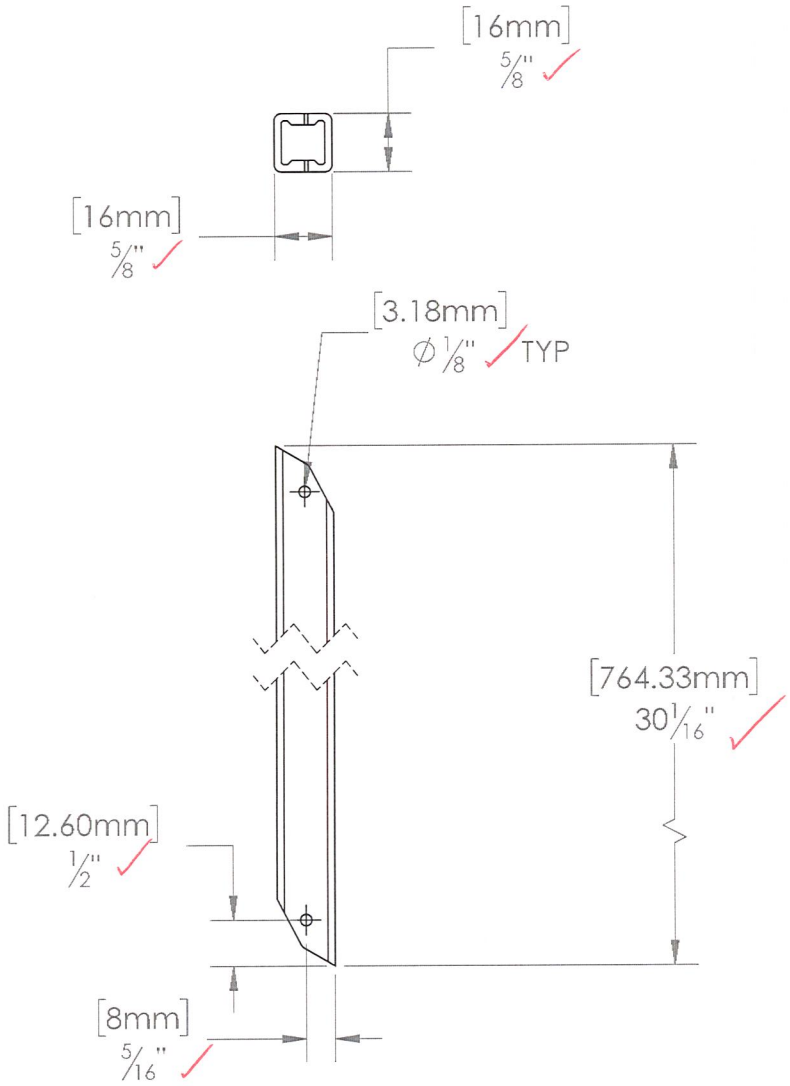
Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION: INSPIRE 32.5" SUPPORT BALUSTER WELDMENT

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: Fortress Railing

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4032-11869A | REV: 2



intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS

REV	DATE	BY	DESCRIPTION
9	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

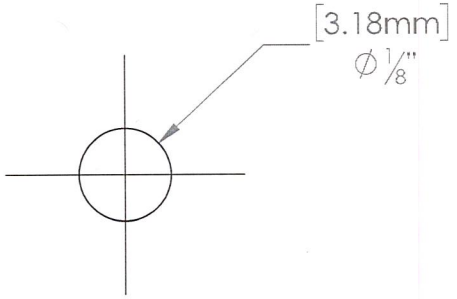
Fortress Framing
1720 N 1st Street
Garland, TX 75040

DESCRIPTION:
INSPIRE RAILING 32.5" STAIR BALUSTER

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4039-11226A | REV: 9

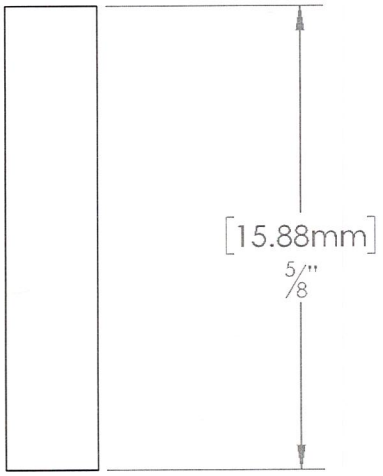


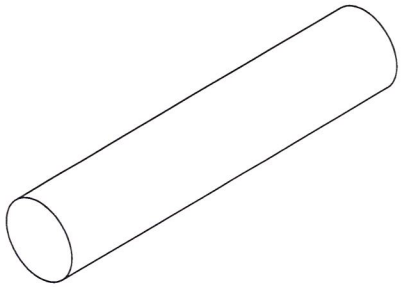
intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS





REV	DATE	BY	DESCRIPTION
9	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

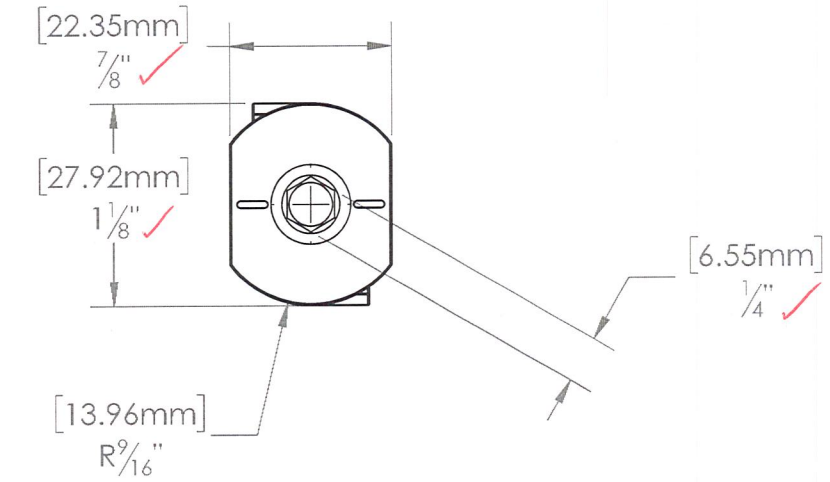
Fortress Framing
1720 N 1st Street
Garland, TX 75040

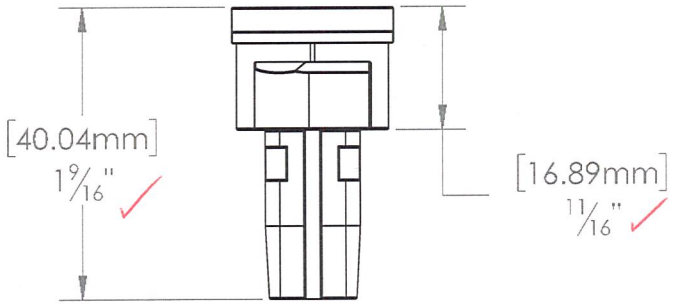
DESCRIPTION: INSPIRE RAIL HINGE BLOCK PIN

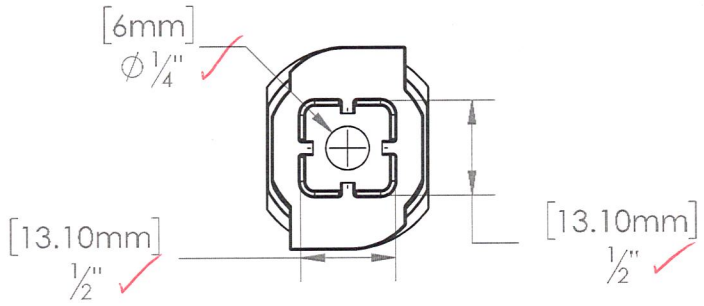
DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4031-11247A | REV: 9





