

TEST REPORT

ASTM E331

ASTM E330

REPORT No.: 2087.03-105-11-R1

RENDERED TO: GAMCO CORPORATION
Flushing, New York

PRODUCT TYPE: Aluminum Outswing Entry Door

SERIES / MODEL: D500

Test	Summary of Results
Design Pressure	±3840 Pa (±80.20 psf)
Water Penetration Resistance Test Pressure	0 Pa (0 psf)

Test Completion Date: 1/13/2020

Reference must be made to Report No. 2087.03-105-11-R1, revision dated 7/31/2020 for complete test specimen description and detailed test results.

CLIENT INFORMATION: GAMCO CORPORATION
131-10 Maple Avenue
Flushing, New York 11355

TEST LABORATORY: Molimo, LLC
1410 Eden Road
York, Pennsylvania 17402
717-900-6034

PROJECT SUMMARY:

PRODUCT TYPE: Aluminum Outswing Entry Door

SERIES/MODEL: D500

PROJECT SUMMARY:

Molimo, LLC was contracted to perform testing on the above referenced product. The results are tested values and were secured by using the designated test methods.

PROJECT DETAILS:

Test Dates: 1/13/2020

Test Record Retention End Date: 1/13/2024

Test Location: Molimo, LLC test facility in York, Pennsylvania.

Test Specimen Source: The test specimen was provided by the client. Representative samples of the test specimen will be retained by Molimo for a minimum of four years from the test completion date.

Drawing Reference: The test specimen drawings were supplied by the client. The test specimen construction was verified by Molimo and was found to be representative of the product tested. Test specimen drawings are located in Appendix C of this report.

WITNESSES:

The following representatives witnessed all or part of the testing.

Name	Company
Michael D. Stremmel, P.E.	Molimo, LLC
Joseph W. Enriquez	Molimo, LLC

TEST METHODS:

ASTM E330/E330M-14 – *Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference*

ASTM E331-00(16) – *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference*

TEST SPECIMEN DESCRIPTION:**PRODUCT SIZES:**

Overall Size: 1219 mm x 2489 mm (48" x 98")
Overall Area: 3.03 m² (32.66 ft²)
Leaf Size: 1105 mm x 2400 mm (43-1/2" x 94-1/2")

FRAME CONSTRUCTION:

Material: Extruded aluminum
Corner Details: Square-cut and butted and mechanically fastened.
Head/Jamb Corners: Secured with two #12 x 1" pan head screws per corner
Sill/Jamb Corners: Secured using an extruded aluminum block under the threshold, using two #8 x 1-1/2" screws into the jamb and one #10 x 1/2" flat head screw into the block
Other Details: The jambs and head were constructed of two pieces of aluminum framing, snap-fit to each other
The head and jambs utilized a snap-in aluminum panel stop.

LEAF CONSTRUCTION:

Material: Extruded aluminum
Corner Details: Square-cut and butted, secured with one 3/8" threaded rod through the top and bottom rail with washers and nuts in each stile. An aluminum shear block was secured at each intersection with one #8 x 1" flat head screw.

REINFORCEMENT: No reinforcement was utilized.

TEST SPECIMEN DESCRIPTION: (Continued)

GLAZING DETAILS: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen can be made.*

Description	Detail
Glass Type	1" IG
Glazing Construction (Exterior to Interior)	1/4" Thick tempered glass 1/2" Aluminum box type spacer system 1/4" Thick tempered glass
Glazing Method	Channel glazed using interior and exterior snap-in glazing beads, with bulb gasket against the glass
Glazing Bite	1/2"
Daylight Opening:	813 mm x 2045 mm (32" x 80-1/2")

WEATHERSTRIPPING:

Description	Quantity	Location
1/4" diameter hollow bulb gasket	1 Row	Head, jambs, and threshold
0.290" high polypile	2 Rows	Leaf bottom rail

DRAINAGE: No drainage was utilized.

HARDWARE:

Description	Quantity	Location
Full length, piano style hinge	1	Hinge stile
Lock assembly with shoot bolts	1	Lock stile, 38" from the bottom rail with one shoot bolt at each end
Interior and exterior pull handle	1	38" from the bottom rail

TEST SPECIMEN DESCRIPTION: (Continued)

INSTALLATION: The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/8" shim space. The exterior perimeter of the specimen was sealed with sealant.

Location	Anchor Description	Anchor Spacing
Head and Jamb	1" x 2", 0.050" thick, 3" long aluminum clips, secured to the door frame with one #8 x 1/2" screw and secured to the wood buck with one #8 x 1-1/2" wood screw	3" From each end and spaced 16" on center

TEST RESULTS: The temperature during testing was 19 °C (66.5 °F).

WATER PENETRATION TESTING: (per ASTM E 331)

Test	Results	Allowable
0 Pa (0 psf)	Pass	No Leakage

UNIFORM LOAD TESTING: (per ASTM E 330)

Design Pressure Test	Results	Allowable
Deflection measured at the panel lock stile		
+3840 Pa (+80.20 psf)	0.8 mm (0.03")	9.1 mm (0.36")
-3840 Pa (-80.20 psf)	5.8 mm (0.23")	9.1 mm (0.36")

Structural Test	Results	Allowable
Permanent Set measured at the panel lock stile		
+5760 Pa (+120.30 psf)	0.8 mm (0.03")	3.3 mm (0.13")
-5760 Pa (-120.30 psf)	1.0 mm (0.04")	3.3 mm (0.13")

Note #1: All loads were held for 10 seconds.

Note #2: Tape and film were used to seal against air leakage. In our opinion, the tape and film did not influence the results of the test.

Note #3: Deflection allowable is based on L/175 of the measured span. Permanent set allowable is based on 0.02% of the measured span. Measurement span = 63".

General Note: All testing was performed in accordance with reference test methods.

A copy of this report, detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Molimo, LLC for the entire test record retention period. At the end of this retention period, the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. This test 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 permission of Molimo, LLC.

For MOLIMO, LLC:

Joseph W. Enriquez
Project Manager

Michael D. Stremmel, P.E.
Senior Project Engineer

MDS:dro

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

Appendix-A: Alteration Addendum (1)

Appendix-B: Air Seal Location (1)

Appendix-C: Drawings (13)

Revision Log

Rev. #	Date	Page(s)	Revision(s)
1	07/31/2020	2, 6, Appendix C	Added drawings to report

