

**MIAMI-DADE COUNTY
PERFORMANCE TEST REPORT**

Rendered to:

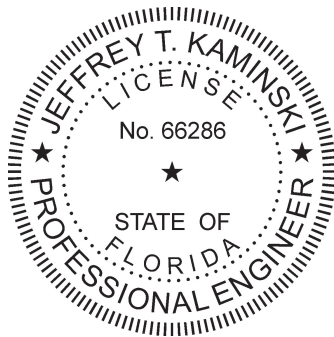
TEMO, INC.

SERIES/MODEL: 406

**PRODUCT TYPE: Wall Panel Window System Including Panel/Transom/
Horizontal Sliding Window (XX)**

This report contains in its entirety:

**Cover Page: 1 page
Report Body: 9 pages
Sketch: 1 page
Drawings: 31 pages**



Digitally Signed by: Jeffrey Kaminski

2008.05.23 16:34:56 -04'00'

Report No.: 81793.01-602-18

Test Date: 05/06/08

Through: 05/08/08

Report Date: 05/23/08

Expiration Date: 05/08/18

Miami-Dade County Notification No.: ATI-WI 07026



MIAMI-DADE COUNTY PERFORMANCE TEST REPORT

Rendered to:

TEMO, INC.
20400 Hall Road
Clinton Township, Michigan 48038

Report No.: 81793.01-602-18

Test Date: 05/06/08

Through: 05/08/08

Report Date: 05/23/08

Expiration Date: 05/08/18

Miami-Dade County Notification No.: ATI-WI 07026

Project Summary: Architectural Testing, Inc. was contracted by TEMO, Inc. to perform testing per Florida Building Code, Test Protocols for High Velocity Hurricane Zone, Protocol TAS 202-94 on one Series/Model 406 Wall Panel Window System. The samples tested met the performance requirements set forth in the protocols for a ± 55.14 psf *Design Pressure* rating. Test specimen description and results are reported herein. The sample was provided by the client.

Test Procedures: The test specimens were evaluated in accordance with TAS 202-94, *Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading*.

Drawing Reference: The test specimen drawings have been reviewed and verified by Architectural Testing and are representative of the samples tested.

Test Specimen Description:

Series/Model: 406

Product Type: Wall Panel Window System, including Panel/Transom/Horizontal Sliding Window (XX)/Transom/Panel

Overall Size: 4' 9" wide by 8' 0" high

Upper Transom Size: 4' 9" wide by 0' 9" high

Upper Transom Daylight Opening: 4' 5-1/2" wide by 0' 5" high

Horizontal Slider Size: 4' 9" wide by 5' 3" high

Test Specimen Description:

Interior Sash Size: 2' 4-3/4" wide by 5' 1-7/8" high

Exterior Sash Size: 2' 4-1/2" wide by 5' 1-7/8" high

Lower Transom Size: 4' 9" wide by 1' 3" high

Lower Transom Daylight Opening: 4' 55-1/2" wide by 0' 11" high

Screen Size: 4' 5-3/4" wide by 5' 1-7/8" high

Finish: The panel skins were painted white and the extruded frames and sash components were painted beige.

Upper Transom Glazing Details: The frame utilized nominal 12.7 mm (1/2") thick insulating glass fabricated from two sheets of 3.2 mm (1/8") thick clear annealed glass with Low-E on the number 2 surface. A Silicone foam spacer system 6.4 mm (0.250") wide was utilized between the sheets of glass. The glass measured 1381.1 mm (54.375") wide by 149.2 mm (5.875") high. The glass was set from the exterior against dual durometer PVC press-fit glazing gasket and a back bed of sealant with a 11.1 mm (0.4375") glazing bite. A PVC roll-in glazing gasket was utilized at the exterior glazing leg. Extruded aluminum hook-in glass trim (Die No. 11127) was employed at all four sides and sealed in place to complete the glazing application.

Horizontal Sliding Window Glazing Details: The sash utilized nominal 19.1 mm (3/4") thick insulating glass fabricated from two sheets of 3.2 mm (1/8") thick clear tempered glass with Low-E on the number 2 surface. A silicone foam spacer system 12.7 mm (0.500") wide was utilized between the sheets of glass. Both sheets of glass measured 635.0 mm (25.000") wide by 1489.1 mm (58.625") high. A vinyl boot glaze (Die No. 6182) was wrapped around the perimeter of the glass edge with a back bed of sealant employed between glass edge to boot at the stiles. A back bed of sealant was also utilized between the boot and the stiles. The sash members were press-fit around the glass to complete the glazing application resulting in a 15.2 mm (0.600") glazing bite.

Lower Transom Glazing Details: The frame utilized nominal 12.7 mm (1/2") thick insulating glass fabricated from two sheets of 3.2 mm (1/8") thick clear tempered glass with Low-E on the number 2 surface. A silicone foam spacer system 6.4 mm (0.250") wide was utilized between the sheets of glass. The glass measured 1381.1 mm (54.375") wide by 301.6 mm (11.875") high. The glass was set from the exterior against dual durometer PVC press-fit glazing gasket and a back bed of sealant with an 11.1 mm (0.4375") glazing bite. A PVC roll-in glazing gasket was utilized at the exterior glazing leg. Extruded aluminum hook-in glass trim (Die No.11127) was employed at all four sides and sealed in place to complete the glazing application.

Test Specimen Description: (Continued)

Weatherstripping:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.187" backed by 0.200" high pile with fin (Part W2C201NK)	1 Row	Interior top rails, bottom rails and side stiles
0.187" backed by 0.200" high pile with fin (Part W2C201NK)	1 Row	Exterior side stiles
0.187" backed by 0.200" high pile with fin (Part W2C201NK)	2 Rows	Exterior top and bottom rail
0.187" backed by 0.400" high pile with tri-fin (Part W6C401NS)	1 Row	Exterior panel interlock stile
0.187" backed by 0.380" high pile (Part W1338 1NK)	1 Row	Sliding window frame head, sill and vertical frames at screen insert track
0.187" backed by 0.295" diameter neoprene hollow bulb (Part E270)	1 Row	Panel frame base/top track

Frame Construction: All frame members were extruded aluminum. The vertical female frame members (Die No. 14559) were square-cut. The horizontals were square cut, butt sealed and secured to the verticals with two #6 x 1" screws per connection. The fastener heads at the bottom horizontal were sealed. The frame transom header (Die No. 14240) was utilized at both transom/ panel connections. The horizontal sliding window sill member (Die No. 15083) was horizontally stacked to the transom sill/head member (Die No. 14558). The horizontal sliding window frame head (Die No. 15049) was horizontally stacked to the transom sill/head member (Die No. 14558). All main frame members utilized a poured and debridged thermal barrier system.

Test Specimen Description: (Continued)

Frame Insert Construction: Vertical slide-in fill panel adapters (Die No. 2664) were located at the top and bottom panels at both the interior and exterior sides of the female jambs and were secured with one #8 x 1/2" screw per adapter. Extruded aluminum vertical screen jamb inserts (Die No. 14243) were slide-fit into the jambs at the horizontal sliding window location, face sealed and held in place with one #6 x 1/2" screw. The interior right side jamb track insert (Die No. 15087) was slide-fit into the female jamb at the horizontal sliding window location with a fillet joint of sealant at the exterior edge to the frame. An interior vertical left track insert (Die No. 15088) was slide-fit into the jamb at the horizontal sliding window location with a fillet joint of sealant at the exterior edge to the frame. Vertical slide-in transom inserts (Die No. 11002) were located at the upper and lower transoms at the interior side on the jambs and were sealed and secured with one #8 x 1/2" screw per insert. Interior and exterior slide-in PVC roller tracks were employed at the sill frame of the horizontal sliding window.

Sash Construction: The extruded aluminum handle stiles (Die No. 14605), exterior interlock (Die No. 14606) and interior interlock stile (Die No. 14697) were square-cut, notched, butt sealed and secured to the extruded aluminum notched rails (Die No. 15013) with one #8 x 1" screw per connection. All sash members utilized a poured and debridged thermal barrier system.

Panel Construction: The panel consisted of 0.032" aluminum skin on the exterior face. The polystyrene core was 3-1/8" thick. The interior surface was 0.236" thick (6mm) DragonBoard and 0.040" thick Acrylic/PVC alloy sheet by Boltaron Performance Products. Each panel was slipped into the transom header/sill member with a continuous cap bead of sealant employed at the interior and exterior panel to frame perimeter.

Screen Construction: The screen frame was of roll-formed aluminum. The screen members were miter cut and corner keyed construction. The screening consisted of fiberglass mesh and was secured with a flexible spline.

Hardware:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Aluminum spring lock handle (Part 14770)	4	Sash lock stiles 14" from both ends
PVC roller (Part GA-102)	4	Bottom rails 3 -1/4" from each end

Test Specimen Description: (Continued)

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.350" by 0.125" slot	3	Window frame sill 2", 24" and 53" at interior track from left end
0.350" by 0.125" slot	3	Window frame sill 2", 24" and 53" at exterior track from right end
0.500" by 0.250" slot	2	Panel base track 2" from ends
0.250" by 0.750" slot	12	Frame jambs at top 3 horizontals

Reinforcement: Extruded aluminum reinforcement was snap fit to the interior sash meeting rail and adjusted to the top of the track opening.

Installation: Test specimen was installed into a nominal 2x8 Spruce-Pine-Fir wood surround. The extruded aluminum base/top track (Reference No. AS-34379) was anchored to the wood surround with #6 x 1-5/8" screws spaced approximately 6" from each end and midspan. Extruded aluminum male vertical jamb receptors (Die No. 14320) were anchored to the wood surround with five #6 x 1-5/8" screws equally spaced. Sealant end dams were employed at base/top track ends and married into the vertical male receptors. The jambs were secured with #8 x 1-1/2" screws located at the horizontal sliding window approximately 4" from each end and at center. A continuous exterior and interior silicone perimeter caulk joint was employed between the test specimen and wood surround to create an air and water seal.

