



TEST REPORT

Report No.: G9391.01-301-44

Rendered to:

Neon Energy
Anaheim, California

PRODUCT TYPE: Horizontal Slider (Double)

SERIES/MODEL: Ultra Sliding Window

SPECIFICATION: NFRC 400-2014,
Procedure for Determining Fenestration Product Air Leakage

Title	Summary of Results
Operating Force (Initiate motion)	32.5 N (7.3 lbf) max.
Operating Force (Maintain motion)	20.5 N (4.6 lbf) max.
Operating Force (Locks/Latches)	45.8 N (10.3 lbf) max.
Air Leakage Resistance Test	1.47 L/s/m ² (0.29 cfm/ft ²)

Reference must be made to Report No. G9391.01-301-44, dated 05/19/17 for complete test specimen description and detailed test results.



Architectural Testing

Test Report No.: G9391.301-44

Report Date: 05/19/17

Page 2 of 8

1.0 Report Issued To: Neon Energy
4989 E La Palma Avenue
Anaheim, California 92807

2.0 Test Laboratory: Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
2524 E Jensen Ave.
Fresno, California 93706
(559) 233-8705

3.0 Project Summary:

3.1 Product Type: Horizontal Sliding Window (Double)

3.2 Series/Model: Ultra Sliding Window

3.3 Compliance Statement: Results obtained are tested values and were conducted in full compliance with NFRC requirements by using the NFRC 400-2014 test method. Test specimen description and results are reported herein.

3.4 Test Dates: 03/20/17

3.5 Test Record Retention End Date: All test records for this report will be retained until March 20, 2022.

3.6 Test Location: Intertek-ATI test facility in Fresno, California.

3.7 Test Specimen Source: The test specimen was provided by the client. Representative samples of the test specimen will be retained by Intertek-ATI for a minimum of five years from the test completion date.

3.8 Drawing Reference: The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen reported herein. Test specimen construction was verified by Intertek-ATI per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
David Douglass	Intertek-ATI

4.0 Test Specifications:

NFRC 400-2014, *Procedure for Determining Fenestration Product Air Leakage*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 1.8 m ² (19.4 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1501	59	1201	47-1/4
Exterior sash	765	30-1/8	1134	44-5/8
Interior sash	765	30-1/8	1134	44-5/8

5.2 Frame Construction:

Frame Member	Material	Description
Head, Jambs, Sill	Aluminum	Thermally broken aluminum, painted finish

	Joinery Type	Detail
All corners	Mitered	Sealed and screwed together

5.3 Panel Construction:

Sash Member	Material	Description
Stiles, Rails	Extruded Aluminum	Thermally broken aluminum, painted finish

	Joinery Type	Detail
All corners	Mitered	Sealed and screwed together

5.0 Test Specimen Description: (Continued)

5.4 Reinforcement: No reinforcement was utilized.

5.5 Weatherstripping:

Description	Quantity	Location
Polypile	1 row	Sill
Polypile	2 rows	Each meeting stile. Jambs. Head. Top rail of each panel.
Vinyl bulb gasket	2 rows	Rails. Jamb stiles, Jambs
Vinyl bulb gasket	1 Row	Each meeting stile.

5.6 Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

Glass Type	Spacer Type	Air Space	Interior Lite	Exterior Lite	Glazing Method
1" IG	A1-D: aluminum Spacer	0.55" with 100% Air	1/4" annealed	1/4" annealed	Dry glazed with interior and exterior wedge gaskets.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Active Panels	1	586 x 960	23"x 37-13/16	1/2"

5.0 Test Specimen Description: (Continued)

5.7 Drainage:

Drainage Method	Size	Quantity	Location
Weephole	1" x 1/4"	3	Sill
Weephole	1" x 3/16"	6	Exterior Sill Leg

5.8 Hardware:

Description	Quantity	Location
Roller Assembly	2	Bottom rail of each panel
Handle with three-point lock assembly	2	Lock Stiles
Keeper	3	Each Jamb

5.9 Screen Construction: No Screen was utilized

6.0 Installation:

The specimen was installed into test buck constructed of 2 x 8 lumber. The rough opening allowed for a 1/8" shim space. The exterior perimeter of the window was sealed with vinyl tape.

Location	Anchor Description	Spacing
Jambs, Head	2" x 2" x 3" wooden blocks.	2 blocks evenly spaced, secured to the test buck at the head and jambs.

7.0 Test Results: The results are tabulated as follows:

Title of Test	Results	Table
Operating Force, per ASTM E 2068	Initiate motion: 32.5 N (7.3 lbf) max. Maintain motion: 20.5 N (4.6 lbf) max. Locks/Latches: 45.8 N (10.3 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 (qA) at 75 Pa (1.57 psf)	1.47 L/s/m ² (0.29 cfm/ft ²)	1

Table #1:

Air temperature: 72°F Barometric pressure: 29.96 in. of Hg Relative humidity: 44%

Total Airflow (Qt)	Tare (Qe)	Net (Qs)	<u>Corrected Net Airflow (Qst)</u>
3.4 l/s (7.22 cfm)	0.8 l/s (1.67 cfm)	2.6 l/s (5.55 cfm)	2.6 l/s (5.55 cfm)

A calibration was performed on the Intertek-ATI Structural Control Panel, Serial #005724, on 02/28/17. The calibration procedure is fully described in Intertek-ATI Standard Calibration Procedure 31-12. The basic procedure requires calibrating the pressure transducers and then measuring flow rates through calibrated orifice plates.

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

Ratings included in this report are for submittal to an NFRC-licensed IA for certification purposes and are not meant to be used for labeling purposes. Only those values identified on a valid Certification Authorization Report (CAR) are to be used for labeling purposes.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

Tested by:

Reviewed by:

David Douglass
Project Manager

Tyler Westerling, P.E.
Senior Project Engineer
Individual-in-Responsible-Charge

WJR:ss

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

Appendix A: Location of Air Seal (1)

Appendix B: Drawings (19)

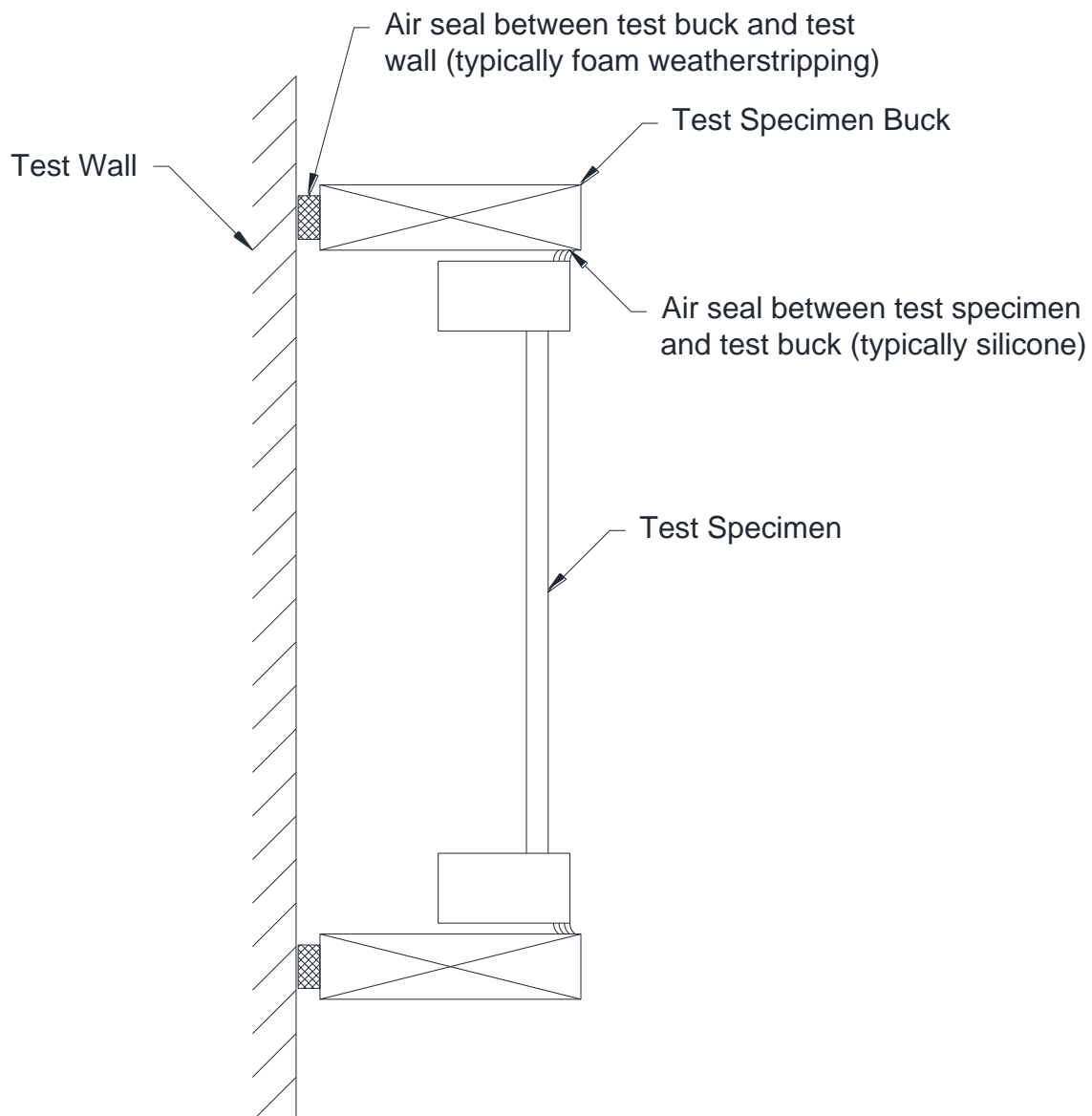
Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	05/19/17	N/A	Original report issue.

This report produced from controlled document template ATI 00172, revised 06/19/15.

Appendix A

Location of Air Seal: The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.