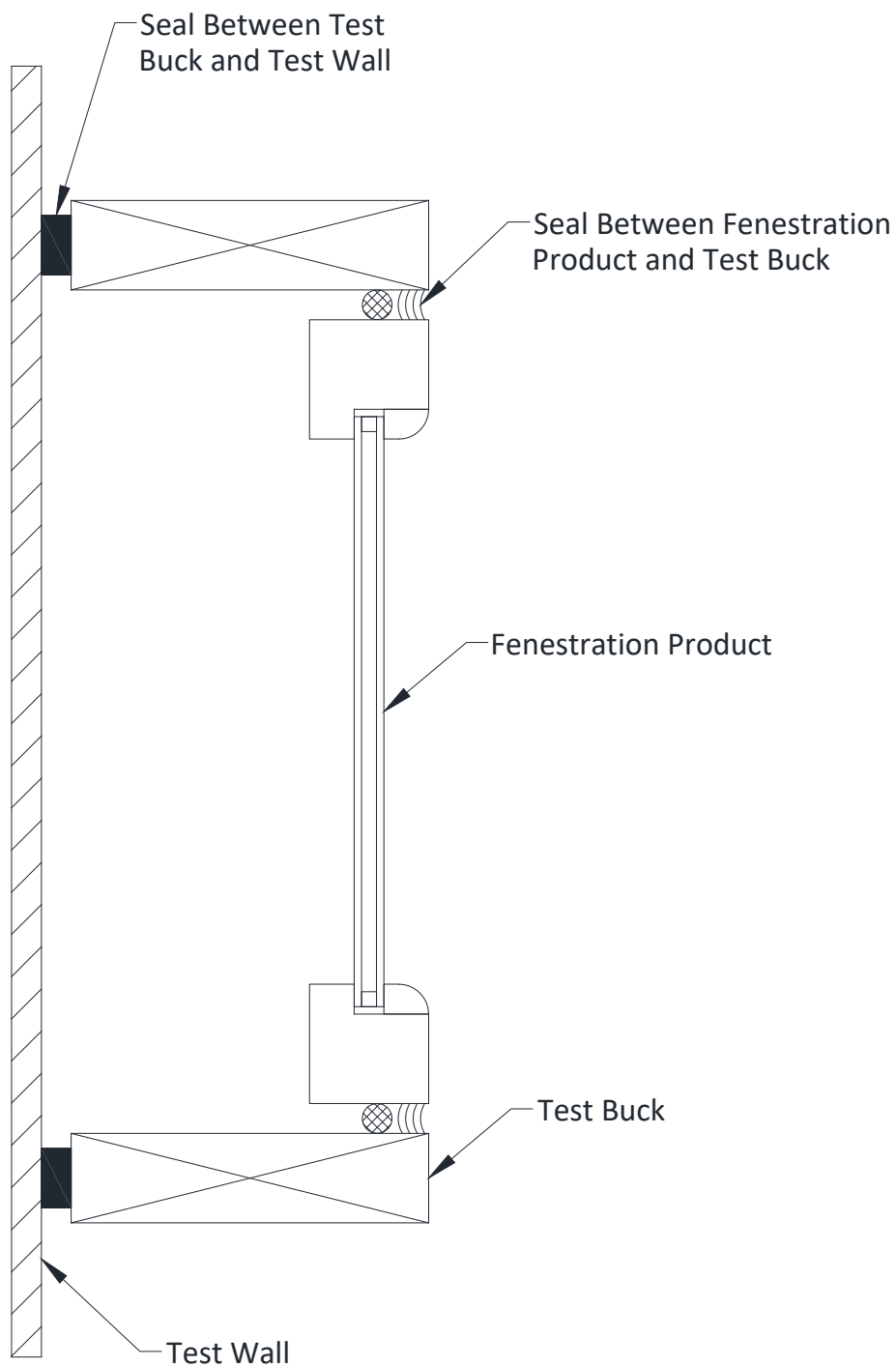
Appendix A

Alteration Addendum

No alterations were performed.

Appendix B

Air Seal Location



Appendix C

Drawings

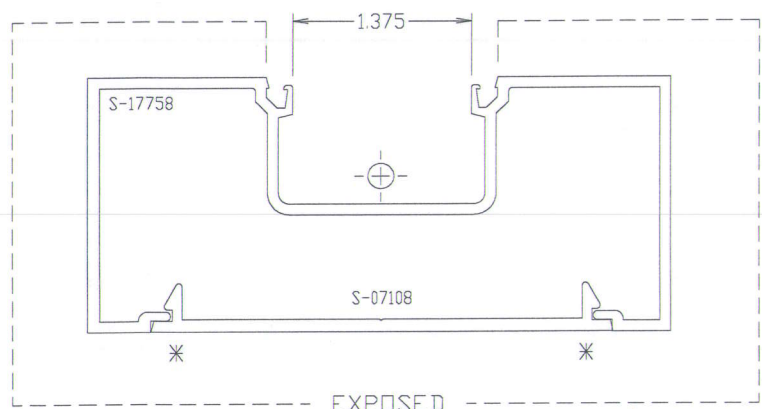


* STRUCTURAL STREAKING IS EXPECTED

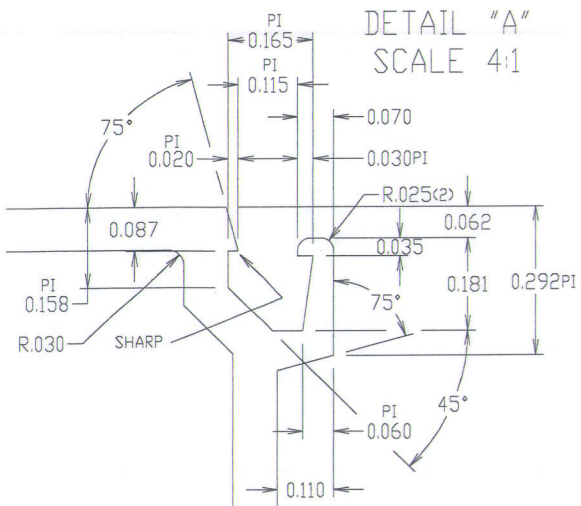
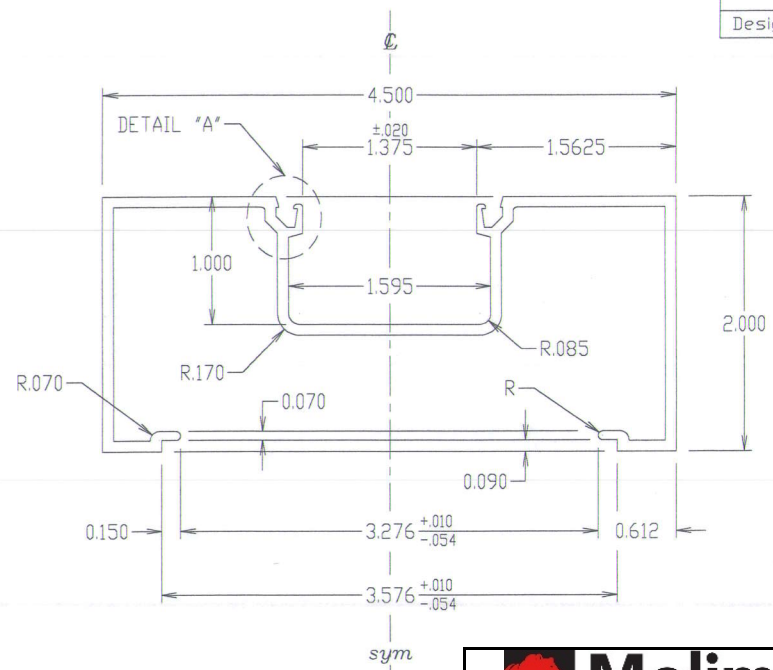
UNIFORM PAINT COVERAGE NOT EXPECTED IN THIS AREA

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-17758
Die Number
Design Number



ACTUAL SIZE ASSEMBLY



Molimo
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel

KEYMARK CORPORATION
FONDA, NEW YORK

FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL engny@keymarkcorp.com

Sym.	Revisions	Date
3	PRINT REVISION	06-30-04
	PRINT REDRAWN JR	06-30-04

Unspecified Wall Thickness: .085		Break All Corners .015 Radius or as Noted	
Customer KEYMARK CORPORATION		Customer's Part Number 051012	
Job Name FG-451		Scale 1:1	
Part Title HEAD / JAMB		Date 09-10-91	
Alloy 6063	Est. Area 0.990 In ²	Finish Perimeter 7.632 In	Drawn G.M.O.
Temper T-5	Est. Wt./Ft. 1.188 Lbs	Est. Perimeter 23.856 In	Checked S.J.S.
Cavity Size	Circle Size 4.9 In	Exterior Perimeter 23.856 In	

Estimated For Reference Only	I _x = 0.418	I _y = 2.711	Alodine ☐	Type: 00
	S _x = 0.343	S _y = 1.205	Crimp	Factor 20
			Mill ☐	Ano. ☒
			Drrr. ☒	Drcn. ☒