Note: *All exterior member joinery and stacked seams were fully sealed.*

Test Results: The following results have been recorded:

Protocol TAS 202-94, Static Air Pressure Tests

Test Unit #1

Design Pressure: ± 55.14 psf

Title of Test	Results								
Air Infiltration									
1.57 psf (25 mph)	0.18 cfm/ft ²								
6.24 psf (50 mph)	0.44 cfm/ft ²								
	Indicator Readings (inch)								
Structural Loads	#1	#2	#3	#4	#5	#6	#7	#8	#9
50% of Test Pressure (+41.36 psf)									
Maximum Deflection	0.11	0.11	0.08	0.24	0.86	0.17	0.08	0.08	0.01
Permanent Set	0.01	0.01	<0.01	0.03	0.02	0.02	0.01	0.03	0.02
Design Pressure (+55.14 psf)									
Maximum Deflection	0.13	0.17	0.13	0.35	1.18	0.30	0.13	0.13	0.02
Permanent Set	0.04	0.01	<0.01	0.03	0.02	0.02	0.02	0.04	<0.01
50% of Test Pressure (-41.36 psf)									
Maximum Deflection	0.14	0.13	0.11	0.24	0.88	0.21	0.11	0.11	0.03
Permanent Set	0.01	0.01	0.01	0.07	0.02	0.03	0.01	0.03	0.03
Design Pressure (-55.14 psf)									
Maximum Deflection	0.20	0.19	0.15	0.28	1.14	0.24	0.15	0.17	0.03
Permanent Set	0.01	0.01	0.01	0.07	0.03	0.04	0.02	0.03	0.03
Water Infiltration with and without screen									
15% Positive Design Pressure (+8.35 psf)	No Penetration								
Test Pressure (+82.71 psf)									
Maximum Deflection	0.20	0.23	0.15	0.65	1.94	0.54	0.17	0.31	0.17
Permanent Set	0.01	0.01	0.01	0.03	0.10	0.05	0.01	0.01	0.02
Test Pressure (-82.71 psf)									
Maximum Deflection	0.24	0.26	0.22	0.71	1.96	0.61	0.24	0.35	0.18
Permanent Set	0.02	0.02	0.02	0.11	0.18	0.12	0.03	0.03	0.02
Forced Entry - ASTM F 588-97	Pass								

Note: See Architectural Testing Sketch #1 for indicator locations.

Test Equipment:

Deflection Measuring Device: Linear transducers

Laboratory Compliance Statements: The following are provided as required by the protocols for the testing reported herein.

Upon completion of testing, specimens tested for TAS 202-94 met the requirements of Section 1620 of the Florida Building Code, Building (2004).

Tape and film were not used to seal against air leakage during structural testing.

Testing was conducted at the Architectural Testing, Inc. laboratory located in Schofield, WI

List of Official Observers:

<u>Name</u>	<u>Company</u>
Luay Esho, P.E.	TEMPO, Inc.
Michael Nevin	TEMPO, Inc.
Jeffrey T. Kaminski, P.E.	Architectural Testing, Inc.
Jeffrey M. Zibton	Architectural Testing, Inc.

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of ten years from the original test date. At the end of this retention period, such materials shall be discarded without notice and the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. 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 Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.



Digitally Signed by: Jeffery M. Zibton

Jeffrey M. Zibton
Senior Test Technician



Digitally Signed by: Jeffrey Kaminski

Jeffrey T. Kaminski, P.E.
Senior Project Engineer

JMZ:hlc

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

Appendix-A: Alteration Addendum (1)

Appendix-B: Sketch (1)

Appendix-C: Drawings (31)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	05/23/08	N/A	Original report issue

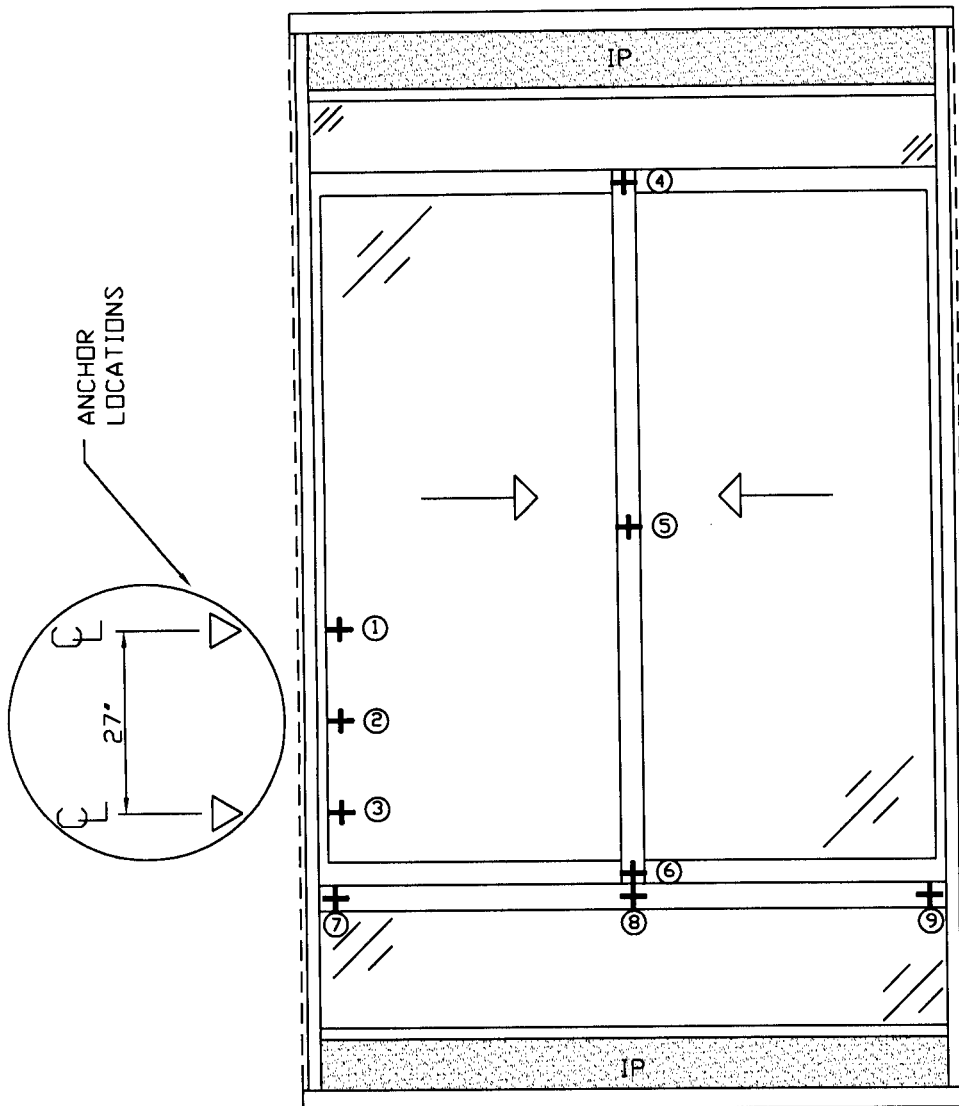
Appendix A

Alteration Addendum

Appendix B

Sketch

EXTERIOR VIEW



SPAN #	INDICATOR #	SPAN DIM
1	1-2-3	27"
2	4-5-6	61 7/8"
3	7-8-9	57"

INDICATOR #	TRANSDUCER ICN #
1	W002942
2	W003359
3	62076
4	005206
5	62027
6	62029
7	005205
8	004748
9	W002939

- RECEPTOR
- IP INSULATED PANEL
- /// VISION GLASS
- INDICATOR NUMBER
- ◁ ANCHOR LOCATION
- + DEFLECTION INDICATOR

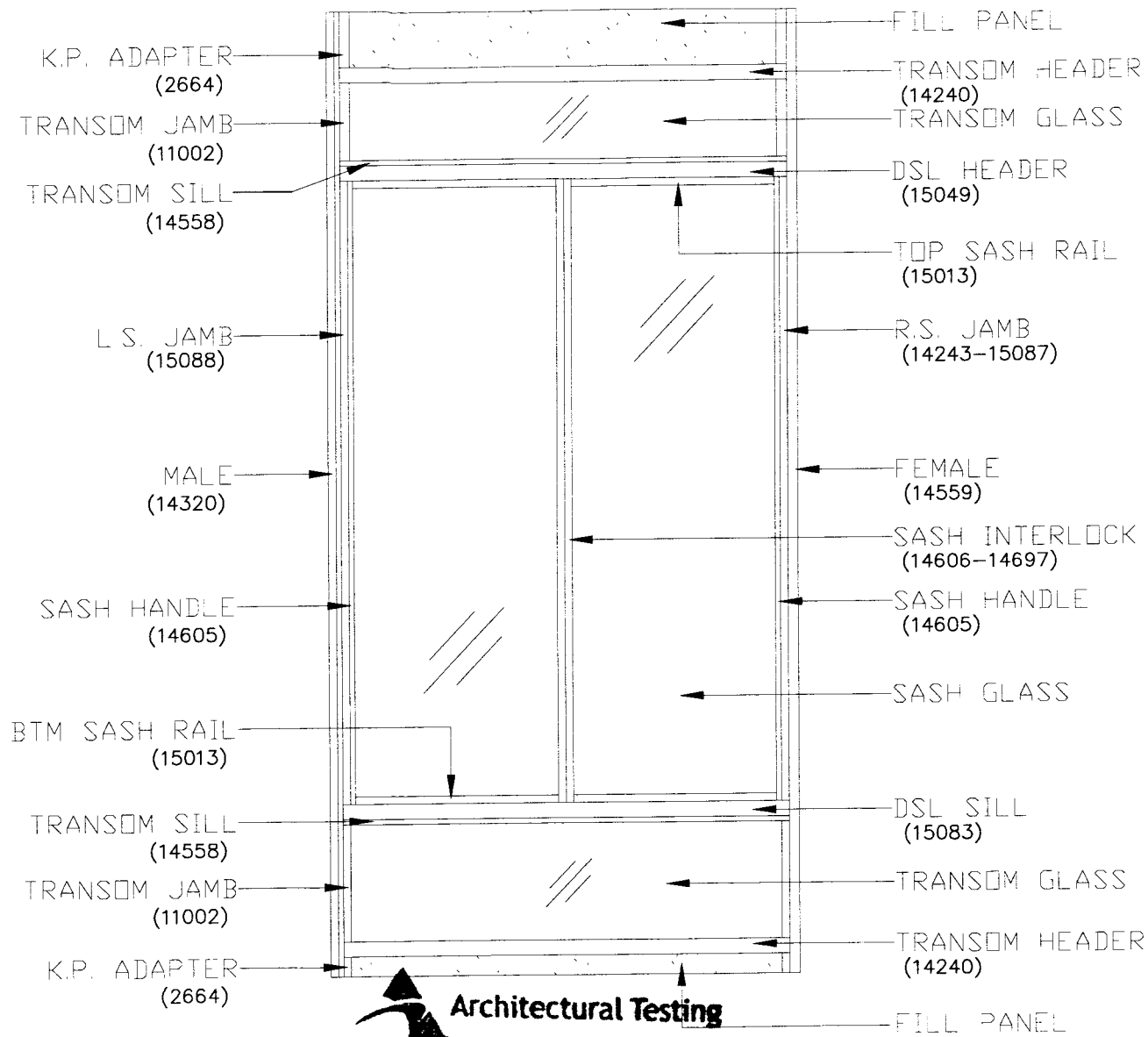
NOTE:
ANCHOR LOCATION MEASUREMENTS
TAKEN FROM CENTER LINE TO
CENTER LINE OF ANCHOR.

NOTE: DEFLECTION MEASURED BETWEEN ANCHORS,
VERTICAL MEETING RAIL, AND HORIZONTAL MEETING RAIL.