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Appendix B

Drawings

Company Name: NEON ENERGY

Series/Model: **ULTRA Sliding / Sliding Window**

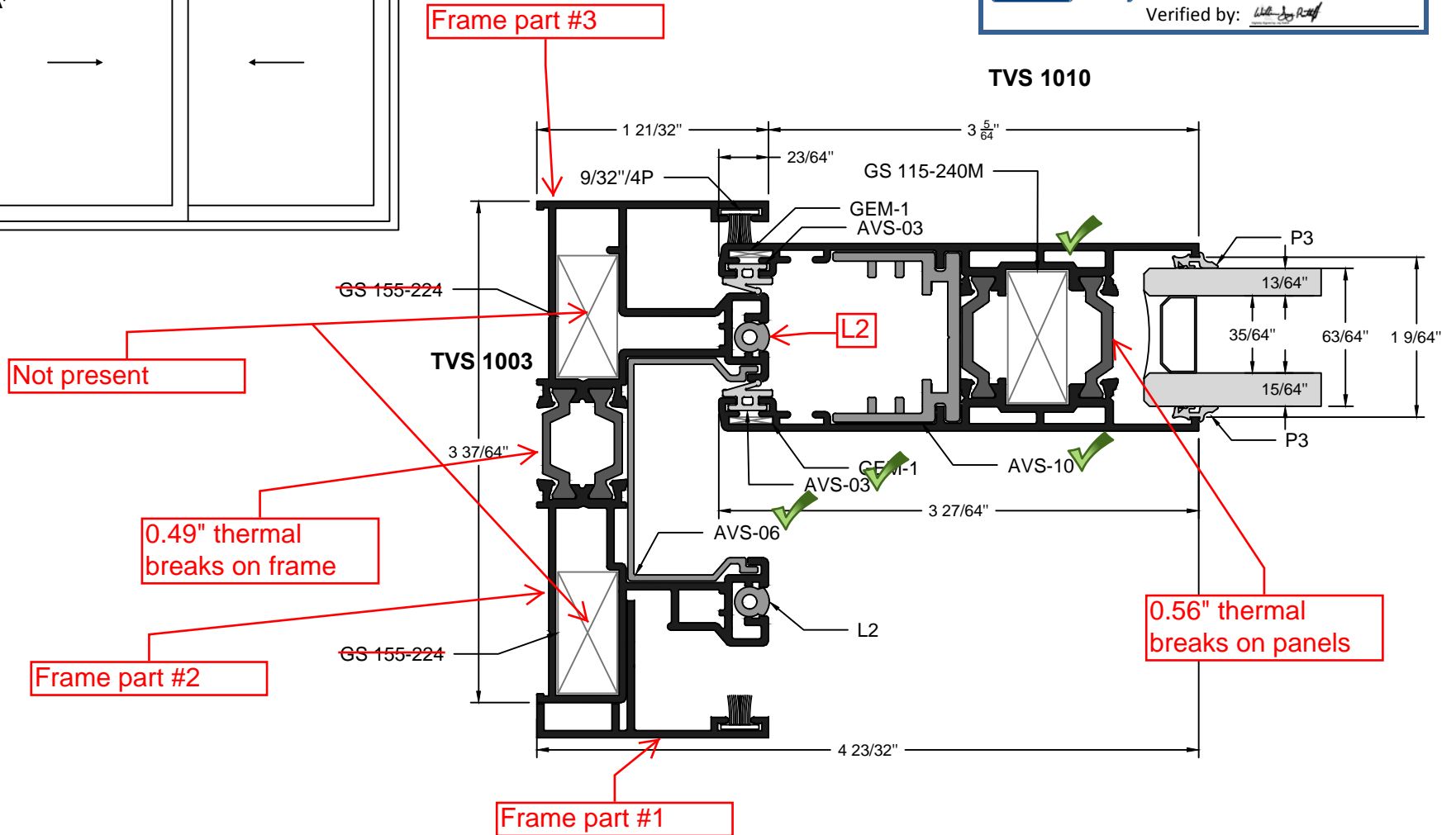
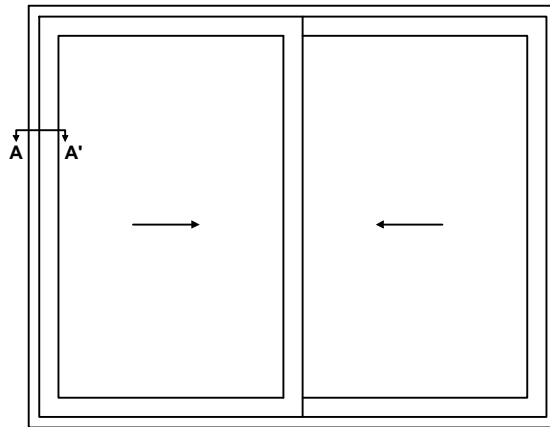
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HORIZONTAL SECTION A-A'

KA. 1:1

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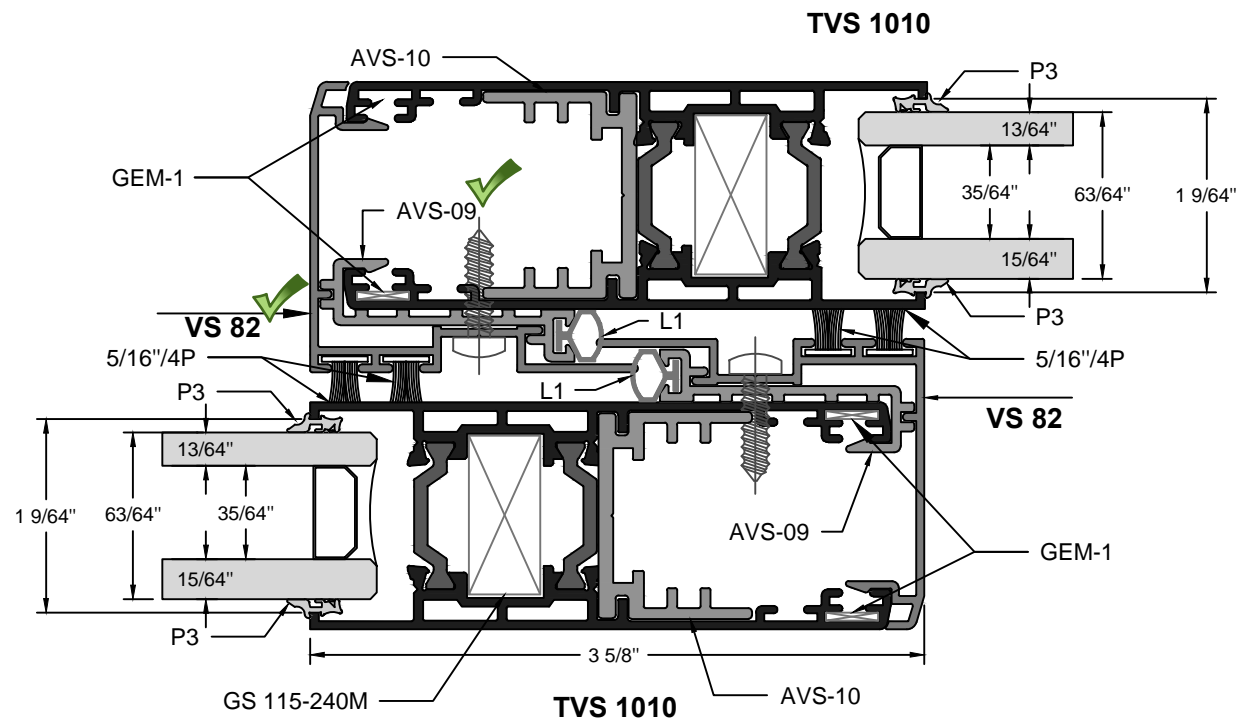
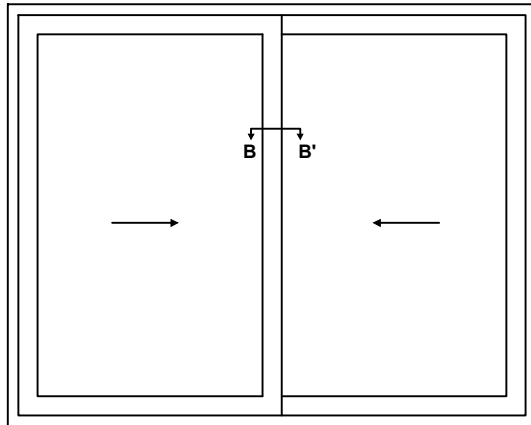
Intertek	Report #:	G9391.01-301-44
	Date:	05/18/17
	Verified by:	<i>Will J. Ruff</i>



HORIZONTAL SECTION B-B'

ΚΑ. 1:1

TEST SPECIMENT No 2 (2A & 2B)