Solid ☒ Semi-hollow ☐ Class ☐ Hollow ☐ Class ☐

000000

* STRUCTURAL STREAKING IS EXPECTED

UNIFORM PAINT COVERAGE NOT EXPECTED IN THIS AREA

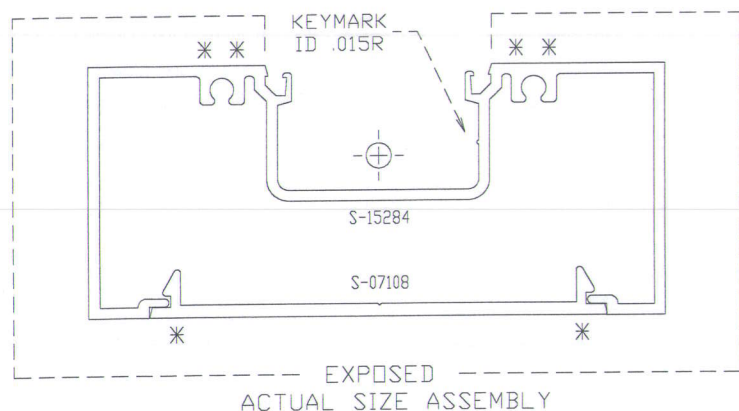


STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

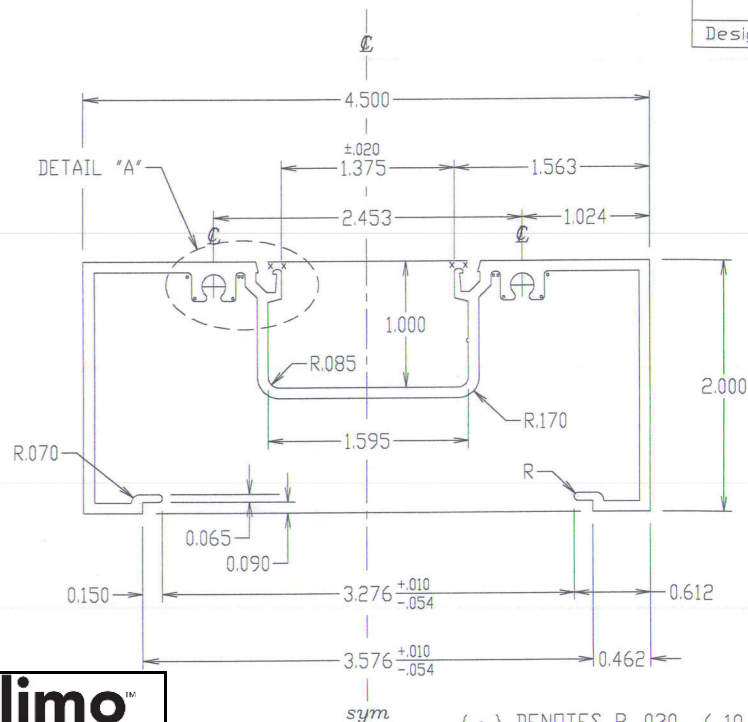
S-15284

Die Number

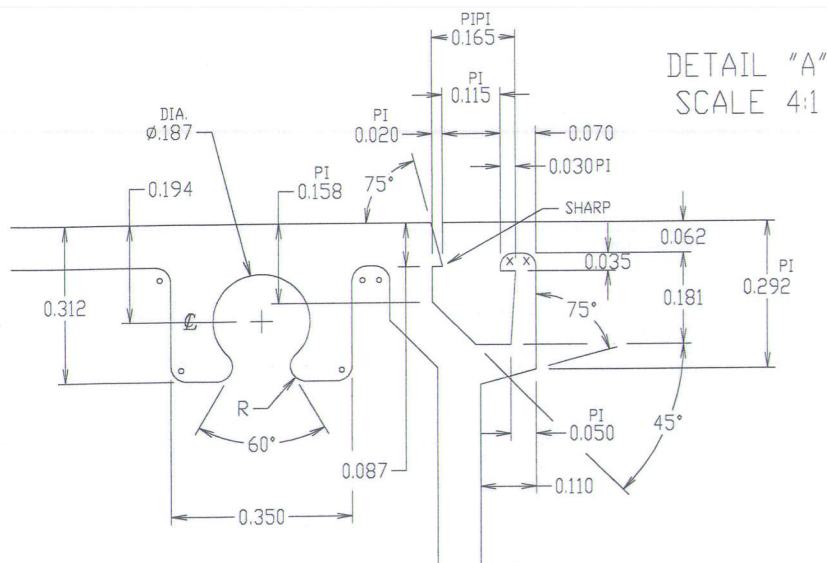
Design Number



S-15284 MATES WITH:
S-07108 050026
S-15286 051002
S-15303 051002
S-15395 051429
S-15426 051431



(.) DENOTES R .030 (10)
(x) DENOTES R .025 (4)



Molimo
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel

KEYMARK CORPORATION
FONDA, NEW YORK

FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL engny@keymarkcorp.com

Syn.	Revisions	Date
3	PRINT REVISION	06-25-04

Unspecified Wall Thickness: .085			Break All Corners .015 Radius or as Noted	
Customer KEYMARK CORPORATION			Customer's Part Number 051001	
Job Name FG-451			Scale 1:1	
Part Title HEAD / VERTICAL			Date 08-15-90	
Alloy 6063	Est. Area 1.083 In ²	Finish Perimeter 7.632 In	Drawn W.C.M.	
Temper T-5	Est. Wt./Ft. 1.300 Lbs	Est. Perimeter 25.507 In	Checked S.J.S.	
Cavity Size	Circle Size 4.9 In	Exterior Perimeter 25.507 In		

Estimated For Reference Only	I _x = 0.446	I _y = 2.849	Alodine ☐	Type: 00
	S _x = 0.350	S _y = 1.266	Crimp ☐	Factor 20
			Mill ☐	Ano. ☒
			Drrr. ☒	Drcn. ☒

Solid ☒ Semi-hollow ☐ Class ☐ Hollow ☐ Class ☐

Customer signature on this print indicates approval of design and dimensions as shown, and customer agrees to accept all legal responsibilities for patent and or trade mark infringement related to this shape and hold (save) Keymark harmless from any claims, suits, actions or demands arising there from. This drawing is the property of Keymark Corporation and may not be redistributed without written consent

* STRUCTURAL STREAKING IS EXPECTED

UNIFORM PAINT COVERAGE NOT EXPECTED IN THIS AREA

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-15286

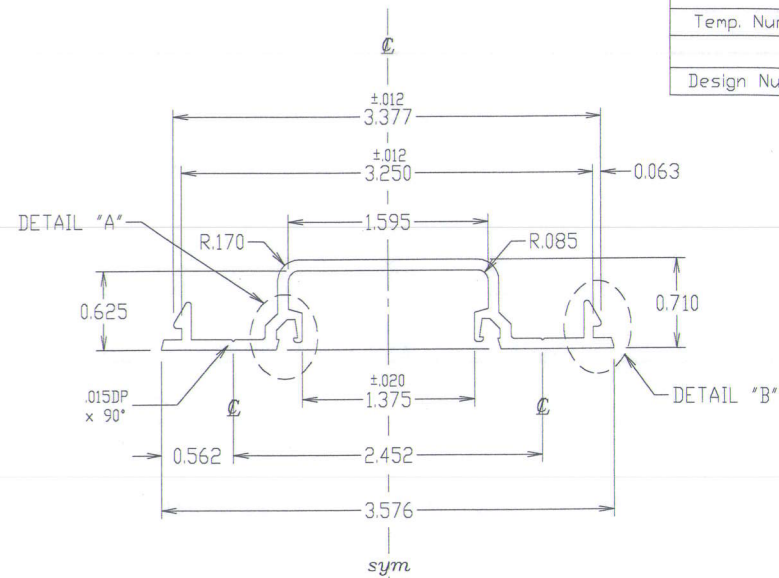
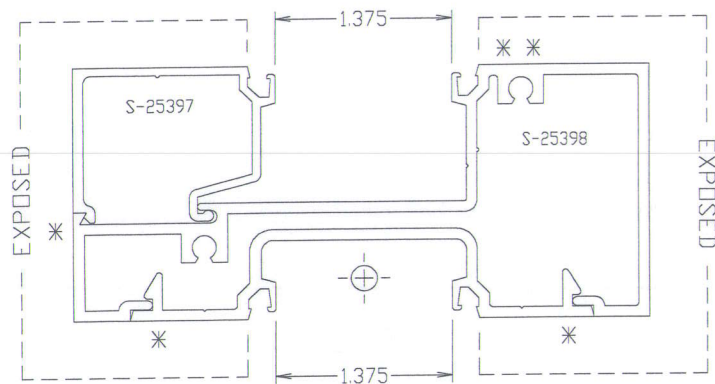
Die Number

Temp. Number

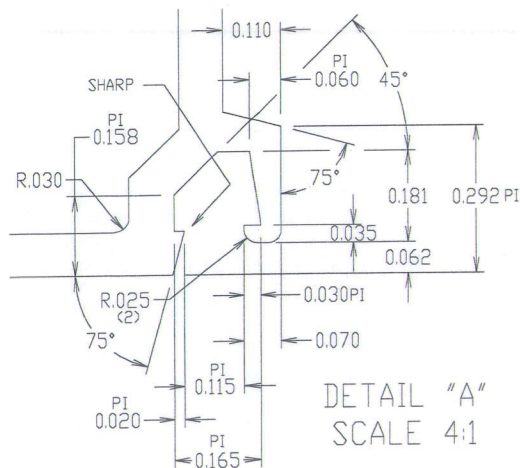
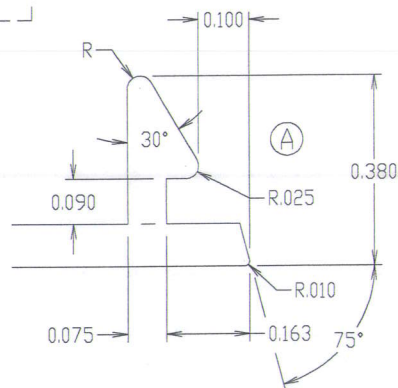
Design Number

ACTUAL SIZE ASSEMBLY

S-15286 MATES WITH:
S-25398 051103



DETAIL "B"
SCALE 4:1



DETAIL "A"
SCALE 4:1

KEYMARK CORPORATION

FONDA, NY TEL. (518) 853-3421
LAKELAND, FL TEL. (863) 858-5500
WWW.KEYMARKCORP.COM



Unspecified Wall Thickness: .085

Break Ext. Corners .015 Radius or as Noted

Customer KEYMARK CORPORATION			Customer's Part Number 051002	
Job Name FG-451			Scale 1:1	
Part Title MULLION ADAPTER			Date 08-07-90	
Alloy 6063	Area (In ²) 0.477	Finish Perimeter (In) 1.796	Date 08-07-90	
Temper T-5	Wt./Ft. (Lbs) 0.572	Total Perimeter (In) 11.779	Drawn W.C.M.	
Cavity Size	Circle Size (In) 3.6	Exterior Perimeter (In) 11.779	Checked S.J.S.	