CLIENT NAME: TEMO, INC.		MODEL: 406 (PANEL/FIXED/HORIZONTAL SLIDER)	
SPECIMEN #: 1	JOB #: 81793.01-602-18	SKETCH #: 1	ARCHITECTURAL TESTING, INC.

Appendix C

Drawings



Test sample complies with these details.
Deviations are noted.

Report# B1793.01
Date 5-21-08 Tech RJP

LUAY ESHO, PE
20400 HALL RD
CLINTON TWP, MI 48038
PH: (877)218-8366 X287
PROFESSIONAL ENGINEER
MI Lic. #54568

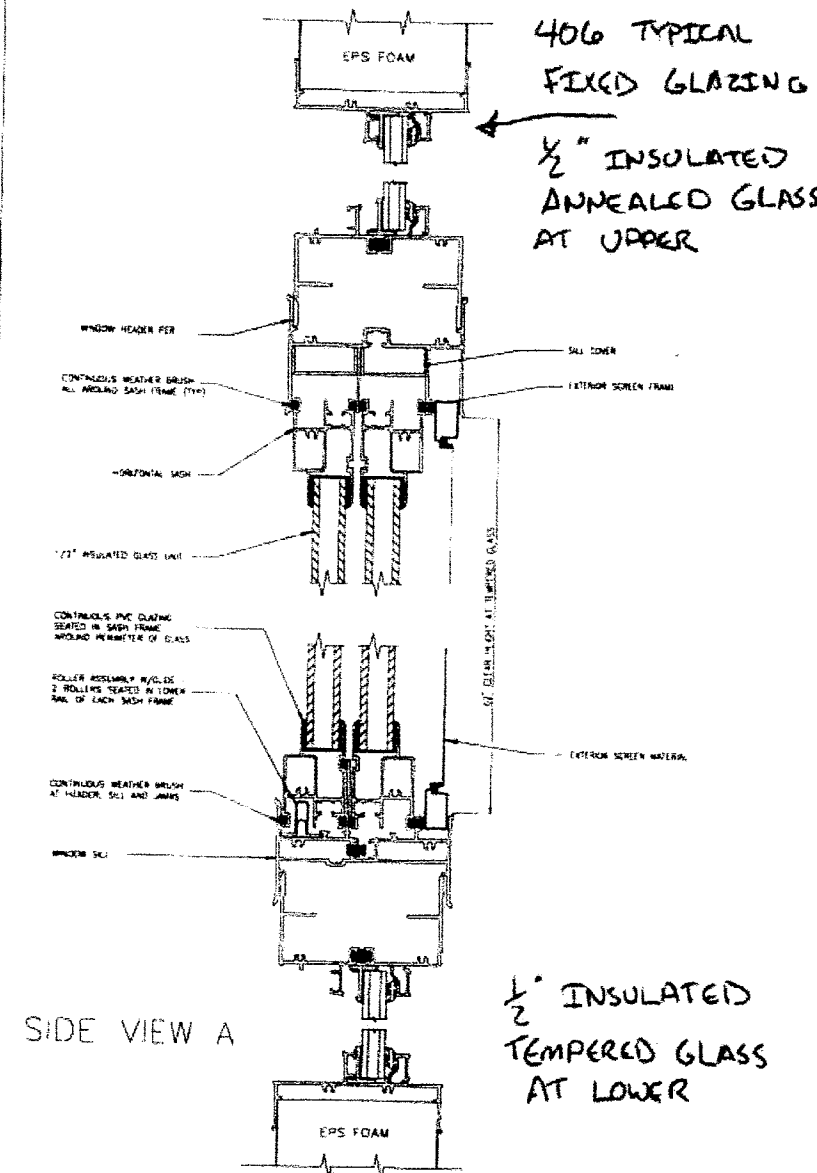
TEMO SUNROOMS, INC.
20400 HALL RD
CLINTON TWP, MI 48038
PHONE: (586) 286-0410
FAX: (586) 286-0985

DEALER: WINBDOWN PH. ()

406 PANEL DETAIL

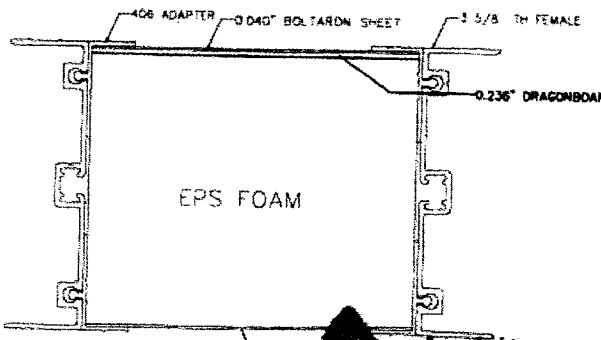
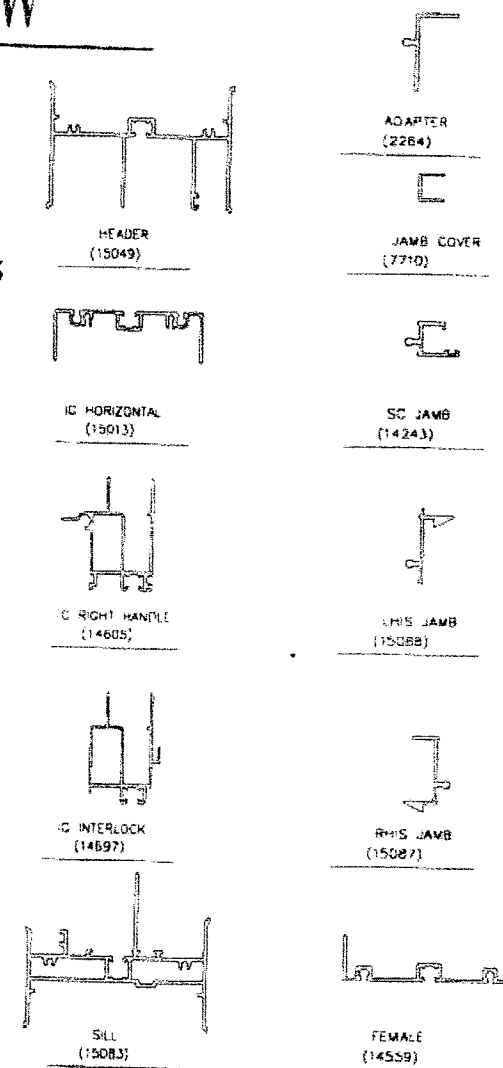
DRAWN BY: MEGAN BARRY DATE: 05/20/08 SCALE: .

406 WINDOW

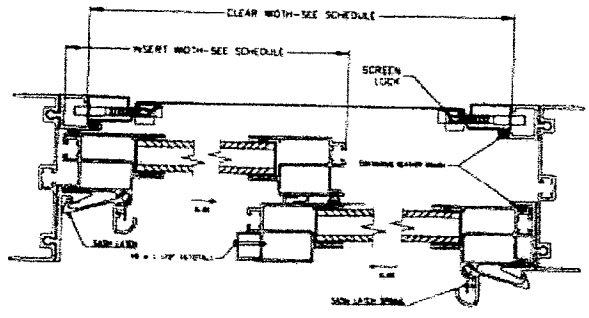
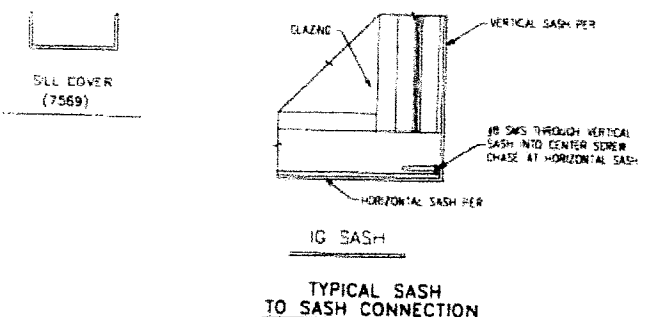
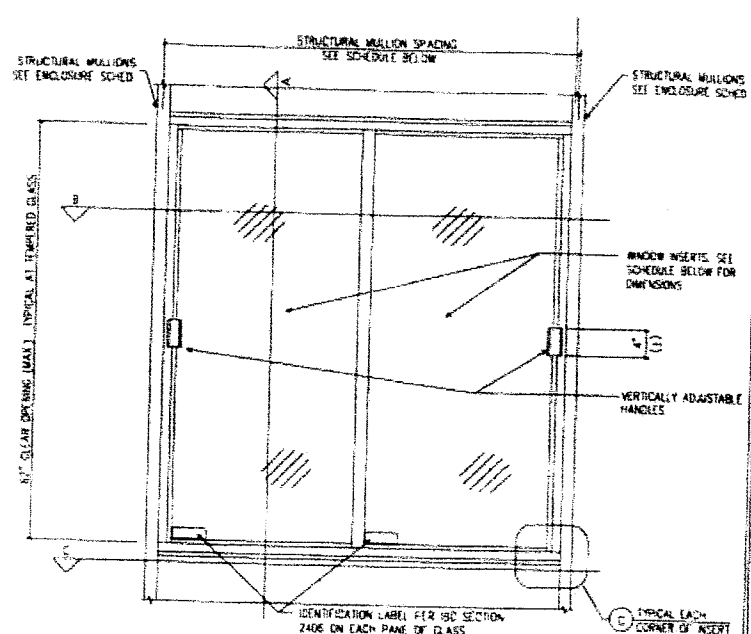


WINDOW SCHEDULE - TEMPERED GLASS					
STRUCTURAL MULLION SPACING	INSERT DIMENSIONS (GLASS) WIDTH x HEIGHT	INSERT (IG) GLAZING SIZE WIDTH x HEIGHT	MAX. INSERT WEIGHT (GLASS) 1/2" IC PANEL	CLEAR OPENING DIMENSIONS WIDTH x HEIGHT	
56.5" C/C	26.188" x 62"	25" x 59"	39.5#	53.5" x 62"	
44.5" C/C	22.875" x 62"	19.75" x 59"	33.75#	41.5" x 59"	
36" C/C	19.625" x 62"	12.5" x 59"	26.5#	33.5" x 62"	

G:\406-die\WINDOW 406-TEST 03/07/06



TOP VIEW-C



TOP VIEW-B

YOU IF SUBMITTED AFTER NOVEMBER 19, 2008

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Termo Inc.
20400 HALL ROAD • CLINTON TOWNSHIP • MICHIGAN 48838
586-286-0410 1-800-344-8556 FAX 586-226-1703

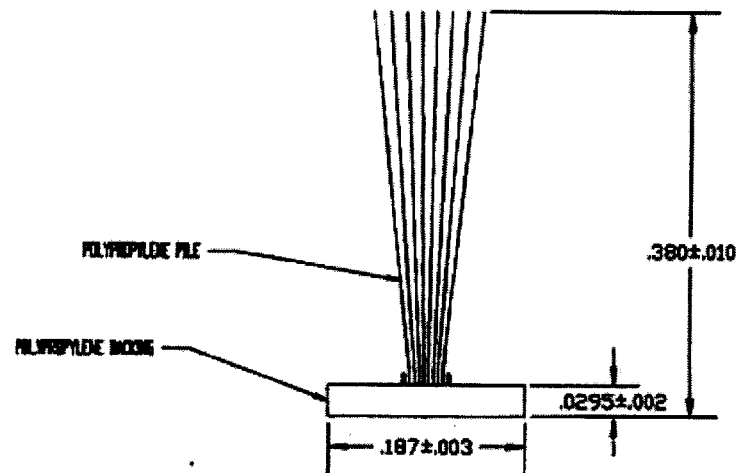
3.625" SUNROOM TEMPERED GLASS WINDOW DETAILS

DATE: MAY 23, 2008
BY: [Signature]
CHECKED BY: [Signature]
DESIGNED BY: [Signature]
SCALE: 1/4" = 1'-0"

4TES6
6/7

Test sample complies with these details.
Deviations are noted.