Report #: G9391.01-301-44

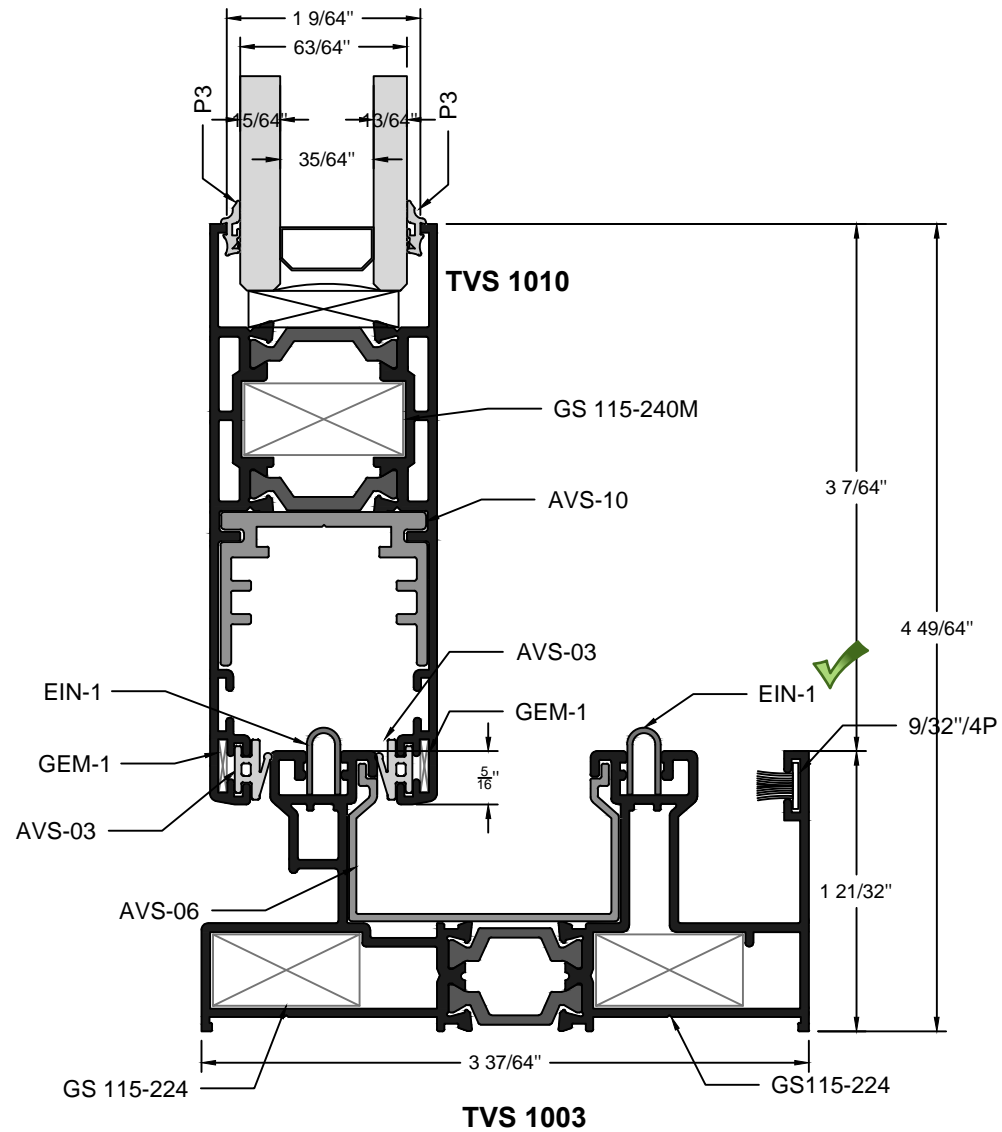
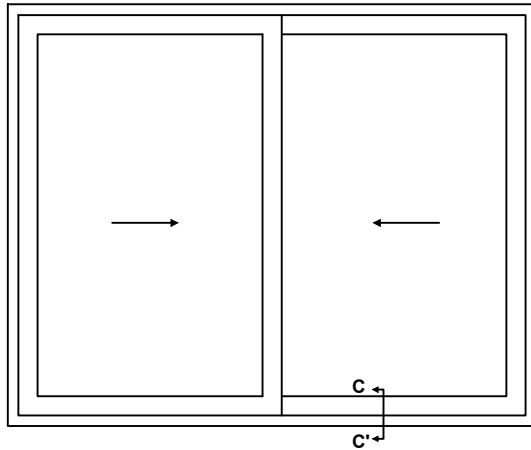
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Verified by: *[Signature]*

VERTICAL SECTION C-C'

ΚΛ. 1:1

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Report #: G9391.01-301-44

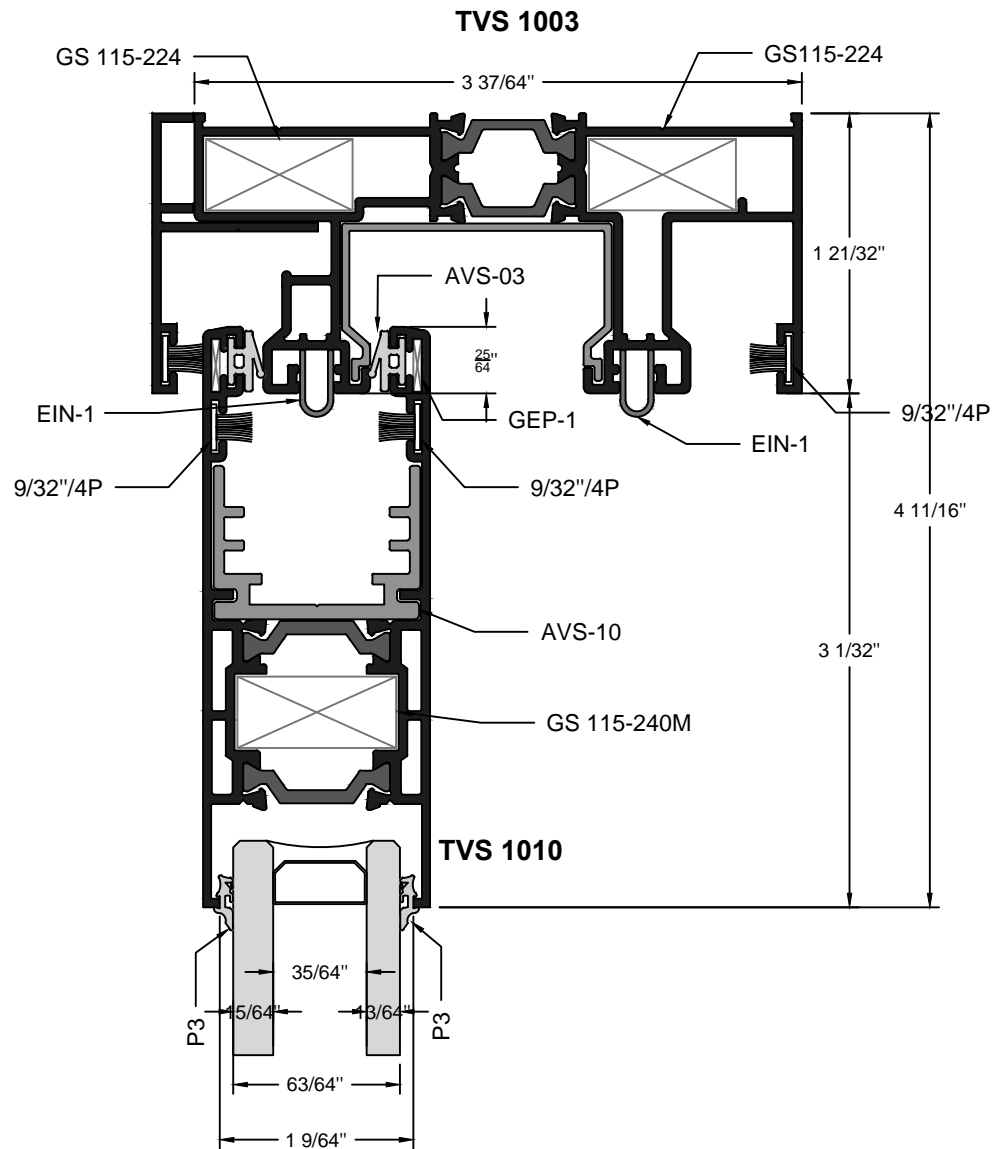
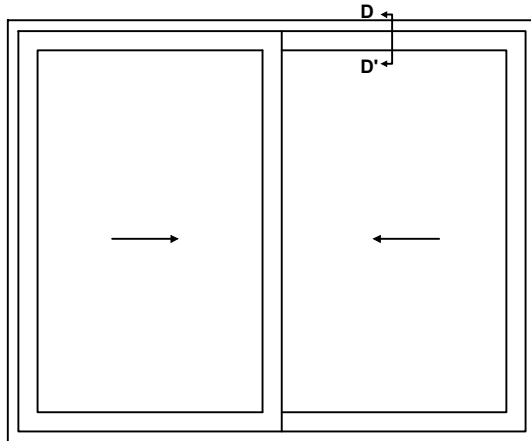
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Verified by: *[Signature]*

VERTICAL SECTION D-D'