Estimated For Reference Only	I _x = 0.033	I _y = 0.537	Alodine ☐	Type: 00
	S _x = 0.083	S _y = 0.300	Crimp ☐	Factor: 21

Mill ☐ Ano. ☒ Drnr. ☒ Drcn. ☒ Pc ☐ Solid ☒ Semi-hollow ☐ Class: ☐ Hollow ☐ Class: ☐

[illegible]

UNIFORM PAINT COVERAGE
NOT EXPECTED IN THIS AREA



STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED
PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-25161

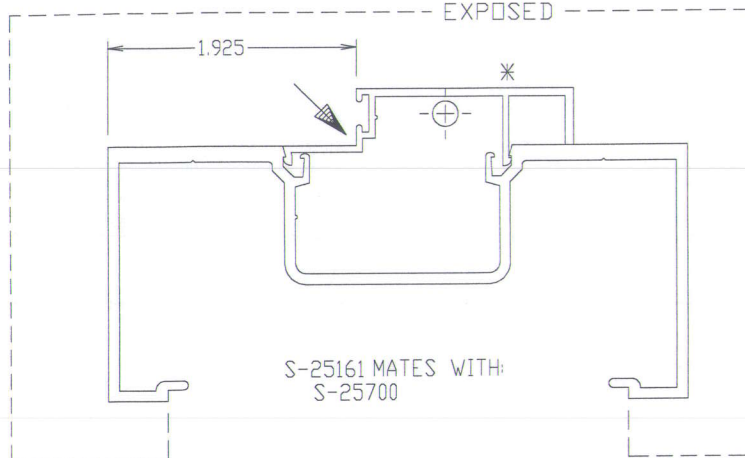
Die Number

Temp. Number

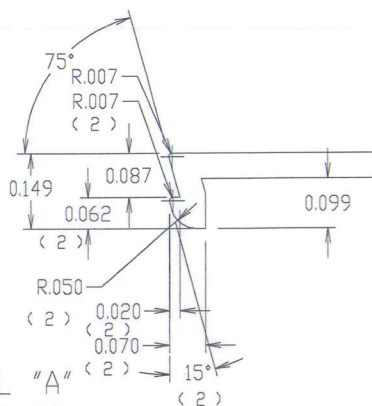
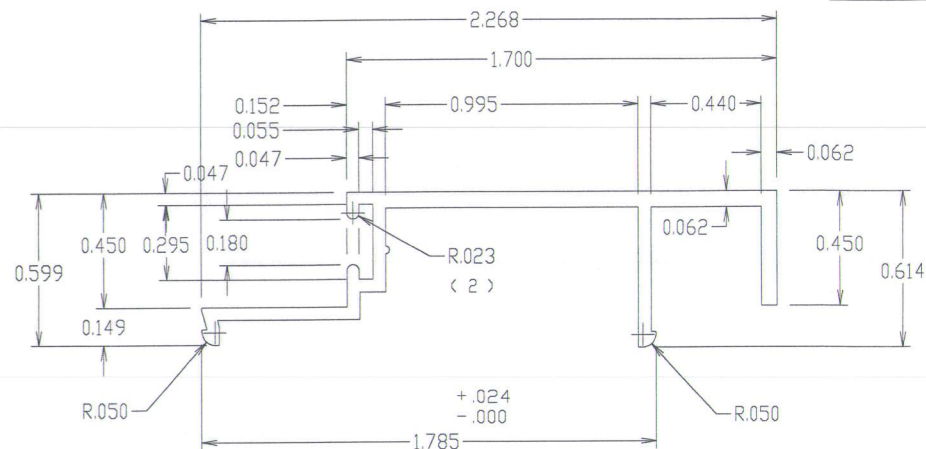
Design Number

ACTUAL SIZE

EXPOSED



S-25161 MATES WITH:
S-25700



DETAIL "A"
SCALE 4:1

KEYMARK CORPORATION



FONDA, NY TEL. (518) 853-3421
LAKELAND, FL TEL. (863) 858-5500
WWW.KEYMARKCORP.COM

Unspecified
Wall Thickness: .050

Break Ext. Corners
.015 Radius or as Noted

Customer	KEYMARK CORPORATION
Job Name	FG-451/451T

Customer's Part Number	051525
---------------------------	--------

Part Title	DOOR STOP - 1" POCKET
------------	-----------------------

Scale
1:1

Alloy
6063

Area (In²)
0.222

Finish Perimeter (In)	2.150
-----------------------	-------

Date
08-09-96

Temper	
T-5	

Wt./Ft. (Lbs)
0.266

Total Perimeter (In)	8.040
----------------------	-------

Drawn
S.J.S.

Cavity Size	
-------------	--

Circle Size (

2.4

n)	Exterior Perimeter (In)	8.040
----	-------------------------	-------

Checked
S.J.S.

Estimated For Reference Only	$I_x = 0.008$	$I_y = 0.105$	Alodine ☐	Type: 00
	$S_x = 0.020$	$S_y = 0.083$	Crimp ☐	Factor: 30

Mill	☐	Ano.	☒	Dnr.	☒	Dcn.	☒	Pc	☐	Solid	☒	Semi-hollow	☐	Class:	Hollow	☐	Class:
------	--------------------------	------	-------------------------------------	------	-------------------------------------	------	-------------------------------------	----	--------------------------	-------	-------------------------------------	-------------	--------------------------	--------	--------	--------------------------	--------

Syn.	Revisions	Date
4	PRINT' REVISION	12-17-99

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED
PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

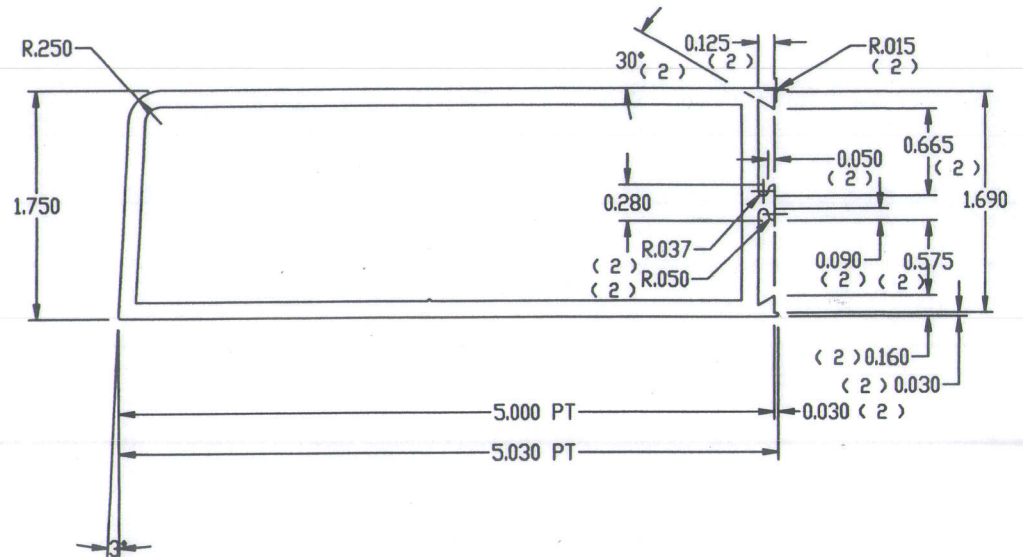
H-05553
Die Number

ACTUAL SIZE
WITH ASSEMBLY

EXPOSED

KEYMARK
ID .015R

H-04689 MATES WITH:
S-14445
S-16367
S-16471
S-15439



Molimo
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel

KEYMARK CORPORATION
FONDA, NEW YORK
FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL keyeng@superior.net