Report# **B1793.01**
Date **5/23/08** Tech **JZ**



Architectural Testing
 Test sample complies with these details.
 Deviations are noted.

Report# 81793.01
 Date 5-21-08 KLP

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ULTRAFAB INC. 1000 HOOK ROAD FARMINGTON NY 14450		ULTRAFAB INC. FILE WEATHER-STRIPPING	
PROJECT: POLYPROPYLENE DRAWN: AD CHECKED: AD DATE: 5/21/08	APPROVALS: AD DATE: 5/21/08 SCALE: 1/4" = 1"	FILE NO: W13381NK SCALE: 1/4" = 1"	DATE: 5/21/08 SCALE: 1/4" = 1"

PN W13381NK

ACR 44-576

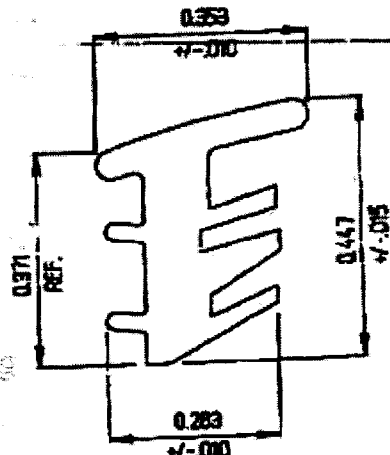
INSPECTION PROCEDURE

- 1) VERIFY THAT DIMENSIONS ARE WITHIN SPECIFIED TOLERANCES.
- 2) VERIFY THAT PROFILE IS MAINTAINED PER PRINT. PER PROFILE DWG.
- 3) VERIFY THAT EXPOSED AREAS HAVE GOOD FINISH.
- 4) VERIFY THAT COLOR MATCHES STANDARD.
- 5) VERIFY PART FITS INTO MATING PIECE.
- 6) VERIFY WINDING IS NEAT AND LOOSE AND IN DIRECTION SHOWN BELOW. ON T. COIL.



Report: 81793.01

Date 5.21.08 Tech RJP

[illegible]

PN 5873

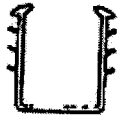
P.2

5/9-284-7084

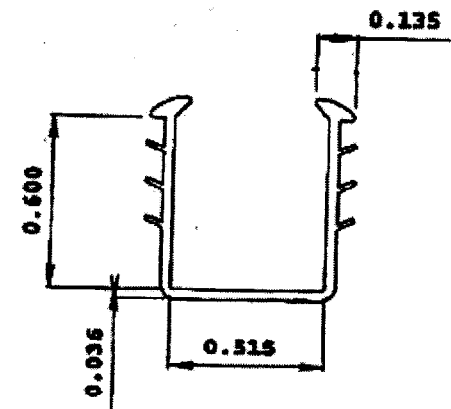
RECEIVED PLUMBING

DATE 5/21/08

ISO * 9000



ACTUAL SIZE



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01
Date 5-21-08 Tech RLP

AREA .080797
CIRCUM 4.830 IN.

6136REV



PROFILE EXTRUSION OPERATIONS

Production Control Print

Signature below indicates customer
prev on the control print to be used during production
of this part including any deviations shown from the
original design.

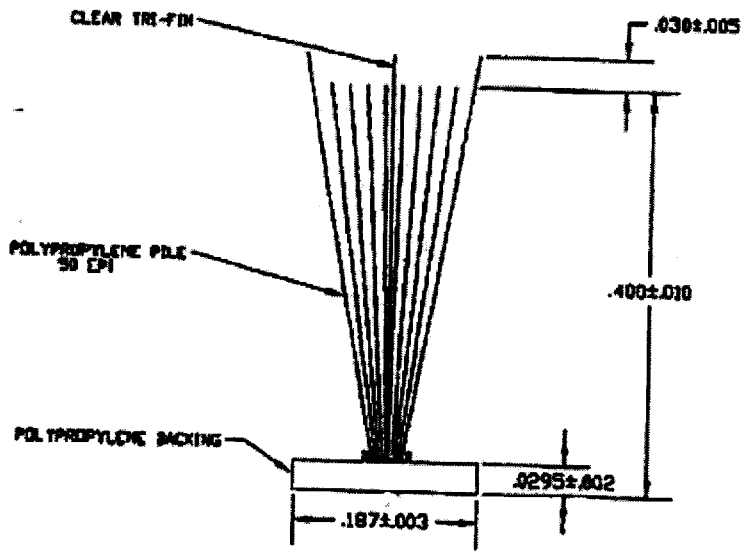
Signed MAW Date 4-21

REV	DESCRIPTION	DATE	BY
A	DRAMA PER PRINT SUPPLIED	4-15-05	RCM

ATLANTIS TOLERANCE STANDARDS MINIMUM +/- .005 PER LINEAL INCH +/- .008 UNDER .050 WALL / +/- .005 OVER .050 WALL NON-TOLERANCE DIMENSIONS REF. ONLY	
DESCRIPTION	DATE
TEMO	6/82
	DATE
	4-15-05
DESCRIPTION	DATE
1/2" GLASSING	RCM
	DATE
	2X

MAP 01 06 0318P
03/01/2008 10:02 PM

Architectural Testing
 Test sample complies with these details.
 Deviations are noted.
 Report# 81793.01
 Date 5.21.08
 Tech RLP



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MATERIAL POLYPROPYLENE		PARTS 1000 1000		PILE HEAD-STRIPPING	
THICK 1000		PARTS 1000 1000		PILE HEAD-STRIPPING	
SCALE 1/4" = 1'-0"		SCALE 1/4" = 1'-0"		SCALE 1/4" = 1'-0"	

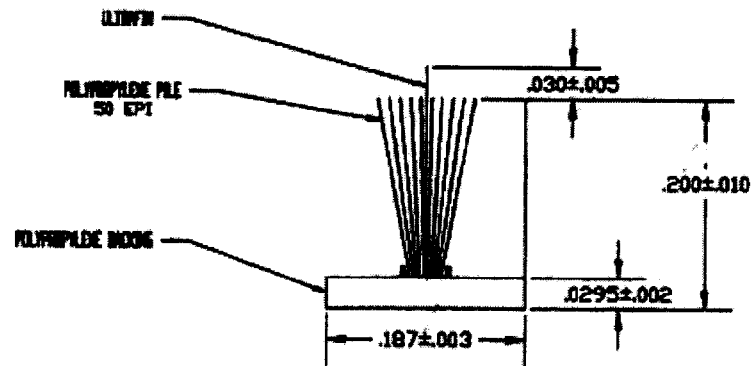
P.1
0002/002

PN W6C401N5

esting

8/793.01
5.21.08

RLP



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ULTRAFAB INC. PILE HEADER-SHOOTING	
APPROVAL DATE 8/21/08	DATE 8/21/08
POLYPROPYLENE PILE HEAD	PILE HEAD
SCALE 1" = 1"	NO NET SCALE DRAWING SHEET

P/N WLC201NK



Architectural T. 3

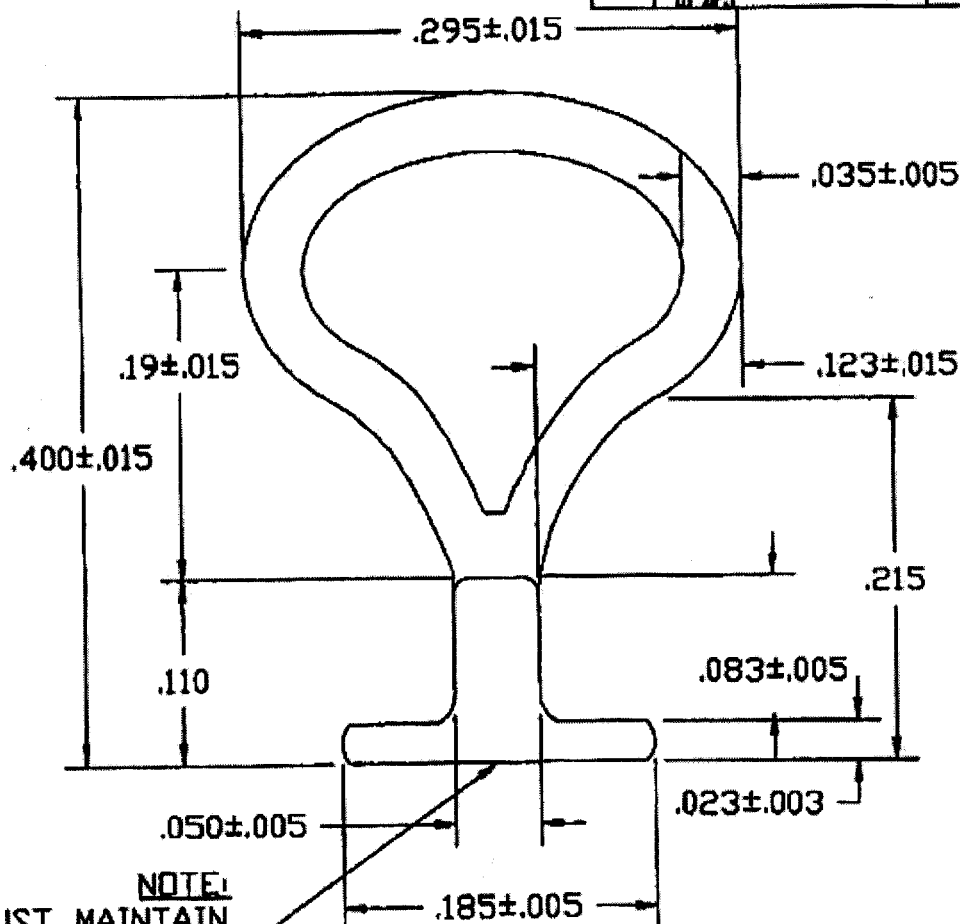
Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5.21.08 Tech ELP

REVISIONS

REV.	DESCRIPTION	DATE	APPV'D
A	T Width Changed to .185, Thickness Changed to .024 And Note Added	07/04	
B	Backing Thickness Changed to .027	01/13/05	KRK
C	Backing Thickness Changed to .023	05/05/05	KRK



NOTE:
MUST MAINTAIN
FLATNESS AT
THIS LOCATION

EX511 REV B

CUSTOMER APPROVAL:

DATE:

COLD JBL

REV A

REV

MATERIAL

MIG POLYPROPYLENE

RED 10

COLOR

MIG 100.000

ULTRAFAB Extruded Components Division

TITLE:

.400 HIGH
.185 T-SLOT
PART DRAWING

PART NO:

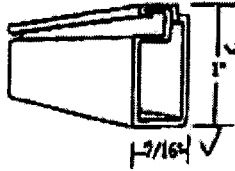
E270

REV: C

NOTES OF CONFIDENTIAL INFORMATION: INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND PROPRIETARY IN NATURE AND SHALL AT ALL TIMES REMAIN THE PROPERTY OF ULTRAFAB, INC. 1000 HIGH ROAD PLAINFIELD, NJ 07060. BY REVIEWING THE CONTENTS OF THIS DOCUMENT, YOU HEREBY AGREE TO ALL THE TERMS AND CONDITIONS SET FORTH ABOVE.