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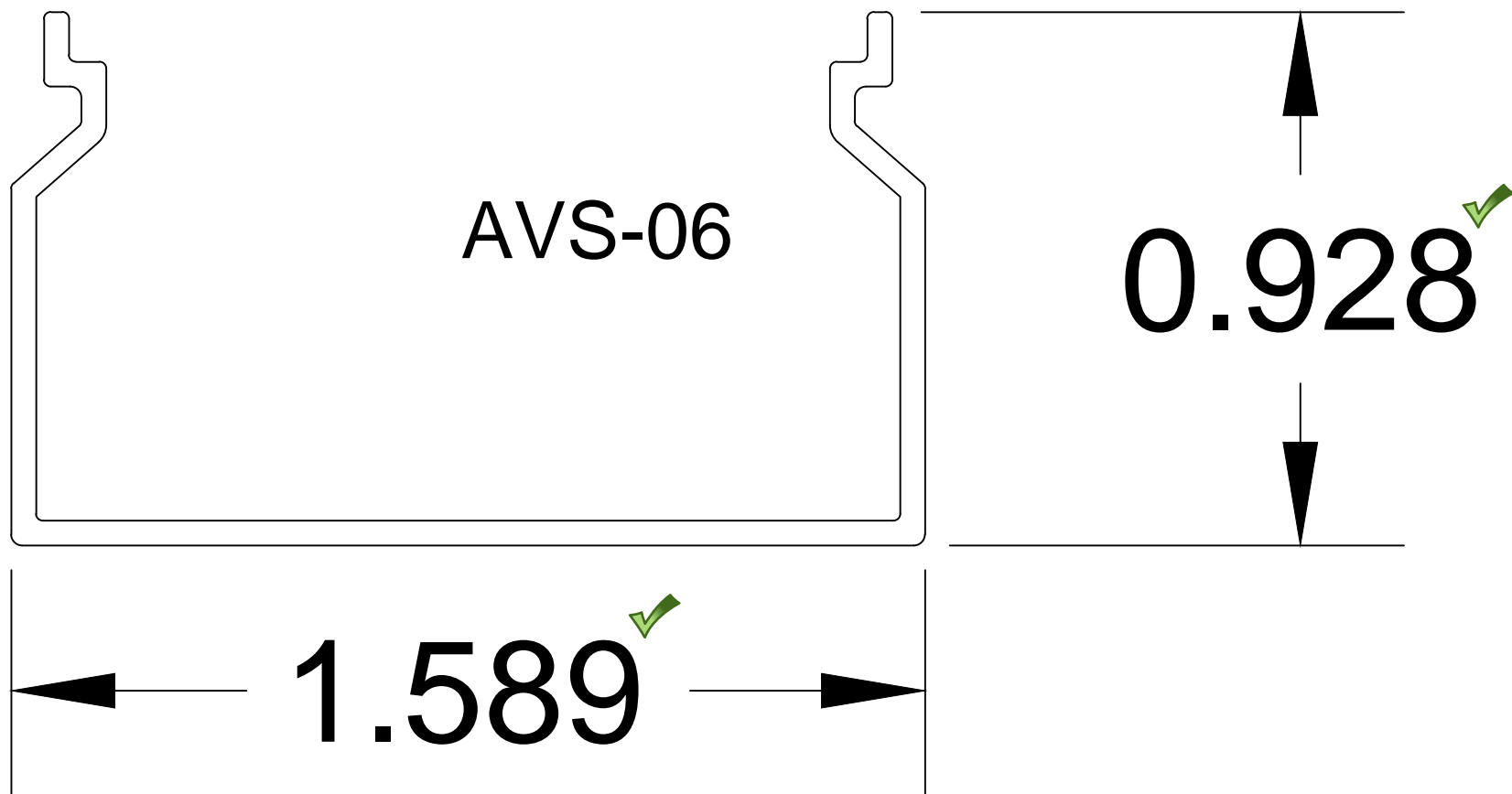
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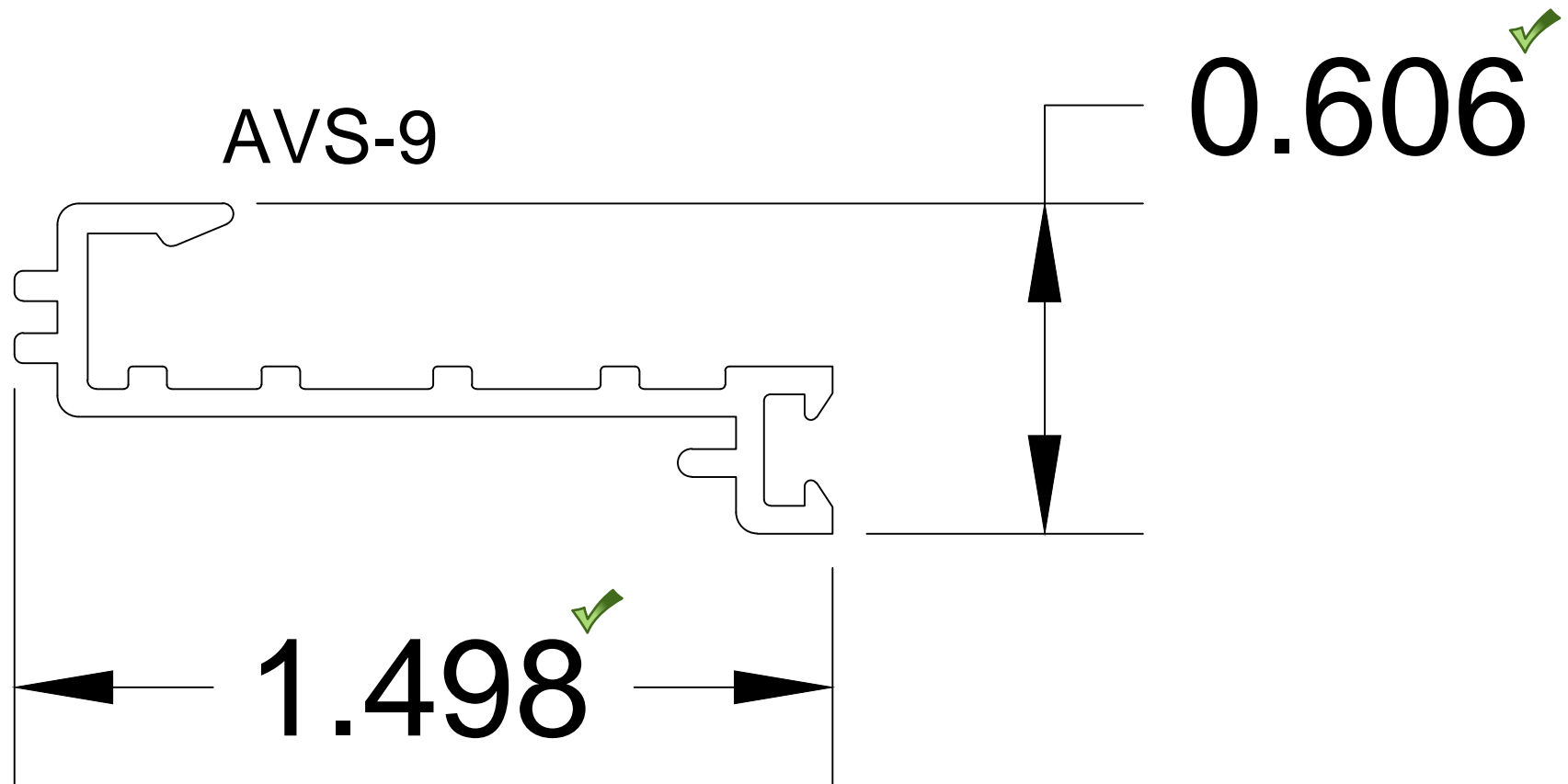


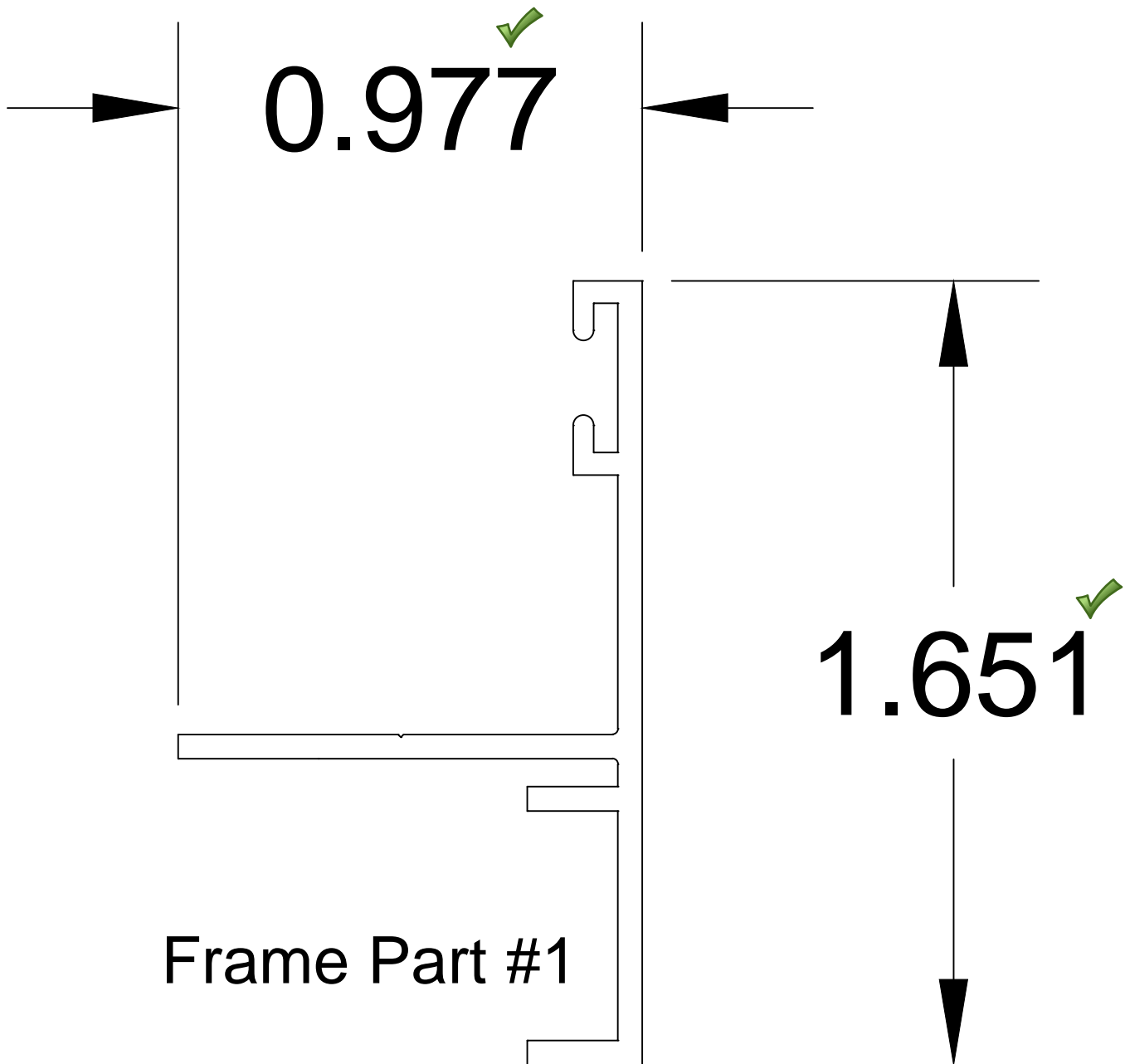
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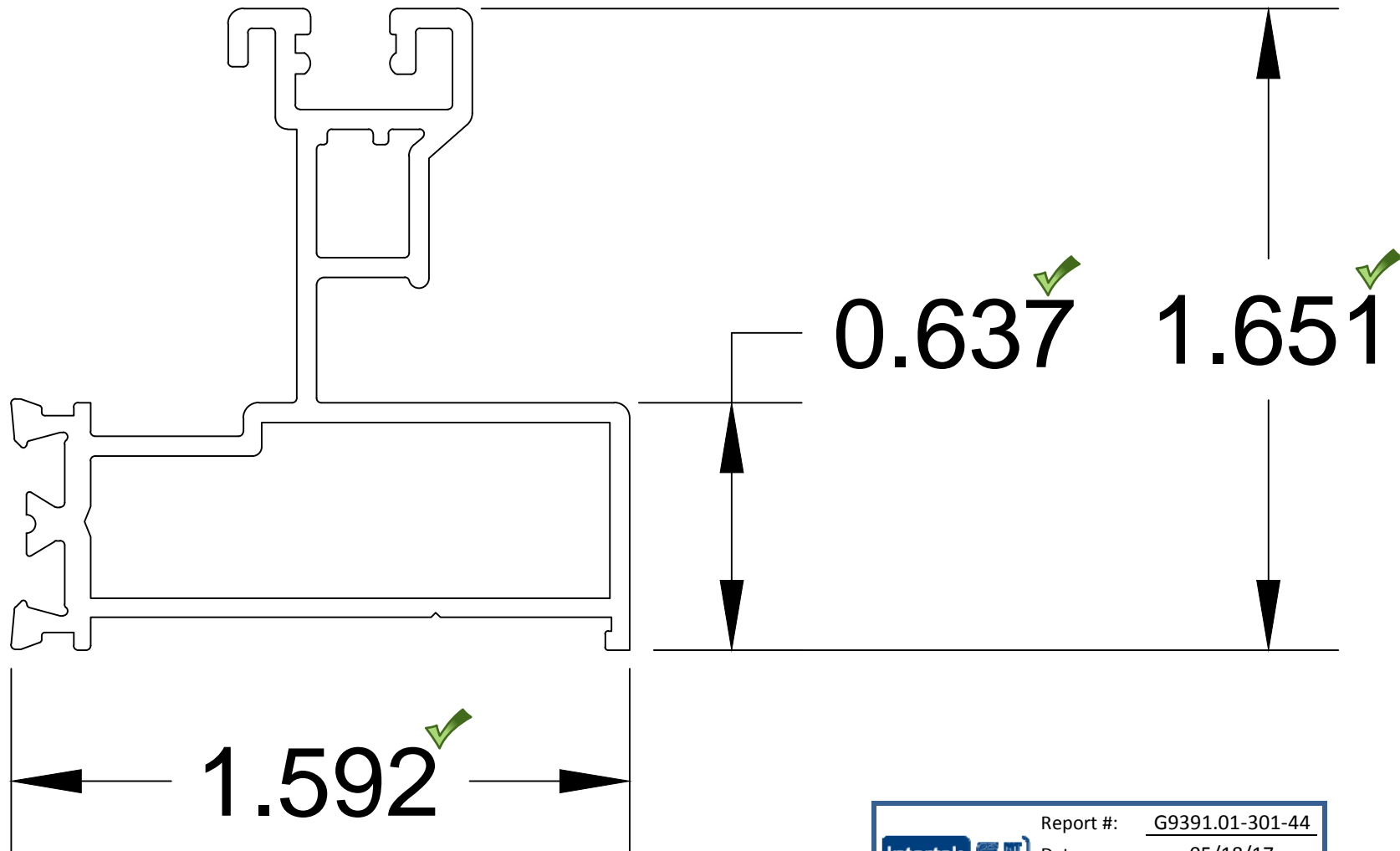
Verified by: W. J. R. R.