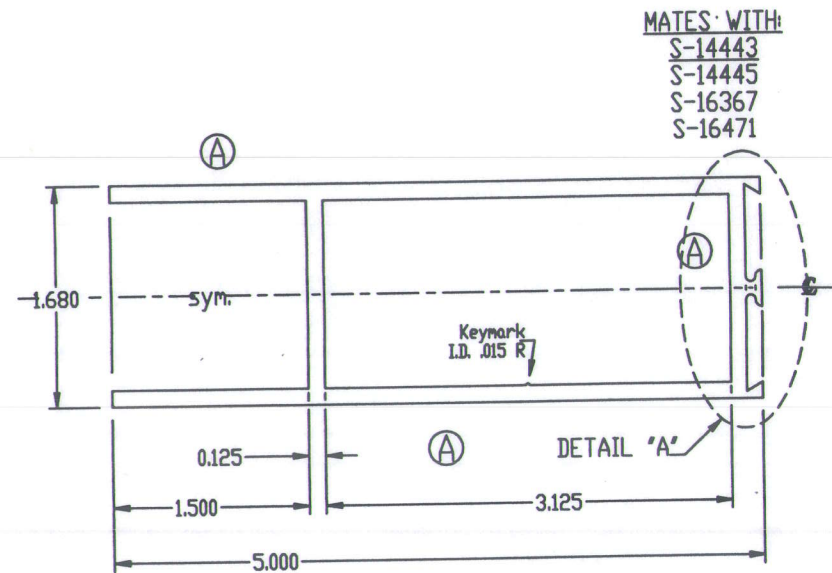
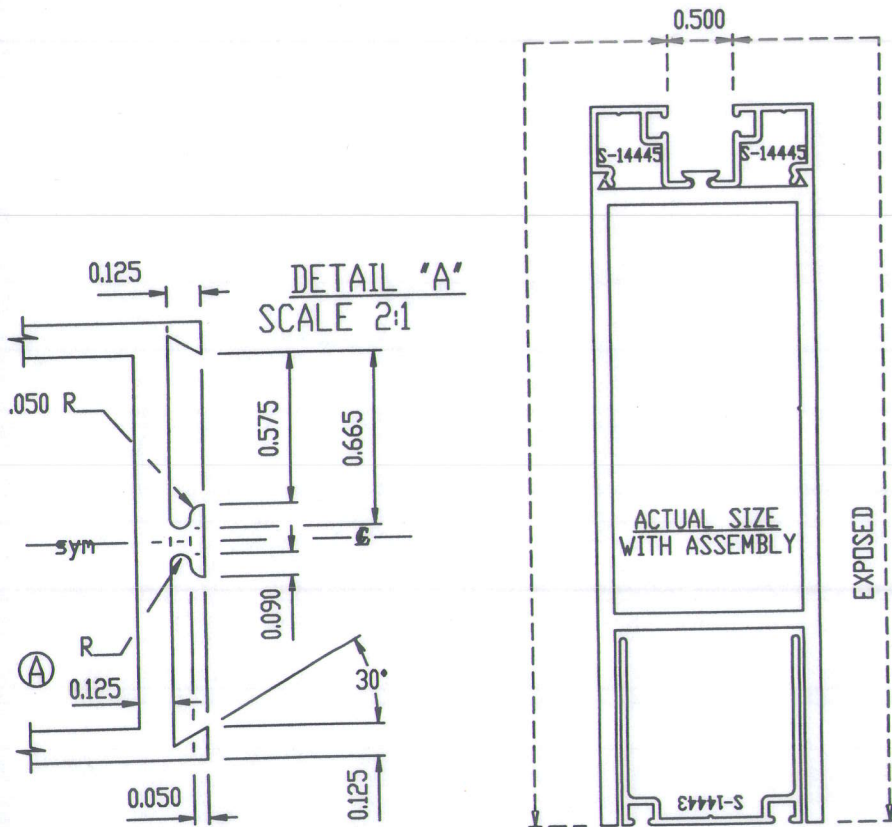
Sym.	Revisions	Date
	PRINT REVISION	

Unspecified Wall Thickness: .125		Break Ext. Corners .015 Radius or as Noted	
Customer: GAMCO		Customer's Part Number	
Job Name			
Part Title: HINGE/LOCK STILE		Scale: 1:1	
Alloy: 6063	Est. Area: 1.628 In ²	Finish Perimeter: 11.712 In	Date: 01-29-97
Temper: T-5	Est. Wt./Ft.: 1.954 Lbs	Est. Perimeter: 26.473 In	Drawn: S.J.S.
Cavity Size	Circle Size: 5-6 In	Exterior Perimeter: 14.341 In	Checked:

Estimated For Reference Only	I _x = 0.884	I _y = 4.698	Factor: 14	Type Of Finish							
	S _x = 0.999	S _y = 1.838		MIL	☐	Ano.	☒	Drnr.	☒	Drcn.	☒
				Solid	☐	Semi-hollow	☐	Class	☐	Hollow	☒ Class 3

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED
PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

H-04693
Die Number



MATES WITH:
S-14443
S-14445
S-16367
S-16471

Molimo
Architectural Product Testing
Report #: 2087.03-106-11
Date: 7/31/2020
By: M. Stremmel

KEYMARK CORPORATION
FONDA, NEW YORK
FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL keyeng@superior.net

Unspecified Wall Thickness: .125		Break Ext. Corners .015 Radius or as Noted	
Customer: GAMCO		Customer's Part Number	
Job Name		Scale 1:1	
Part Title: 5.5" BOTTOM RAIL		Date	
Alloy: 6063	Est. Area: 1.620 In ²	Finish Perimeter: 10.000 In	03-18-94
Temper: T-5	Est. Wt./Ft.: 1.944 Lbs	Est. Perimeter: 26.423 In	Drawn: A.H.
Cavity Size	Circle Size: 5-6 In	Exterior Perimeter: 17.296 In	Checked: S.J.S.

Estimated For Reference Only	I _x = 0.814	I _y = 3.748	Factor: 14	Type Of Finish			
	S _x = 0.968	S _y = 1.403		MIL ☐	Ano. ☒	Drnr. ☒	Drca. ☒