Roll Form Window Screen

F R A M E S

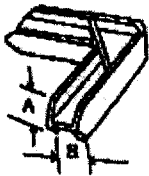


A1204-024RF

7/16" x 1" .024

A1206 Metal Only

A1204R Outside Mill



A1201

101-RF

A1202

102-RF, 132-RF

A1204

104-RF

A1205

105-RF

A1203

103-RF

A1204

104-RF



A1174CL

White Left Hand Plunger Flip Type

A1174CR

White Right Hand Plunger Flip Type

A1174LL

Black Left Hand Plunger Flip Type

A1174LR

Black Right Hand Plunger Flip Type

White

White

Black

Black



A1206

A1207

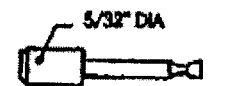
A1208

A1209

A1210

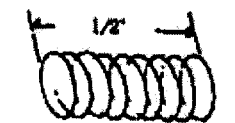
A1211

A1212

Round
Vinyl
Splines

A1213

5/32" Flip Type Plunger



A1174

Plunger Bolt Spring for Flip Type Plungers

Mill


Architectural Testing

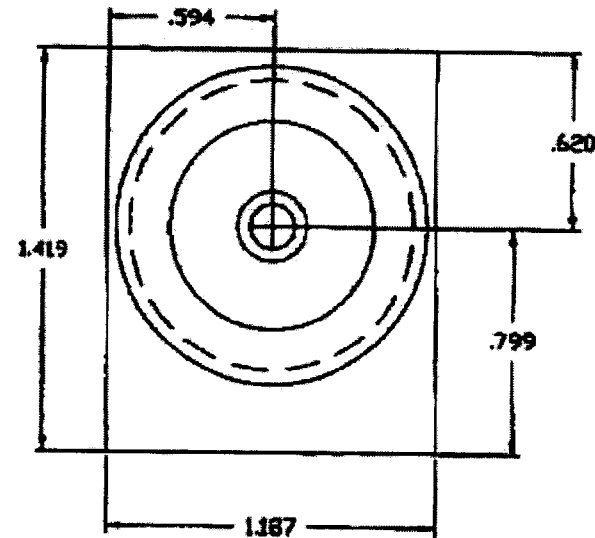
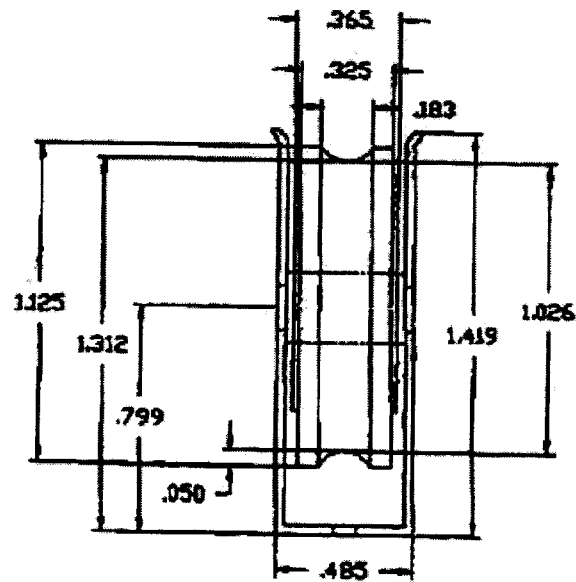
Test sample complies with these details.
Deviations are noted.

Report# 81793.01Date 5.21.08 Tech RLP



Test sample complies with these details.
Deviations are noted.

Report# 81793.01
Date 5-21-08 Tech RLP



NOTES:



19 Thompson Ave.
Mt. Ephraim, NJ 08059

Phone (609) 391-4900
(609) 419-2997
Fax (609) 391-2226

Scale: Not To Scale

MATERIAL: CRS 1/2 Hard

DESIGNED BY: RAR

DATE: 08/24/05

INTERNAL SIZE: .034 x 1.187

REVISED: 1/23/06

GA-102

TEMO'S ROLLER & HOUSING

THIS DRAWING HAS BEEN FORWARDED BY REDMER PLASTICS CO., INC. THE INFORMATION AND DATA SHOWN HEREIN MAY NOT BE USED FOR THE MANUFACTURE OF ANY PARTS WITHOUT THE WRITTEN PERMISSION OF REDMER PLASTICS CO., INC. ALL REPRODUCTIONS IN WHOLE OR IN PART, INCLUDING VENDING SHOP DRAWINGS, SHALL BE MADE IN REFERENCE TO THIS STATEMENT.

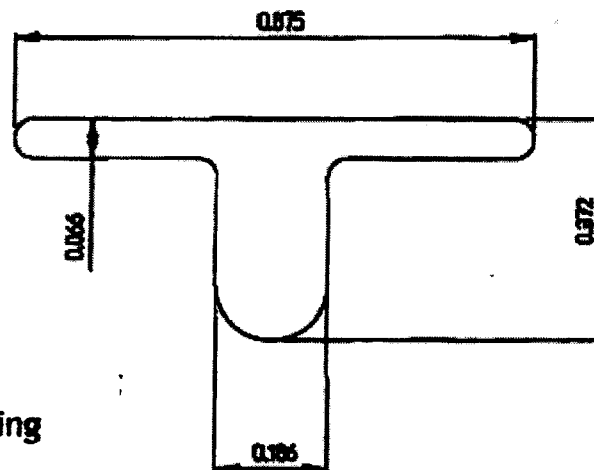
03/03/2008 15:13 FAX 586281703

TEMOSUNROOMS

0003/004



- 01 VERIFY THAT DIMENSIONS ARE WITHIN SPECIFIED TOLERANCES.
- 02 VERIFY THAT PROFILE IS MAINTAINED PER PRINT.
MATCH OVERLAY
- 03 VERIFY THAT EXPOSED AREAS HAVE GOOD FINISH.
- 04 VERIFY THAT COLOR MATCHES STANDARD.
- 05 VERIFY THAT MATERIAL IS NOT BRITTLE.
PART CANNOT CRACK OR SPLIT
- 06 VERIFY THAT PART IS RUN STRAIGHT.
- 07 VERIFY THAT LENGTH IS PER ORDER AND HELD AT $41 \pm .01$
ENDS MUST BE CLEAN AND SQUARE.



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5.21.08 Tech RVP



PROFILE EXTRUSION OPERATIONS

Production Control Print

Speaker should indicate whether approval of the bill on the original point is considered a pre-condition of the party taking any further action from the original debate point.

Signed W.D. Brown Date 10-10

179	REVISION	DATE	BY	DESCRIPTION	REV
A	PRELIMINARY PROD PRINT DRAWN PER OP/REVIEW	8/28/05	PH		026
B	CHANGE .996" TO .875"	10-5-05	DOB	TEHD	DATE 8/28/05
				DESCRIPTION SIL BLADE	ISSUED PES
					ISSUED AX
				MATERIAL: 6700K RPVC	
				FINISH: PER ORDER	

P/N 6256



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793-01

Date 5-21-08 Tech RLP

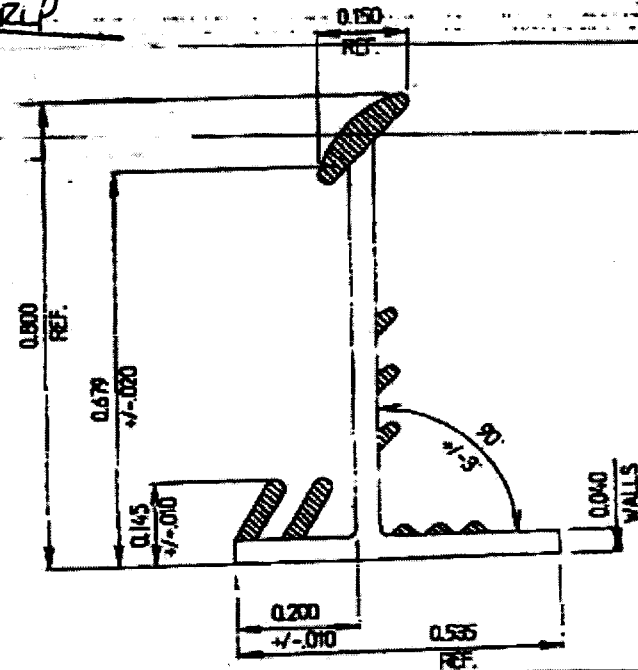
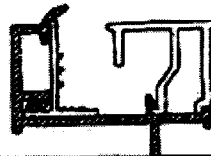
EXPOSED



ACTUAL SIZE

INSPECTION PROCEDURE

- 1) VERIFY THAT DIMENSIONS ARE WITHIN SPECIFIED TOLERANCES.
- 2) VERIFY THAT PROFILE IS MAINTAINED PER PRINT.
- 3) VERIFY THAT EXPOSED AREAS HAVE GOOD FINISH.
- 4) VERIFY THAT COLOR MATCHES STANDARD.
- 5) VERIFY LENGTH IS 12' $\pm$ 0'
- ENDS MUST BE CLEAN AND SQUARE.
- 6) VERIFY MATERIAL IS NOT BRITTLE. PART MUST NOT CRACK OR SPLIT.
- 7) VERIFY PART FITS INTO MATING PART.
- 8) VERIFY PART HAS GOOD BOND.
- 9) VERIFY PART IS RUN STRAIGHT.



ATLANTIS PLASTICS

PROFILE EXTRUSION OPERATIONS

Production Control Print

Signature below indicates customer approval of this order as the control print to be used during production of this part including any deviations shown from the original drawing.