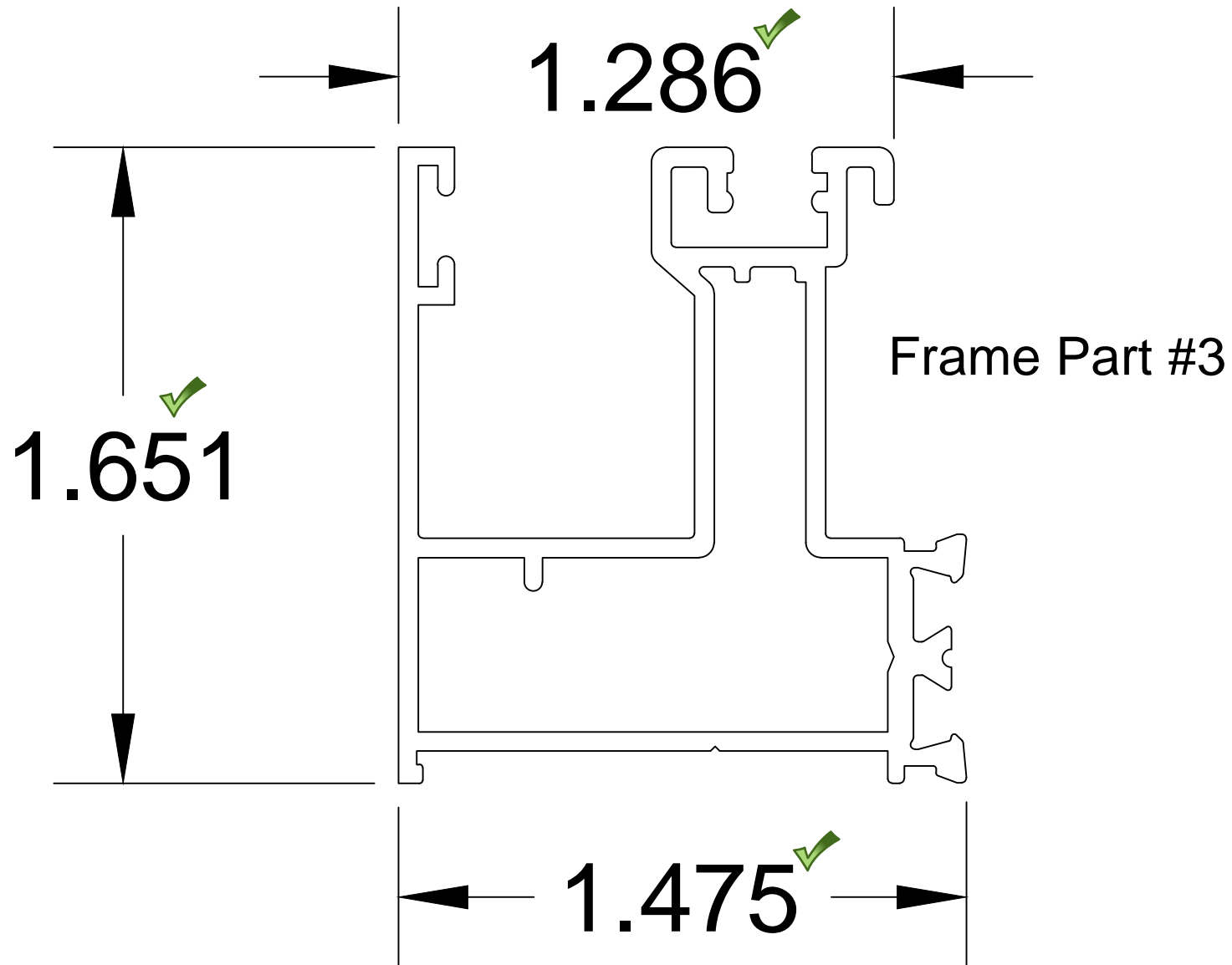


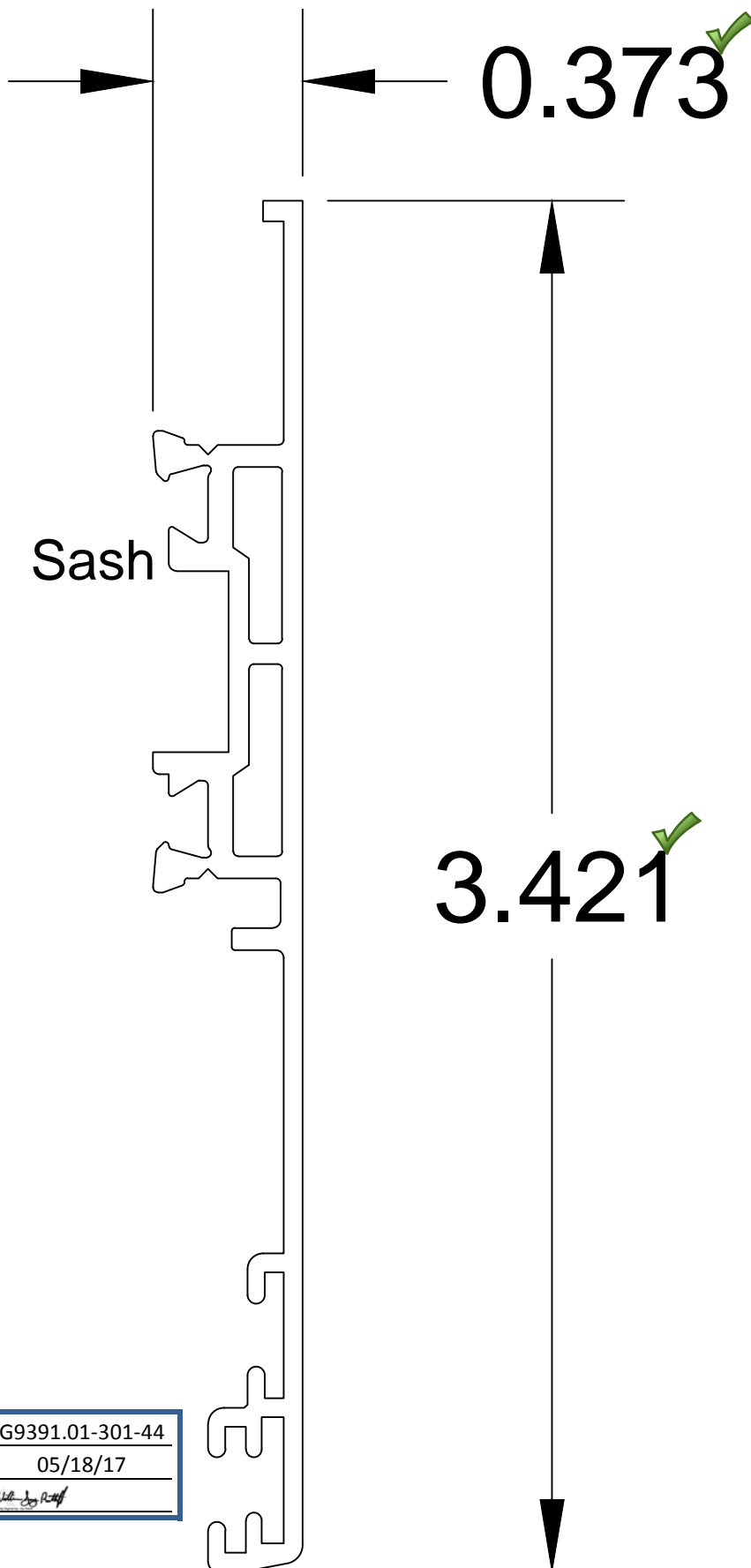


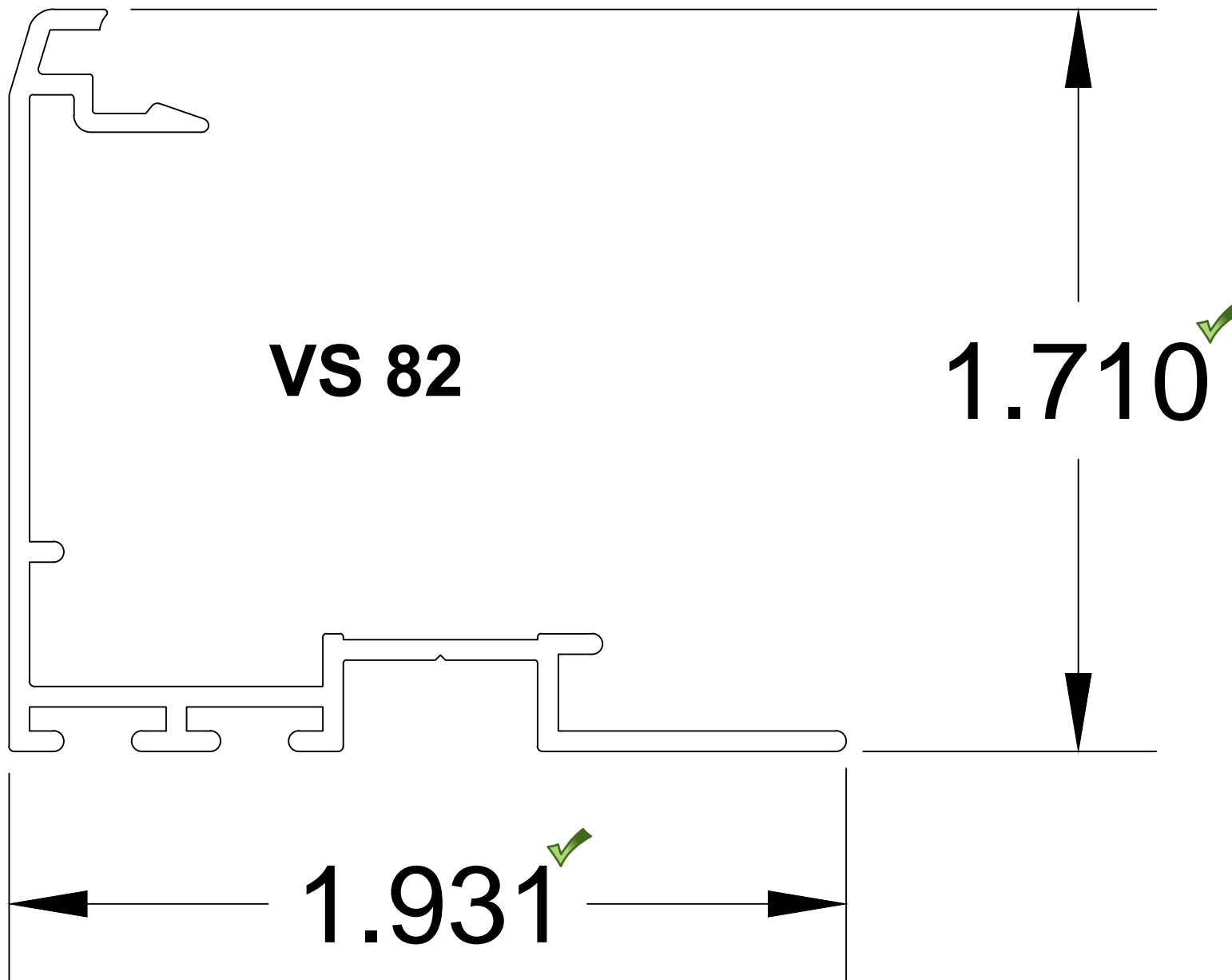
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