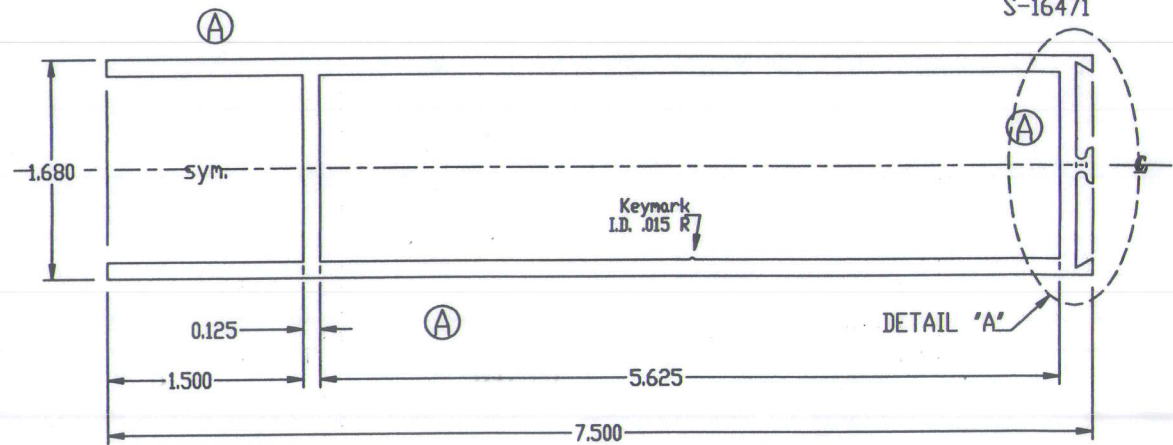
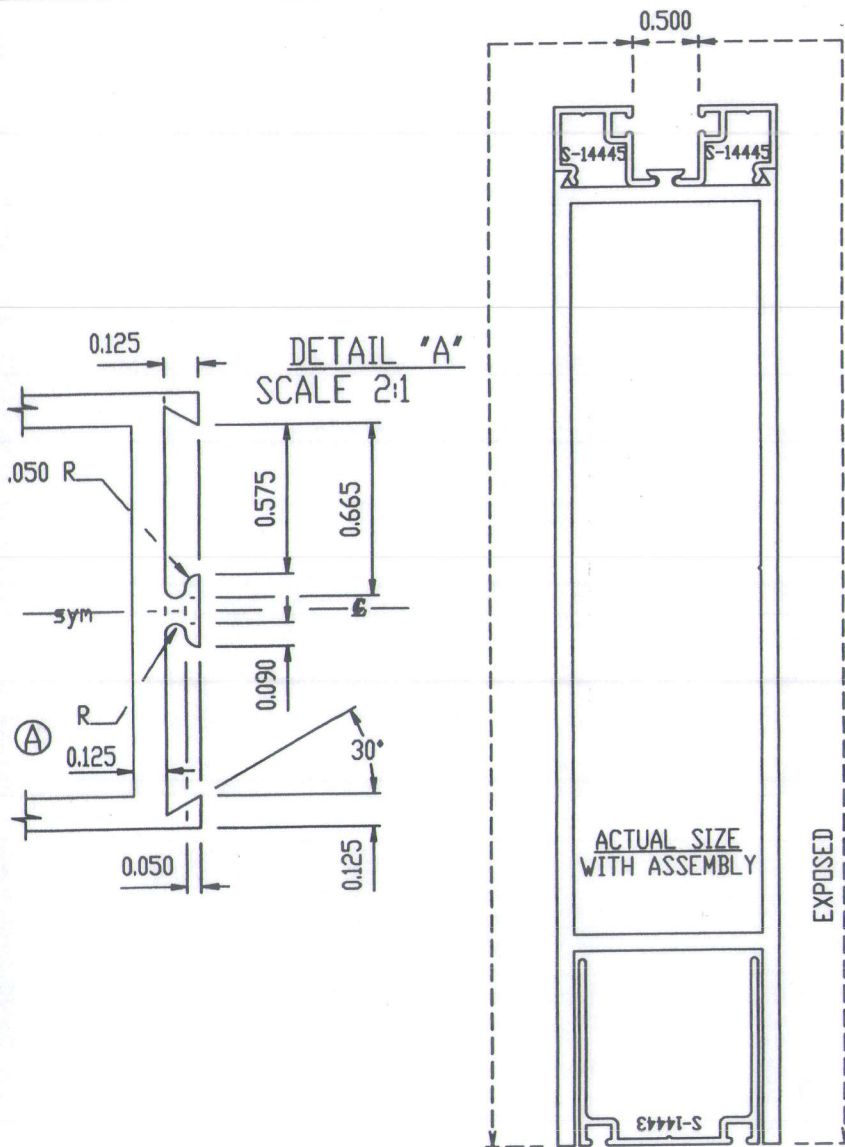
Sym.	Revisions	Date
3	PRINT REVISION	08-26-00
	PRINT REDRAWN SJS	02-07-97
A	.125 WAS .100	05-03-94

Solid ☐ Semi-hollow ☐ Class ☐ Hollow ☒ Class 3

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED
PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

H-04694
Die Number

MATES WITH:
S-14443
S-14445
S-16367
S-16471



Molimo
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel

KEYMARK CORPORATION
FONDA, NEW YORK



FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL keyeng@superior.net

Unspecified
Wall Thickness: .125

Break Ext. Corners
.015 Radius or as Noted

Customer
GAMCO
Job Name

Customer's
Part Number

Part Title
7.5" BOTTOM RAIL

Scale
1:1

Alloy	Est. Area	Finish Perimeter	Date
6063	2.245 In ²	15.000 In	03-18-94
Temper	Est. Wt./Ft.	Est. Perimeter	Drawn
T-5	2.694 Lbs	36.423 In	A.H.
Cavity Size	Circle Size	Exterior Perimeter	Checked
	7-8 In	22.296 In	S.J.S.

Estimated or Reference Only	$I_x = 1.192$	$I_y = 12.050$	Factor 14	Type Of Finish			
	$S_x = 1.419$	$S_y = 3.105$		MIL ☐	Ano. ☒	Drnr. ☒	Drcn. ☒

Solid ☐ Semi-hollow ☐ Class ☐ Hollow ☒ Class 3

CUSTOMER SIGNATURE ON THIS PRINT INDICATES YOUR VIEW OF THE PRODUCT. ANY CHANGES, ADDITIONS, DELETIONS, OR OTHER TRADE MARK INFRINGEMENTS TO THIS SHAPE AND HOLD (SAVE) KEYMARK HARMLESS FROM ANY CLAIMS, SUITS, ACTIONS OR DEMANDS ARISING THEREFROM. THIS DRAWING IS THE PROPERTY OF KEYMARK CORPORATION AND MAY NOT BE REDISTRIBUTED WITHOUT WRITTEN CONSENT.

* STRUCTURAL STREAKING IS EXPECTED

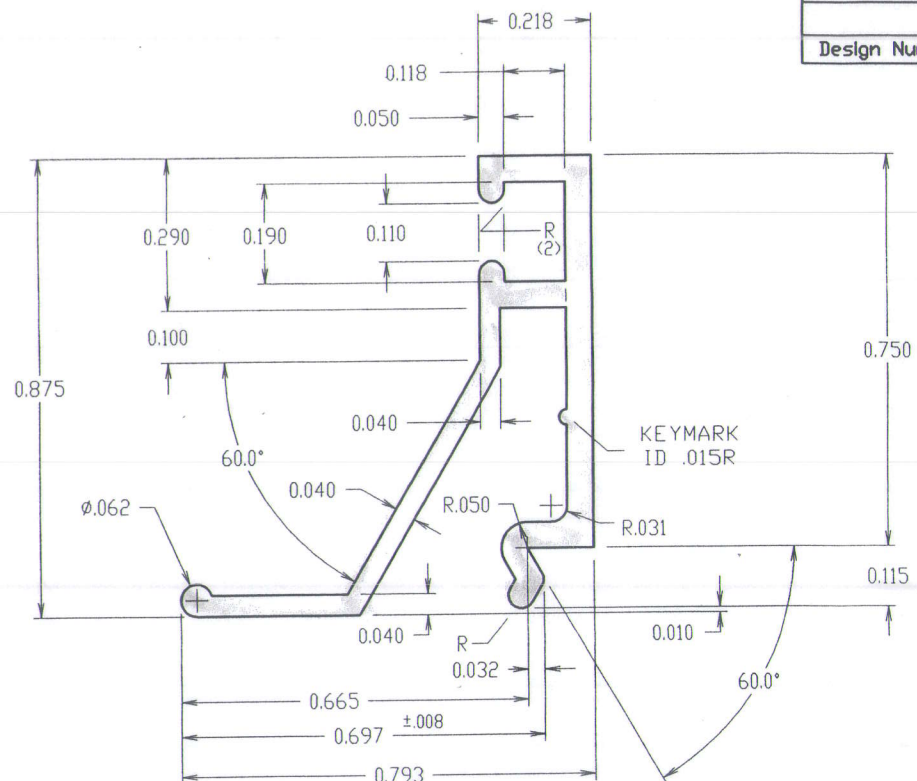
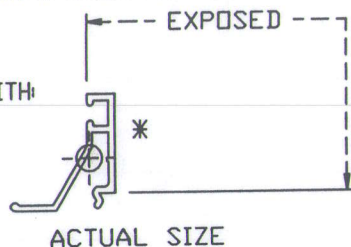
STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-23881
Die Number
Temp. Number
Design Number

REFER TO H-02885 FOR ASSEMBLY

MATES WITH:

- H-02882
- H-02883
- H-02884
- H-02885
- H-02886
- H-02887
- H-02888
- H-02889
- H-02890
- H-02891
- S-14446



Molimo
Architectural Product Testing

Report #: 2087.03-106-11
Date: 7/31/2020
By: M. Stremmel



KEYMARK CORPORATION
FONDA, NY TEL. (518) 853-3421
LAKELAND, FL TEL. (863) 858-5500
WWW.KEYMARKCORP.COM

Unspecified Wall Thickness: .050

Break Ext. Corners .015 Radius or as Noted

Customer GAMCO		Customer's Part Number	
Job Name		Scale 4:1	
Part Title GLAZING BEAD - 1" GLASS			
Alloy 6063	Area (In ²) 0.110	Finish Perimeter (In) 0.968	Date 06-08-95
Temper T-5	Wt./Ft. (Lbs) 0.132	Total Perimeter (In) 4.796	Drawn A.H.
Cavity Size	Circle Size (In) 1.1	Exterior Perimeter (In) 4.796	Checked S.J.S.