Signed *[Signature]* Date 5-27-08

REV	DESCRIPTION	DATE	BY	APP
A	PRELIMINARY PROD PRINT DRAWN PER OP REVIEW	1/14/02	MEB	
B	REVISED PRINT PER TEND .800 WAS .771, .679 WAS .650	2/14/02	MEB	
C	ADDED .535 REF. AND .150 REF. .200 WAS .160	2/27/02	MEB	

TEND

O.D. GLAZING

EQUAL DIAMETER RPVC & 60 DURO
PER ORDER

5872

1/14/02

MEB

6X

proceed until print approval is received.

Inability of the product or material to accept tooling for additional processing.

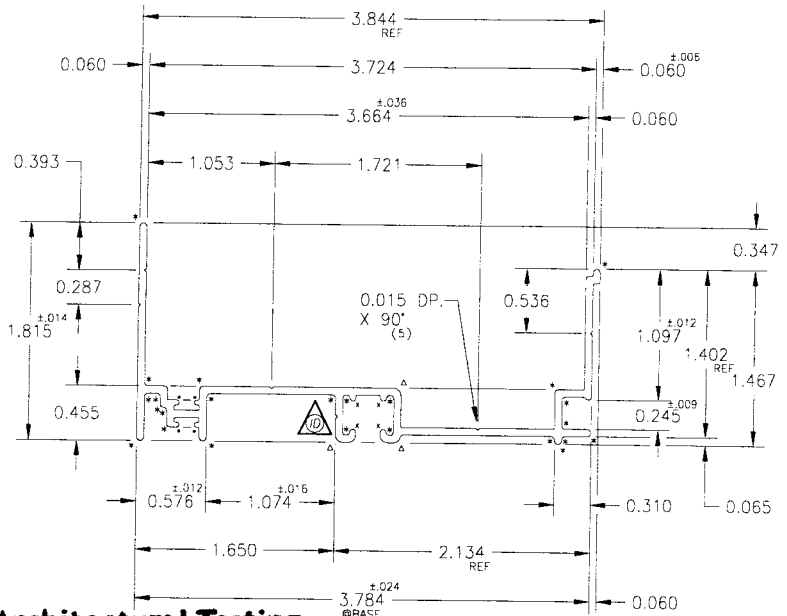
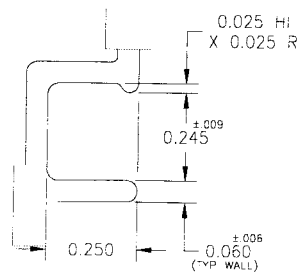
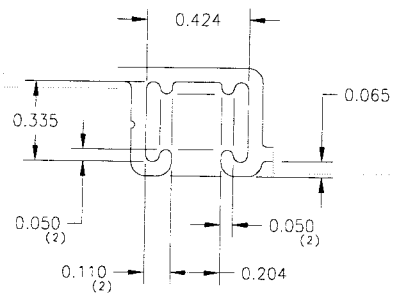
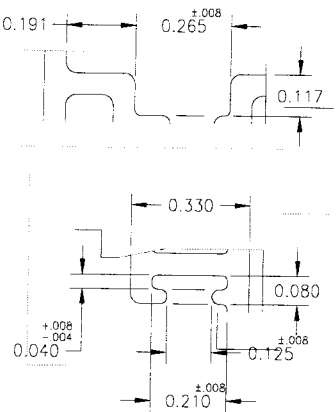
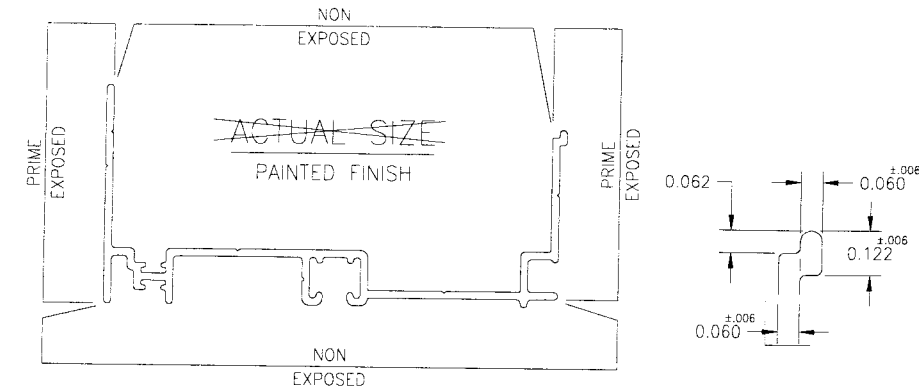
CUSTOMER _____ DATE _____

DRN

DWG. RELEASE NO.

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ASTRO DIE NO.



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# **81793.01**

Date **5.21.08** Tech **RLP**

- (•) INDICATES 0.025 R (4)
- (•) INDICATES 0.025 R (4)
- (•) INDICATES 0.030 R (24)
- (Δ) INDICATES 0.062 R (3)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

THERMAL CAVITY "A" (1.57 IN³)

EST. AREA	0.548 SQ. IN.	EST. WT./FT.	0.658 LBS.	CLASS	SOLID
EST. D.S. PER	17.979 IN.	EST. TOT. PER	17.979 IN.	EST. FIN. PER	3.937 IN.
CIR. DIA.	4.15 IN.	FACTOR	27	TYP. WALL	0.060 ±0.006
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.					
Δ ASTRO ID MARK: 0.010 R X 0.010 DP					

ASTRO		ASTRO SHAPES INC.	
65 MAIN ST. • STRUTHERS, OH		CUST. TENO, MI	
CUSTNO	07800	DESCR	3.5 THERMAL BASE CHANNEL
CUST PART NO.		SCALE	1=1 (DETAILS N.T.S.)
AS REF. NO.	AS-34379	DR	DJH
		DATE	12/01/05

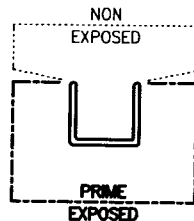
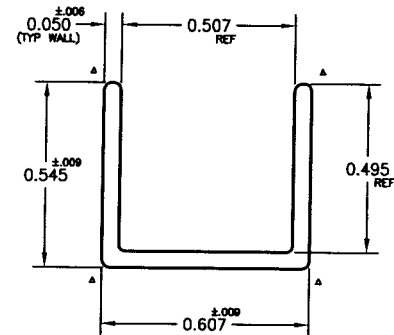
DWG. RELEASE NO.	REV A) NON-PROFILE REVISION - UPDATE DWG TO ACAD 2000 DRAWING STANDARDS. (DJH-10/07/05)	This is not an Astro design. It is Astro's interpretation of the section designed and requested by its Customer. Customer should thoroughly check the drawing and test the design before using. AS ASTRO ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE PERFORMANCE OF GOODS OR PRODUCTS PRODUCED THEREFROM. ASTRO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO EXTRUSIONS/PRODUCTS PRODUCED PURSUANT TO THIS DRAWING. ASTRO'S ONLY WARRANTY SHALL BE AS STATED ON ASTRO'S SALES ACKNOWLEDGMENT FORM.	07710	A
			ASTRO DIE NO.	



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01
Date 5.21.08 Tech RLP



~~ACTUAL SIZE~~
PAINTED FINISH

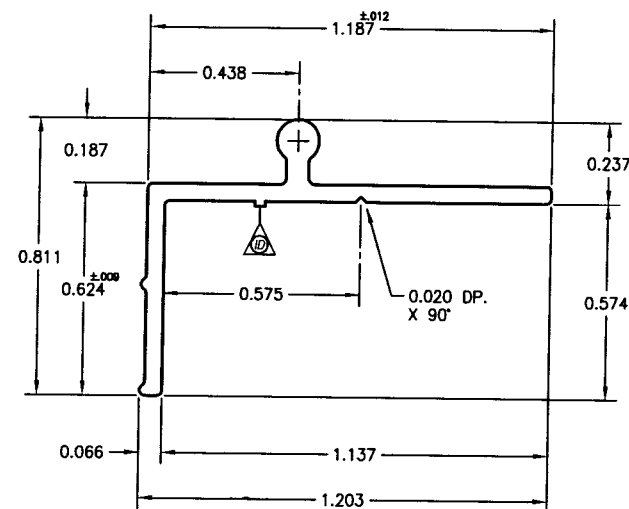
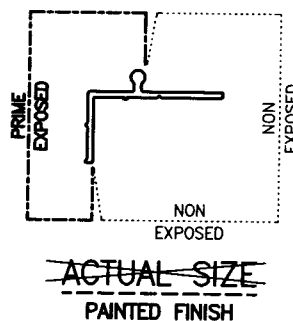
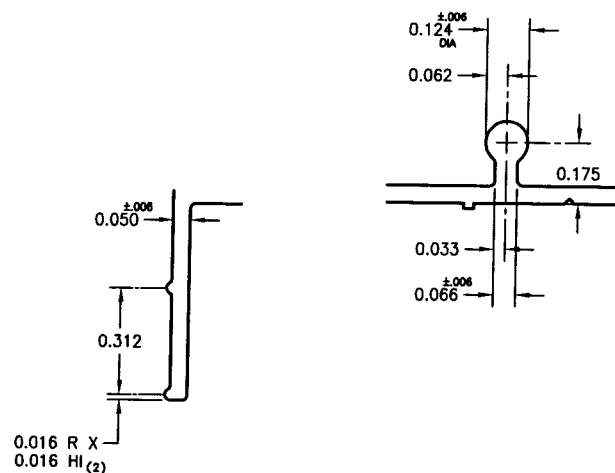
EST. AREA	0.079	SQ. IN.	EST. WT./FT.	0.095	LBS.	CLASS	SOLID	 ASTRO SHAPES INC. 65 MAIN ST. • STRUTHERS, OH
EST. O.S. PER.	3.217	IN.	EST. TOT. PER.	3.217	IN.	FIN. PER.	1.704	
CIR. DIA.	0.80	IN.	FACTOR	34		TYP. WALL	0.050 ±.008	
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.								
ASTRO ID MARK: NONE								
CUSTNO 07800								CUST TEMO INC., MI
DESCR JAMB COVER								
CUST PART NO.								SCALE 3=1 (DETAILS: N.T.S.)
AS REF. NO. AS-08037								DR JSP DATE 10/15/96

(*) INDICATES 0.025 R (4)
ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

REV D) NON-PROFILE REVISION - UPDATE DWG TO ACAD 2000 DWG STANDARDS
(RWR-05/28/03)

This is not an Astro design. It is Astro's interpretation of the section designed and requested by its Customer. Customer should thoroughly check the drawing and test the design before using. AS ASTRO ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE PERFORMANCE OF GOODS OR PRODUCTS PRODUCED THEREFROM. ASTRO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO EXTRUSIONS/PRODUCTS PRODUCED PURSUANT TO THIS DRAWING. ASTRO'S ONLY WARRANTY SHALL BE AS STATED ON ASTRO'S SALES ACKNOWLEDGMENT FORM.