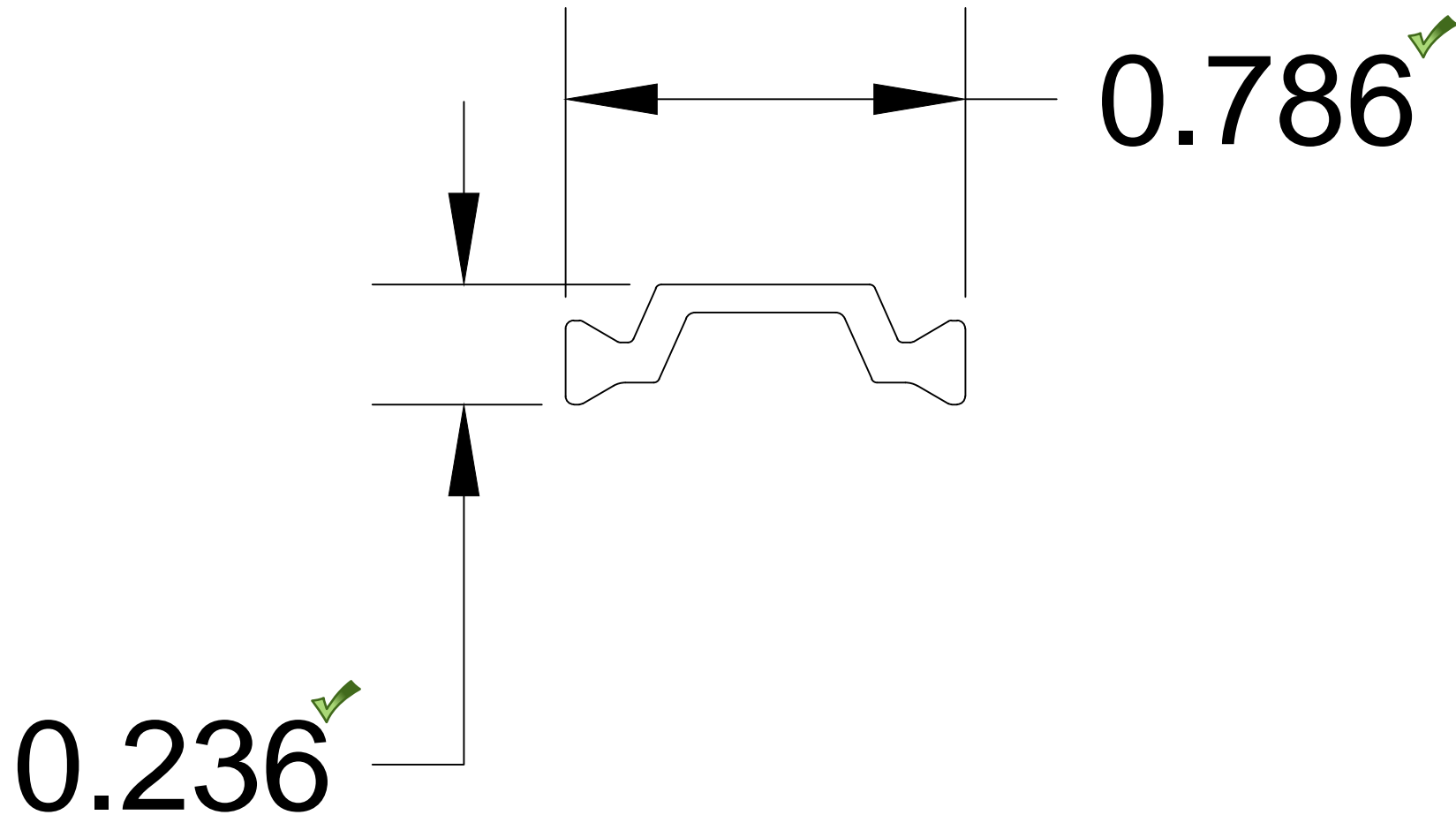
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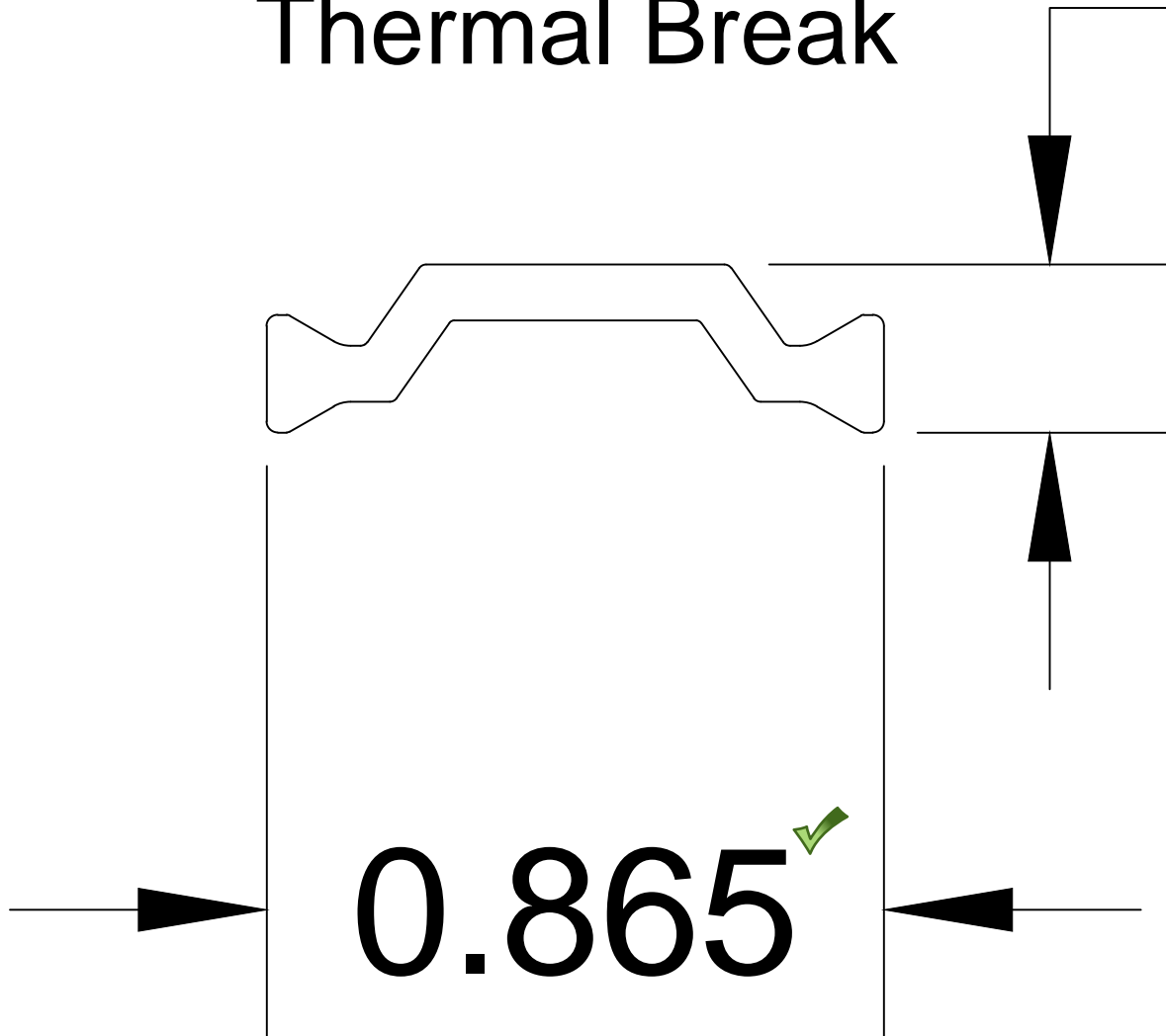