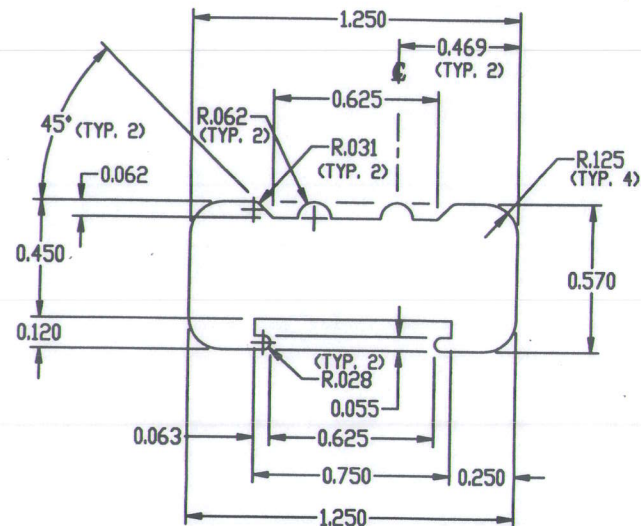
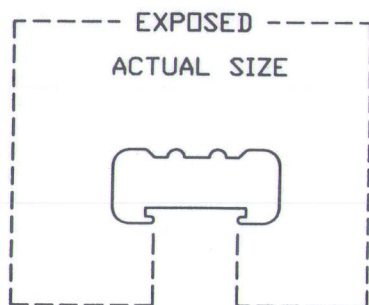
Estimated Reference Only	I _x = 0.009	I _y = 0.005	Alodine ☐	Type: 00
	S _x = 0.018	S _y = 0.008	Crimp ☐	Factor: 36
	MIL ☐	Ano. ☐	Dimr. ☐	Drn. ☐
	Pc ☐	Solid ☐	Semi-hollow ☐	Class: ☐
		Hollow ☐	Class: ☐	

* STRUCTURAL STREAKING
IS EXPECTED

UNIFORM PAINT COVERAGE
NOT EXPECTED IN THIS AREA

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED
PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-15827
Die Number



Molimo
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel

KEYMARK CORPORATION
FONDA, NEW YORK

FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL: keyeng@superior.net

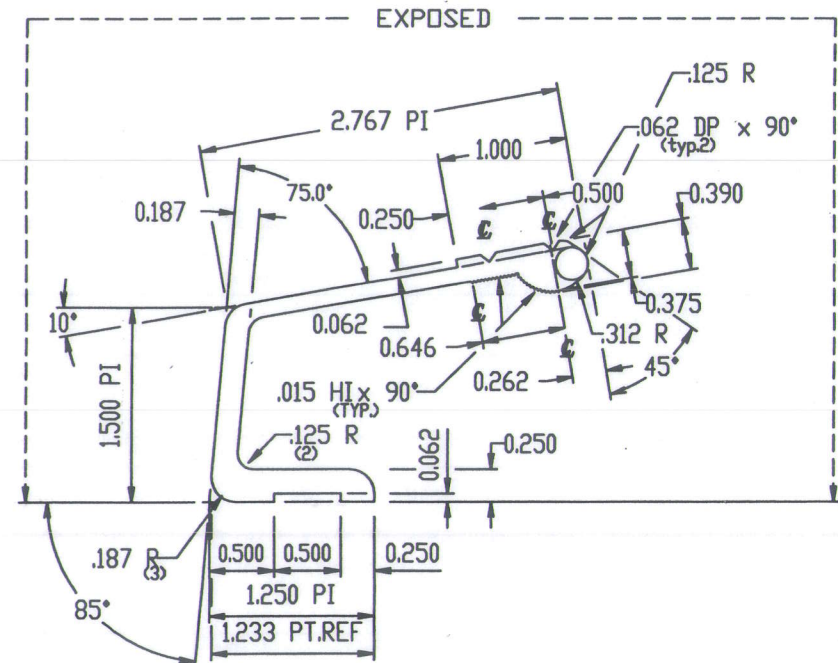
Unspecified Wall Thickness: .570		Break Ext. Corners .015 Radius or as Noted	
Customer: GAMCO		Customer's Part Number:	
Job Name:			
Part Title: PUSH BAR		Scale: 2:1	
Alloy: 6063	Est. Area: .585 in ²	Finish Perimeter: 0.000 in	Date: 05-08-90
Temper: T-5	Est. Wt./Ft.: .702 Lbs	Est. Perimeter: 4.058 in	Drawn: S.J.S.
Cavity Size:	Circle Size: 1-2 in	Exterior Perimeter: 4.058 in	Checked:

Sym.	Revisions	Date
1	PRINT REVISION	04-10-96
	PRINT REDRAWN SJS	04-10-96

Estimated For Reference Only	I _x =	I _y =	Factor	Type Of Finish			
	S _x =	S _y =	6	MIL ☐	Ano. ☐	Drrr. ☐	Drcn. ☐

Solid ☐ Semi-hollow ☐ Class ☐ Hollow ☐ Class ☐

S-15696
Die Number



Molimo™
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel



FAX ENG.(518)853-3435 SALES(518)853-3130

TEL. (518) 853-3421 E-MAIL keyeng@superior.net

Unspecified
Wall Thickness: .125

Break Ext. Corners
.015 Radius or as Noted

Customer
GAMCO

Customer's
Part Number

Job Name

[illegible]

Scale

Alloy

Est. Area	
0.953	In ²

Perimeter	9.951	In
-----------	-------	----

Date
05-08-90

Temper

Est. Wt./Ft.
1.144 Lbs

St. Perimeter	
11.121	In

Drawn
C.J.T.

Cavity Size	Temperature	Time	Pressure	Flow Rate	Material	Notes
1.0	100	10	100	100	100	100
1.5	100	10	100	100	100	100
2.0	100	10	100	100	100	100
2.5	100	10	100	100	100	100
3.0	100	10	100	100	100	100
3.5	100	10	100	100	100	100
4.0	100	10	100	100	100	100
4.5	100	10	100	100	100	100
5.0	100	10	100	100	100	100
5.5	100	10	100	100	100	100
6.0	100	10	100	100	100	100
6.5	100	10	100	100	100	100
7.0	100	10	100	100	100	100
7.5	100	10	100	100	100	100
8.0	100	10	100	100	100	100
8.5	100	10	100	100	100	100
9.0	100	10	100	100	100	100
9.5	100	10	100	100	100	100
10.0	100	10	100	100	100	100
10.5	100	10	100	100	100	100
11.0	100	10	100	100	100	100
11.5	100	10	100	100	100	100
12.0	100	10	100	100	100	100
12.5	100	10	100	100	100	100
13.0	100	10	100	100	100	100
13.5	100	10	100	100	100	100
14.0	100	10	100	100	100	100
14.5	100	10	100	100	100	100
15.0	100	10	100	100	100	100
15.5	100	10	100	100	100	100
16.0	100	10	100	100	100	100
16.5	100	10	100	100	100	100
17.0	100	10	100	100	100	100
17.5	100	10	100	100	100	100
18.0	100	10	100	100	100	100
18.5	100	10	100	100	100	100
19.0	100	10	100	100	100	100
19.5	100	10	100	100	100	100
20.0	100	10	100	100	100	100
20.5	100	10	100	100	100	100
21.0	100	10	100	100	100	100
21.5	100	10	100	100	100	100
22.0	100	10	100	100	100	100
22.5	100	10	100	100	100	100
23.0	100	10	100	100	100	100
23.5	100	10	100	100	100	100
24.0	100	10	100	100	100	100
24.5	100	10	100	100	100	100
25.0	100	10	100	100	100	100
25.5	100	10	100	100	100	100
26.0	100	10	100	100	100	100
26.5	100	10	100	100	100	100
27.0	100	10	100	100	100	100
27.5	100	10	100	100	100	100
28.0	100	10	100	100	100	100
28.5	100	10	100	100	100	100
29.0	100	10	100	100	100	100
29.5	100	10	100	100		

Circle Size
3-4 In

Exterior Perimeter	11.121	In
--------------------	--------	----

Checked
S.J.S.