02664 D
ASTRO DIE NO.



Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5-21-08 Tech RLP

EST. AREA	0.106	SQ. IN.	EST. WT./FT.	0.127	LBS.	CLASS	SOLID
EST. O.S. PER.	4.043	IN.	EST. TOT. PER.	4.043	IN.	EST. FIN. PER.	1.430
CR. DIA.	1.34	IN.	FACTOR	32		TYP. WALL	0.050 ±0.006
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.							
ASTRO ID MARK: 0.010 HI X 0.020 W							

ASTRO SHAPES INC.	
65 MAIN ST. • STRUTHERS, OH	
CUST NO. 07800	CUST TEMO INC., MI
DESCR 406 ADAPT	
CUST PART NO.	SCALE 3=1 (DETAILS: N.T.S.)
AS REF. NO. AS-00181	DR TAM DATE 08/18/93

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

TITLE BLOCK 180005 12/21/99 Revision 1 10/09/03 Approval Number 00000-000

DRN

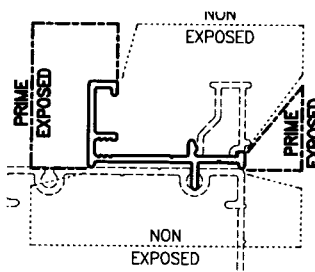
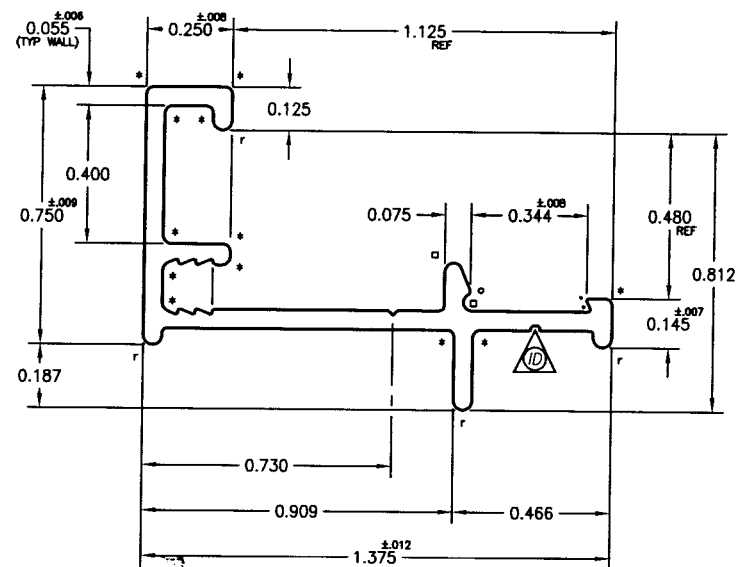
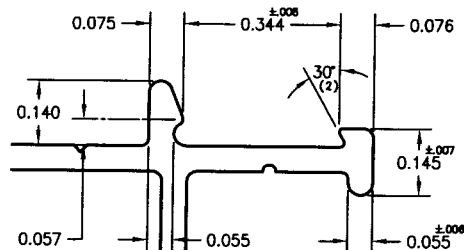
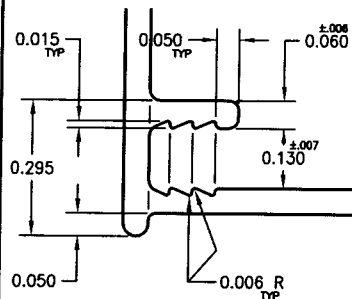
INITIAL RELEASE (NKM 11/20/01)

DWG. RELEASE NO.

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11002

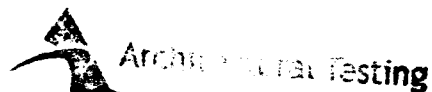
ASTRO DIE NO.



ACTUAL SIZE
PAINTED FINISH

- (-) INDICATES 0.008 R (2)
- (o) INDICATES 0.010 R (1)
- (*) INDICATES 0.022 R (12)
- (o) INDICATES 0.025 R (2)
- (r) INDICATES 0.027 R (4)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R



Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5-21-08

Tech KLP

EST. AREA	0.163	SQ. IN.	EST. WT./FT.	0.196	LBS.	CLASS	SOLID
EST. O.S. PER	5.973	IN.	EST. TOT. PER	5.973	IN.		
CR. DIA.	1.55	IN.	FACTOR	31		TYP. WALL	0.055
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.							
ASTRO ID MARK: 0.010 R X 0.010 DP							



ASTRO SHAPES INC.
65 MAIN ST. • STRUTHERS, OH

CUSTNO	07800	CUST	TEMO INC., MI
DESCR	2 X FL JAMB		
CUST PART NO.		SCALE	3=1 (DETAILS: N.T.S.)
AS REF. NO.	AS-21443	DR MPD	DATE 10/22/01

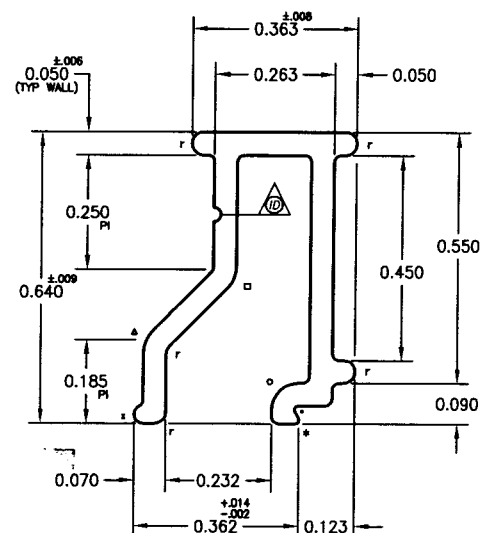
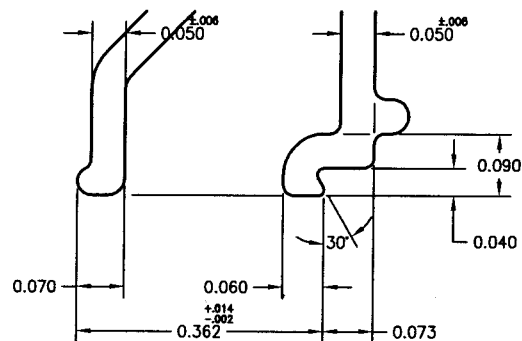
INITIAL RELEASE (MPD 01/21/02)

DWG. RELEASE NO.

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TS 11127

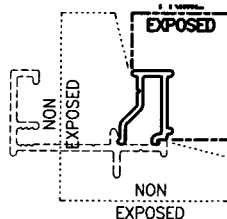
ASTRO	DIE	NO.
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Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01
Date 5.21.08 Tech RLP



~~ACTUAL SIZE~~

PAINTED FINISH

- | | | | |
|---------------------------|-----------|-------|-------|
| (*) | INDICATES | 0.008 | R (1) |
| (.) | INDICATES | 0.010 | R (1) |
| (*) | INDICATES | 0.020 | R (1) |
| (r) | INDICATES | 0.025 | R (5) |
| (o) | INDICATES | 0.060 | R (1) |
| (o) | INDICATES | 0.065 | R (1) |
| (Δ) | INDICATES | 0.075 | R (1) |
| ALL UNSPECIFIED CORNERS & | | | |

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

EST. AREA	0.086	SQ. IN.	EST. WT./FT.	0.103	LBS.	CLASS	SOLID
EST. O.S. PER.	3.452	IN.	EST. TOT. PER.	3.452	IN.		
CR. DIA.	0.78	IN.	FACTOR	34		TYP. WALL	±.006 0.050

UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.

▲ ASTRO ID MARK: 0.010 R X 0.010 DP

		ASTRO SHAPES INC. 65 MAIN ST. • STRUTHERS, OH	
CUSTNO	07800	CUST	TEMO INC., MI
DESCR I.G.S. TRIM			
CUST PART NO.		SCALE 4.=1 (DETAILS: N.T.S.)	
AS REF. NO.	AS-21449	DR MPD	DATE 10/26/01

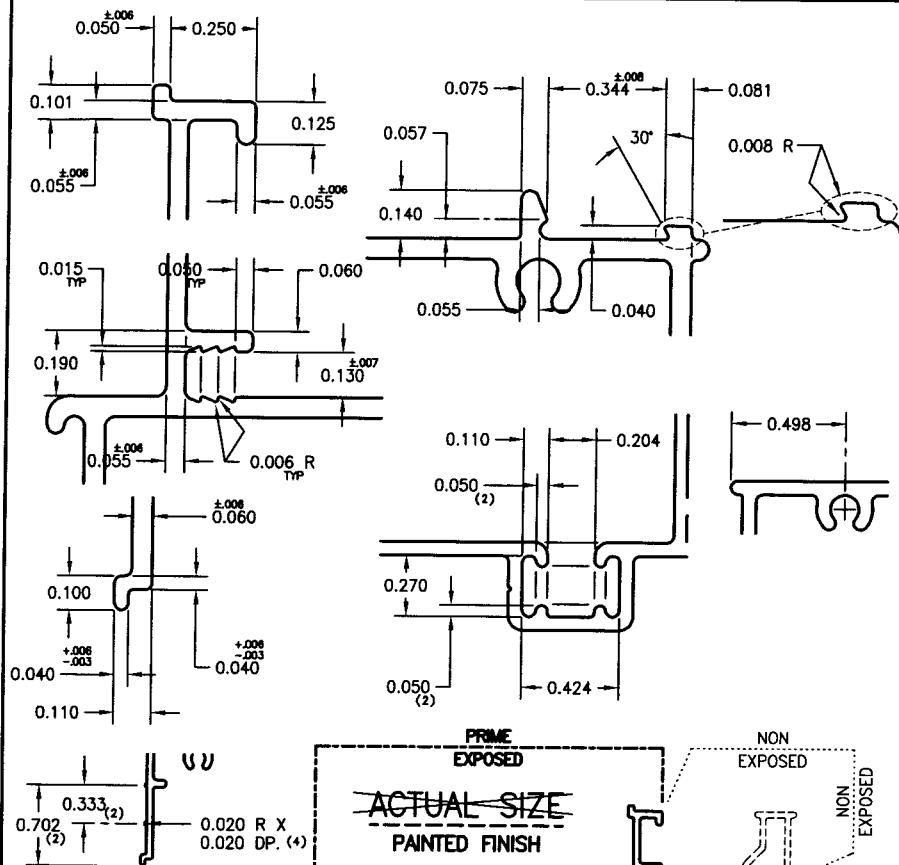
DRN INITIAL RELEASE (TAM 03/21/05)

DWG. RELEASE NO.