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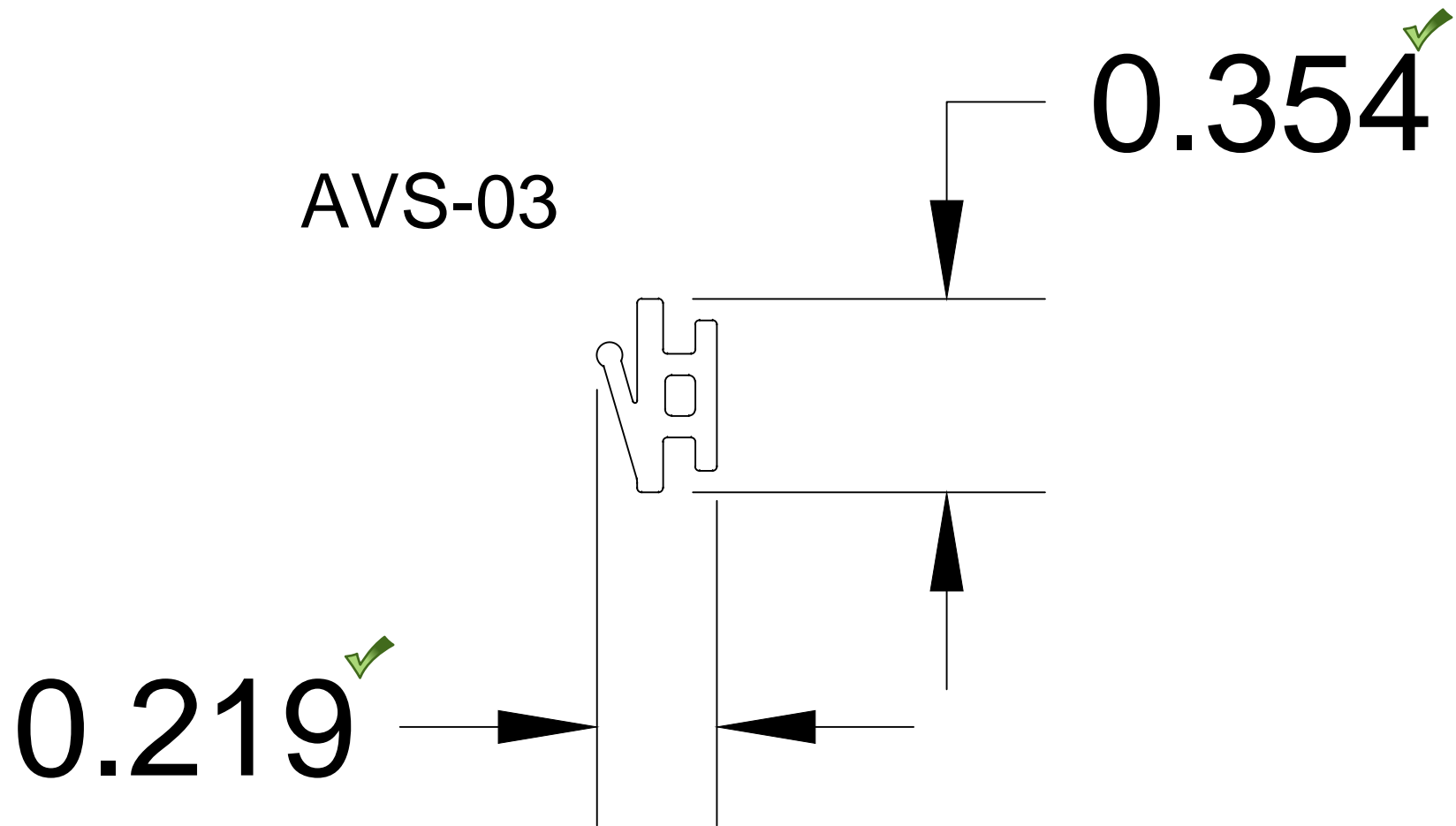