Syn.	Revisions	Date
3	PRINT REVISION	05-03-98
	PRINT REDRAWN SJS	03-07-97

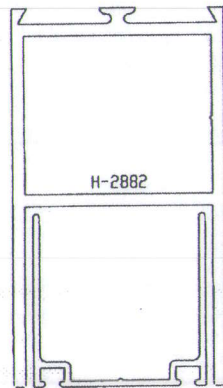
Solid ☒ Semi-hollow ☐ Class ☐ Hollow ☐ Class ☐

Estimated For Reference Only	$I_x = .472$	$I_y = .804$	Factor	Type Of Finish			
	$S_x = .441$	$S_y = .448$	10	Mill ☐	Ano. ☒	Drnr. ☒	Drcn. ☒

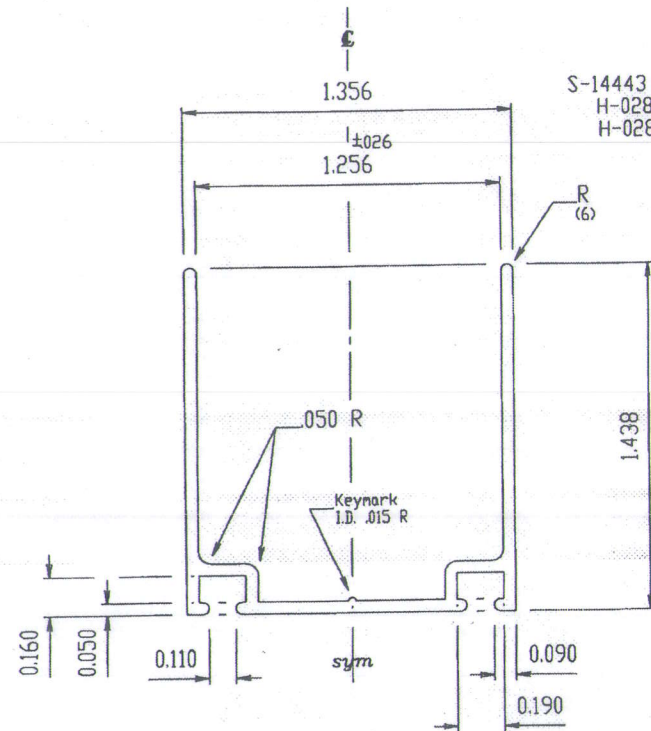
STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED
PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-14443
Die Number

ACTUAL SIZE
WITH ASSEMBLY



NO EXPOSED SURFACE



S-14443 MATES WITH:
H-02882
H-02890



Molimo™
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel



KEYMARK CORPORATION
FONDA, NEW YORK

FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL keyeng@superior.net

Syn.	Revisions	Date
2	PRINT REVISION	04-07-97
	PRINT REDRAWN SJS	04-07-97

Unspecified
Wall Thickness: .050

Break Ext. Corners
.015 Radius or as Noted

Customer
GAMCO

Customer's
Part Number

Job Name

Part Title
BOTTOM EXPANDER

Scale
2:1

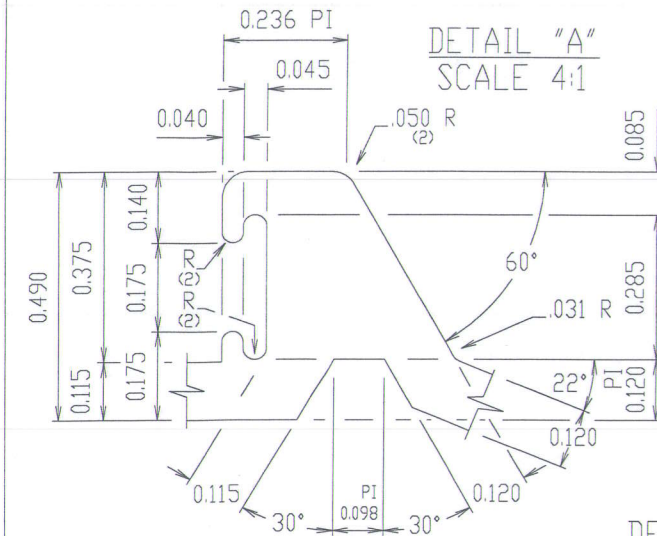
Alloy 6063	Est. Area .229 In ²	Finish Perimeter 0.000 In	Date 06-07-89
Temper T-5	Est. Wt./Ft. .275 Lbs	Est. Perimeter 9.127 In	Drawn F.A.S.
Cavity Size	Circle Size 1-2 In	Exterior Perimeter 9.127 In	Checked S.J.S.

Estimated For Reference Only	I _x =	I _y =	Factor 33	Type Of Finish			
	S _x =	S _y =		Mill ☒	Ano. ☐	Drnr. ☐	Drcn. ☐

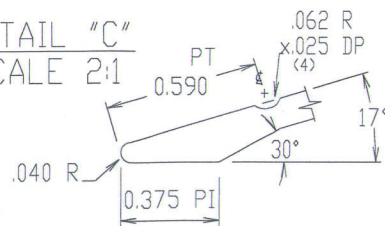
Solid ☒ Semi-hollow ☐ Class Hollow ☐ Class

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED
PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

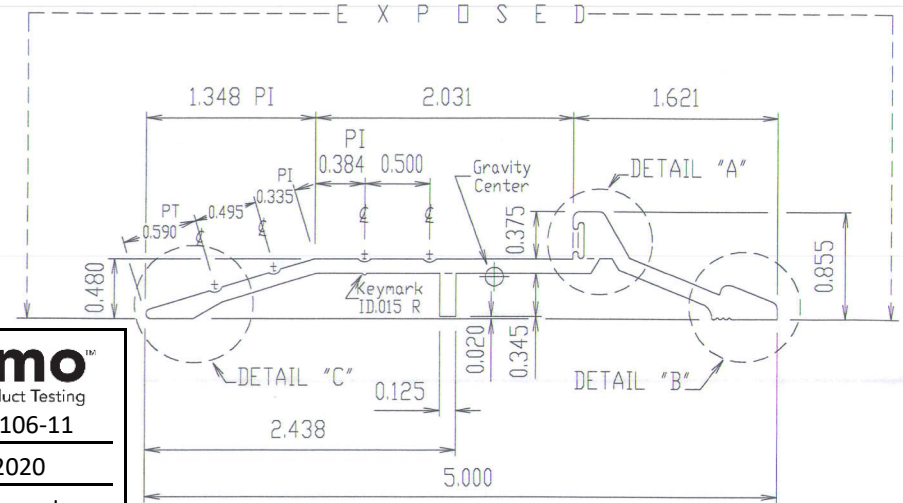
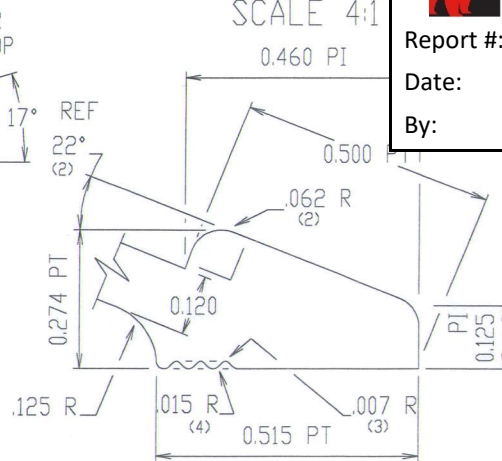
S-19599
Die Number



DETAIL "C"
SCALE 2:1



DETAIL "B"
SCALE 4:1



Molimo™
Architectural Product Testing

Report #: 2087.03-106-11

Date: 7/31/2020

By: M. Stremmel

KEYMARK CORPORATION
FONDA, NEW YORK
FAX ENG.(518)853-3435 SALES(518)853-3130
TEL. (518) 853-3421 E-MAIL keyeng@superior.net



Unspecified
Wall Thickness: .115

Break All Corners
.015 Radius or as Noted

Customer KEYMARK CORPORATION		Customer's Part Number 100508	
Job Name THRESHOLD - 100		Scale 1:1	
Part Title 5" THRESHOLD W/STOP		Date 12-02-92	
Alloy 6063	Est. Area .773 In ²	Finish Perimeter 6.006 In	
Temper T-5	Est. Wt./Ft. .928 Lbs	Est. Perimeter 12.333 In	Drawn R.D.S.
Cavity Size	Circle Size 5-6 In	Exterior Perimeter 12.333 In	Checked S.J.S.

Estimated For Reference Only	I _x = .028	I _y = 1.555	Factor 13	Type Of Finish			
	S _x = .054	S _y = .567		Mill ☒	Ano. ☐	Dnrr. ☐	Drcn. ☐

Solid ☒ Semi-hollow ☐ Class ☐ Hollow ☐ Class ☐