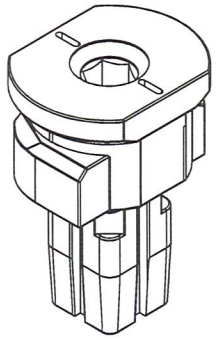


intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS



REV	DATE	BY	DESCRIPTION
6	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

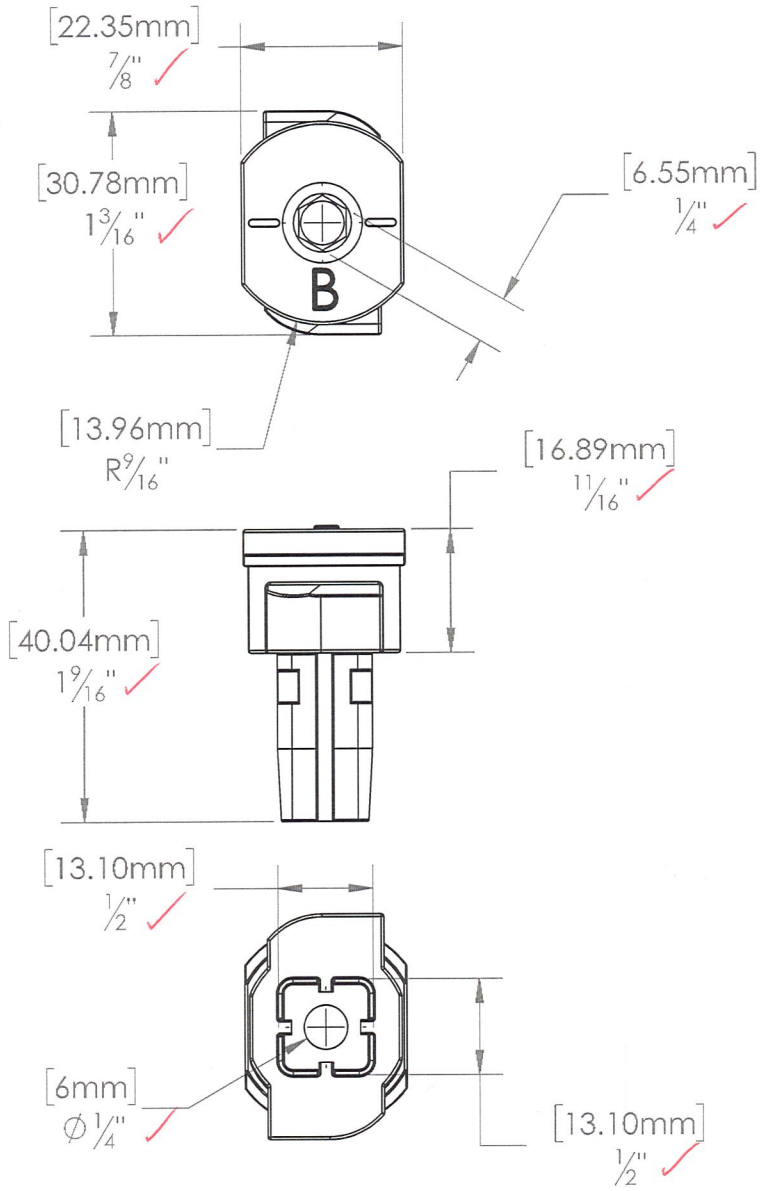
Fortress Framing
1720 N 1st Street
Garland, TX 75040

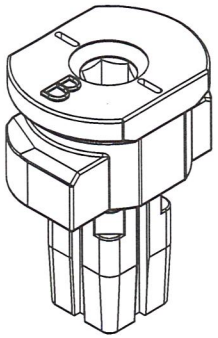
DESCRIPTION: TWIST AND LOCK PICKET PLUG INSPIRE

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4039-11850A | REV: 6





intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS

REV	DATE	BY	DESCRIPTION
	8/24/21	CR	Initial Drawing

FORTRESS FRAMING

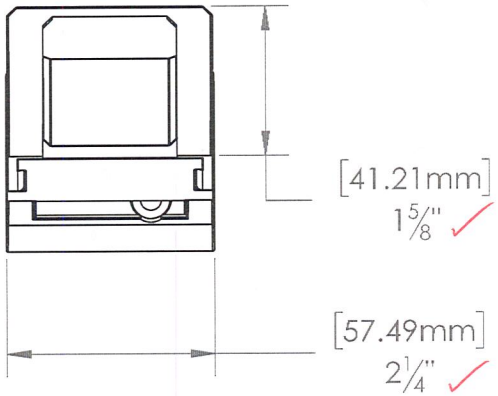
Fortress Framing
1720 N 1st Street
Garland, TX 75040

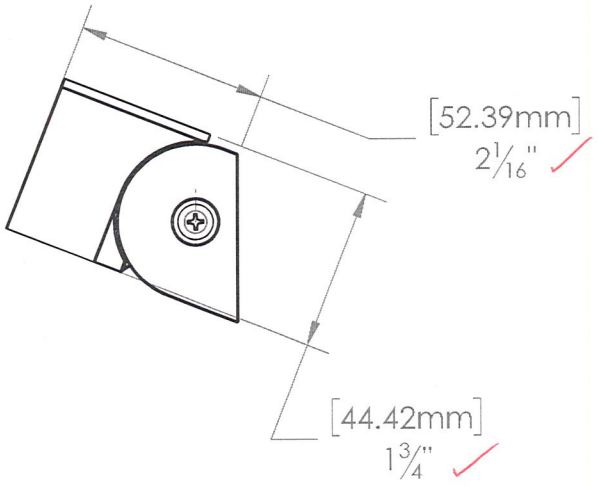
DESCRIPTION: TWIST AND LOCK PICKET PLUG INSPIRE

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: RAILING

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4039-12079A | REV:



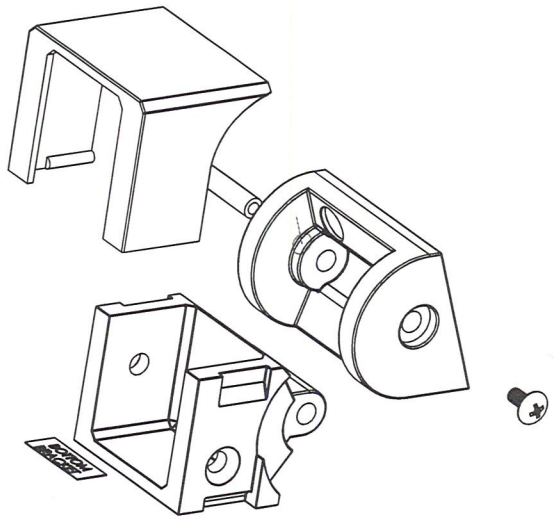


intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 Tech AJS



FORTRESS FRAMING

Fortress Framing
1720 N 1st Street
Garland, TX 75040

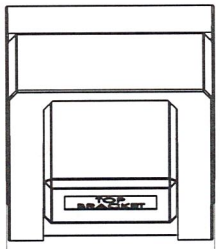
REV	DATE	BY	DESCRIPTION
2	8/24/21	CR	Initial Drawing

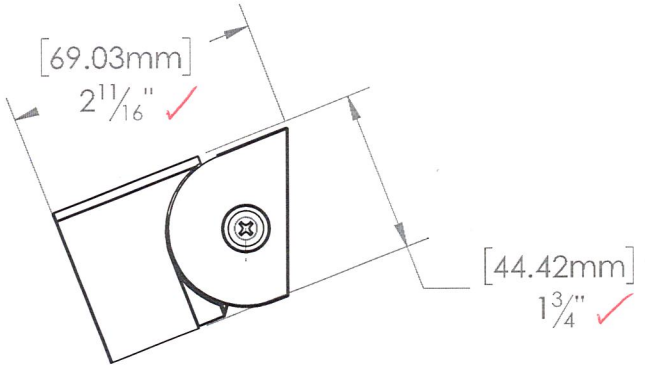
DESCRIPTION: INSPIRE STIAR BRACKET INCLINE

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: Fortress Railing

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4034-11919A | REV: 2





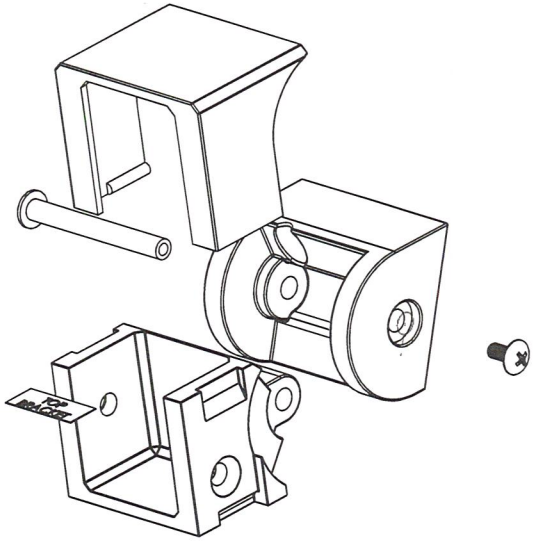
[57.49mm]
2 1/4" ✓

intertek

Test sample complies with these details.
Deviations are noted.

Report # M6991.01-119-19

Date 10/11/21 **Tech** AJS



FORTRESS FRAMING

Fortress Framing
1720 N 1st Street
Garland, TX 75040

REV	DATE	BY	DESCRIPTION
2	8/24/21	CR	Initial Drawing

DESCRIPTION: INSPIRE STAIR BRACKET DECLINE

DRAWN BY: CollinR | SCALE: AS SHOWN

DATE: 08/24/2021 | DIVISION: Fortress Railing

Sheet: 1 OF 1 | ITEM #: | FILE NAME/PART #: R4034-11920A | REV: 2

130 Derry Court
York, Pennsylvania 17406

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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	10/12/21	N/A	Original Report Issue