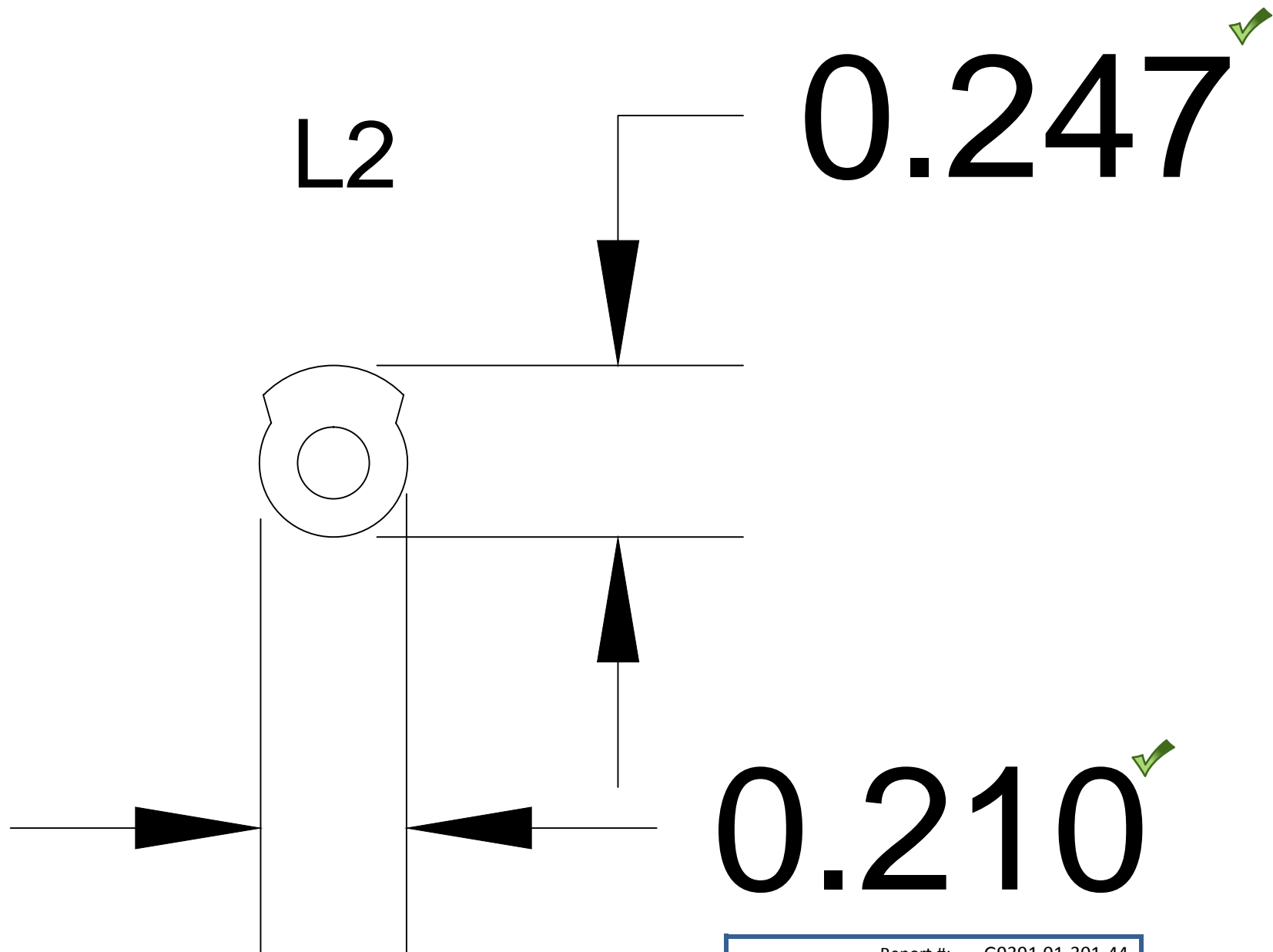
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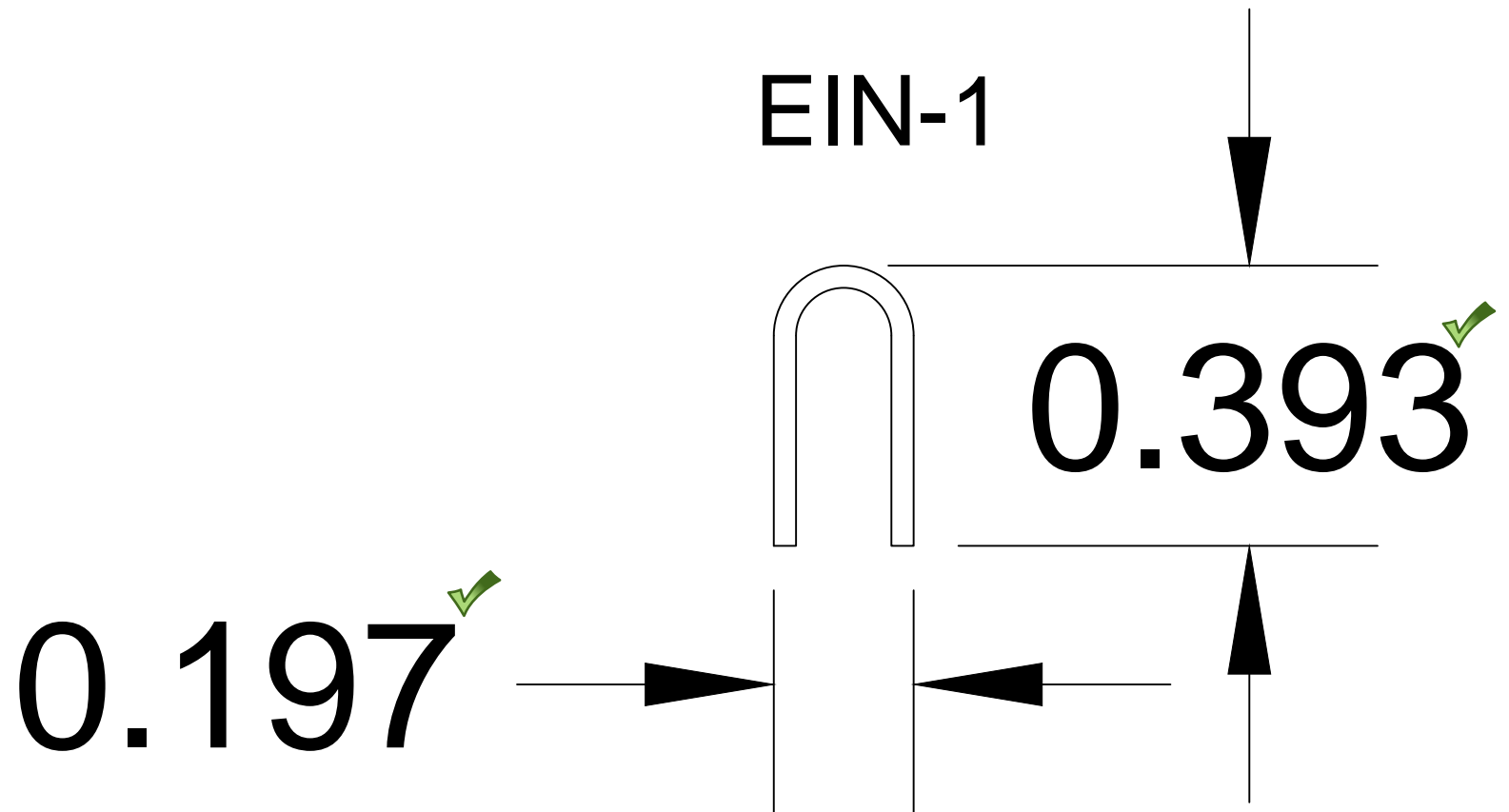
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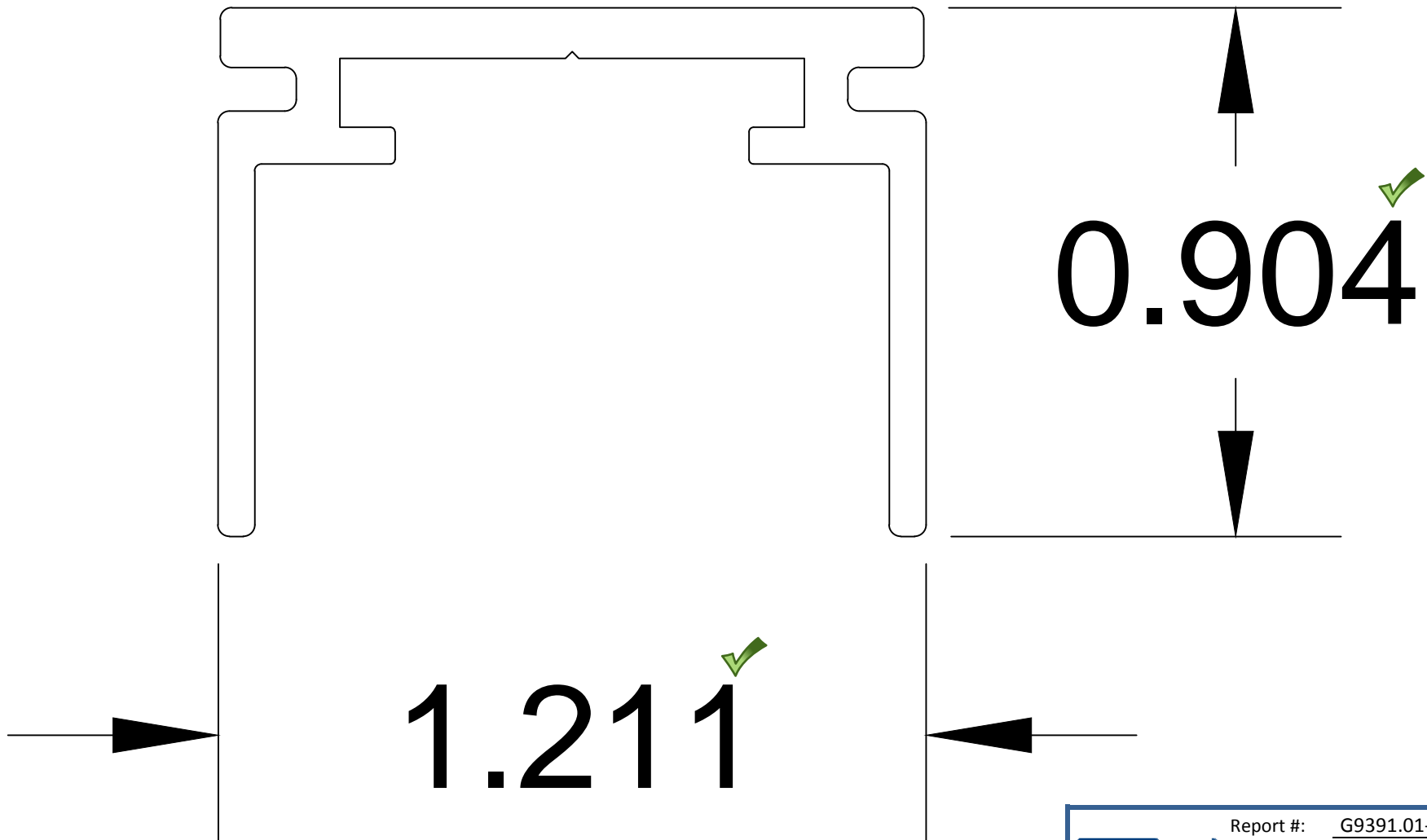
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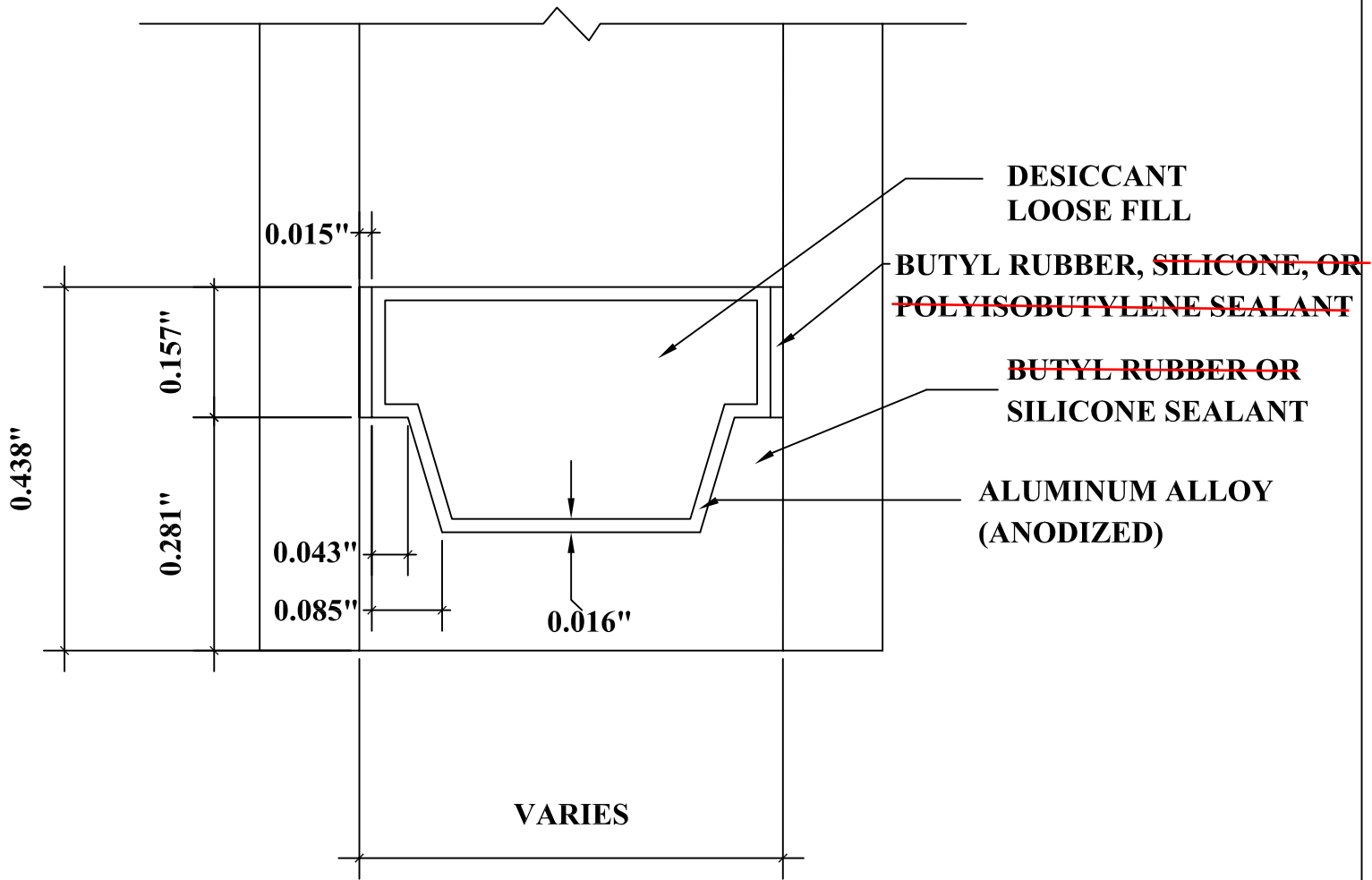




AVS-10



Intertek <small>GROUP BVT</small>	Report #:	G9391.01-301-44
	Date:	05/18/17
	Verified by:	<i>W. J. Ruff</i>



DETAIL FOR THERMAL MODELING OF
ALUMINUM SPACER (A1-D)