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14240

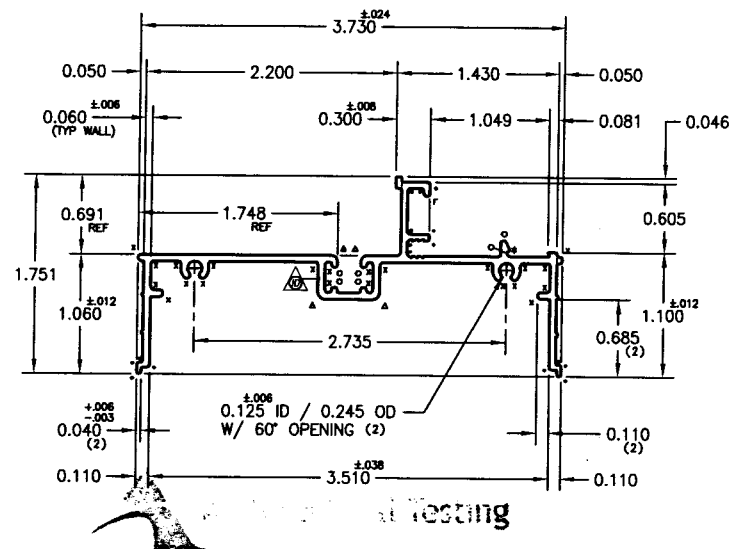
ASTRO DIE NO.



- (*) INDICATES 0.010 R (1)
(-) INDICATES 0.020 R (16)
(.) INDICATES 0.023 R (1)
(o) INDICATES 0.025 R (4)
(x) INDICATES 0.030 R (22)
(A) INDICATES 0.062 R (3)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

TITLE BLOCK 180005 12/21/99 Revision 1 10/05/03 Approval Number 00000-000



Test sample compares with these details.
Deviations are noted.

Report# 81793.01

Date 5-21-08 Tech RLP

EST. AREA	0.535 SQ. IN.	EST. WT./FT.	0.642 LBS.	CLASS	SOLID
EST. O.S. PER	17.548 IN.	EST. TOT. PER	17.548 IN.	EST. FIL. PER	6.050 IN.
CRI. DIA.	3.86 IN.	FACTOR	27	TYP. WALL	0.060 ±0.006
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.					
ASTRO ID MARK: 0.010 R X 0.010 DP					

ASTRO

ASTRO SHAPES INC.
65 MAIN ST. • STRUTHERS, OH

CUSTNO	07800	CUST	TEMO INC., MI
DESCR	406 TRANS HEADER		
CUST PART NO.			
AS REF. NO.	AS-30746	SCALE	1=1 (DETAILS: N.T.S.)
DR	TAM	DATE	02/15/05

DRN

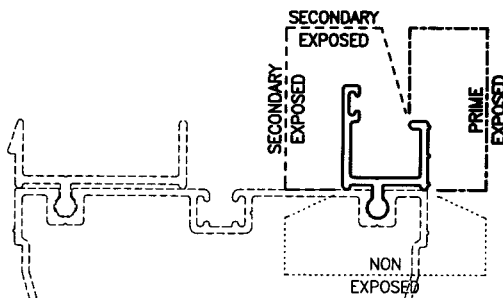
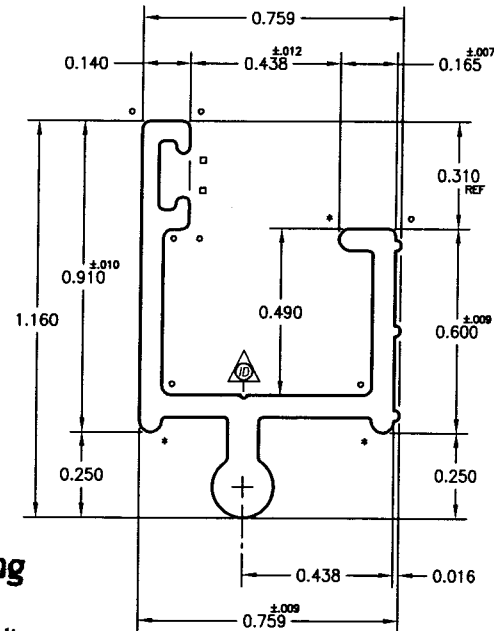
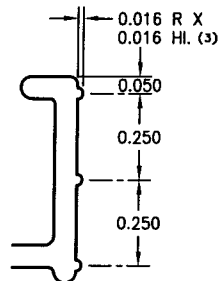
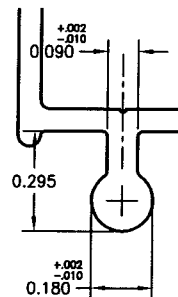
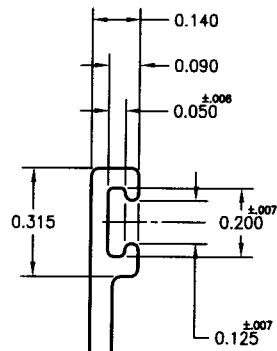
INITIAL RELEASE (TAM 03/21/05)

DWG. RELEASE NO.

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14243

ASTRO DIE NO.



ACTUAL SIZE
PAINTED FINISH

- (a) INDICATES 0.020 R (2)
(e) INDICATES 0.025 R (7)
(*) INDICATES 0.032 R (3)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01
Date 5-21-08 Tech RLD

EST. AREA	0.189	SQ. IN.	EST. WT./FT.	0.227	LIBS.	CLASS	SOLID
EST. O.S. PER.	5.504	IN.	EST. TOT. PER.	5.504	IN.	EST. FIN. PER.	4.157
CIR. DIA.	1.20	IN.	FACTOR	24		TYP. WALL	0.065 ±.006

UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.

ASTRO ID MARK: 0.010 R X 0.010 DP

ASTRO
COMPANIES

ASTRO SHAPES INC.
65 MAIN ST. • STRUTHERS, OH

CUSTNO	07800	CUST	TEMO INC., MI
DESCR	406 SC JAMB		
CUST PART NO.			
AS REF. NO.	AS-30768	SCALE	3=1 (DETAILS: N.T.S.)
DR	TAM	DATE	02/18/05

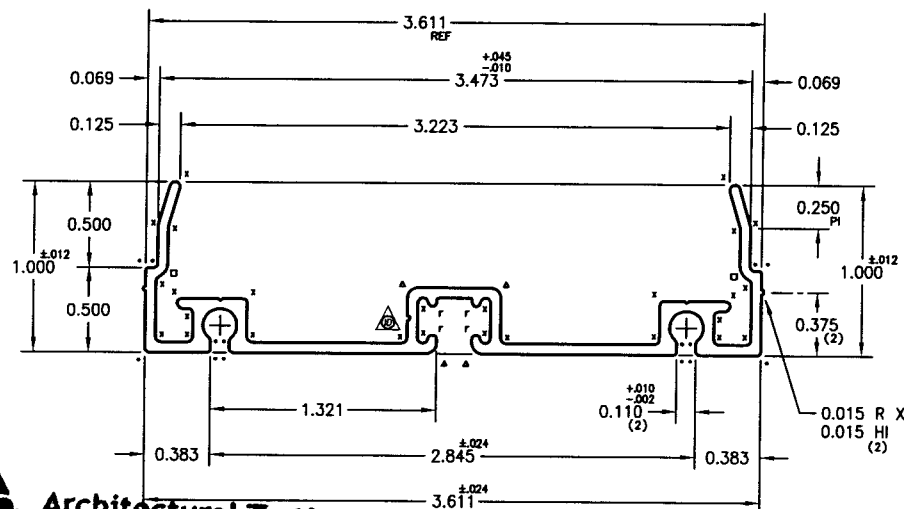
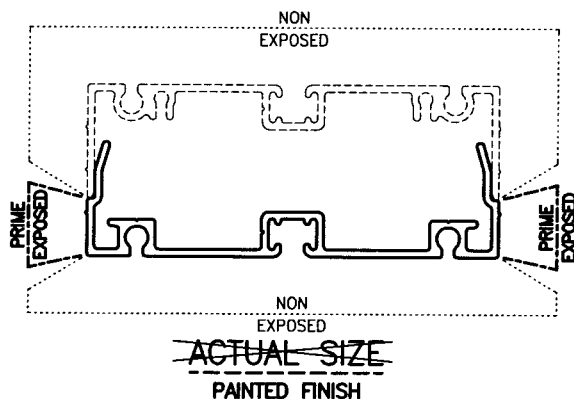
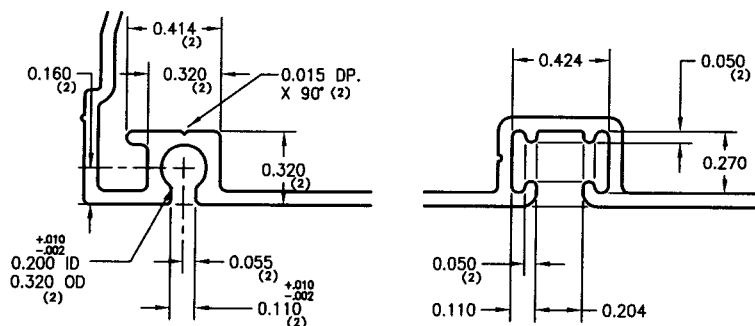
INITIAL RELEASE (BDL 04/18/05)

DWG. RELEASE NO.

This is not an Astro design. It is Astro's interpretation of the section designed and requested by its Customer. Customer should thoroughly check the drawing and test the design before using. AS ASTRO ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE PERFORMANCE OF GOODS OR PRODUCTS PRODUCED THEREFROM. ASTRO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO EXTRUSIONS/PRODUCTS PRODUCED PURSUANT TO THIS DRAWING. ASTRO'S ONLY WARRANTY SHALL BE AS STATED ON ASTRO'S SALES ACKNOWLEDGMENT FORM.

14320

ASTRO DIE NO.



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5.21.08 Tech ZL

- | | | | |
|-----|-----------|-------|--------|
| (.) | INDICATES | 0.020 | R (14) |
| (r) | INDICATES | 0.025 | R (4) |
| (o) | INDICATES | 0.027 | R (2) |
| (s) | INDICATES | 0.026 | R (24) |
| (A) | INDICATES | 0.060 | R (4) |
| (D) | INDICATES | 0.085 | R (2) |

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

THERMAL CAVITY "A" (1.25 IN³)

EST. AREA 0.496 SQ. IN.		GR. WT/YET 0.595 LBS.		CLASS SOLID		 ASTRO SHAPES INC. 65 MAIN ST. • STRUTHERS, OH	
CUT 15.441 IN.		TOP. LIPER 15.441 IN.		FIN. LIPER 1.080 IN.		CUSTMO 07800	
CIR. DIA. 3.65 IN.		FACTOR 26		TYP. WALL 0.060 ±.006		CUST TEMO INC, MI	
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.						DESCR 406 MALE	
 ASTRO ID MARK: 0.010 R X 0.010 DP						CUST PART NO.	
						AS REF. NO. AS-24995	
						SCALE 1.5=1 (DETAILS: N.T.S.)	
						OR NKM DATE 08/27/04	

DRN

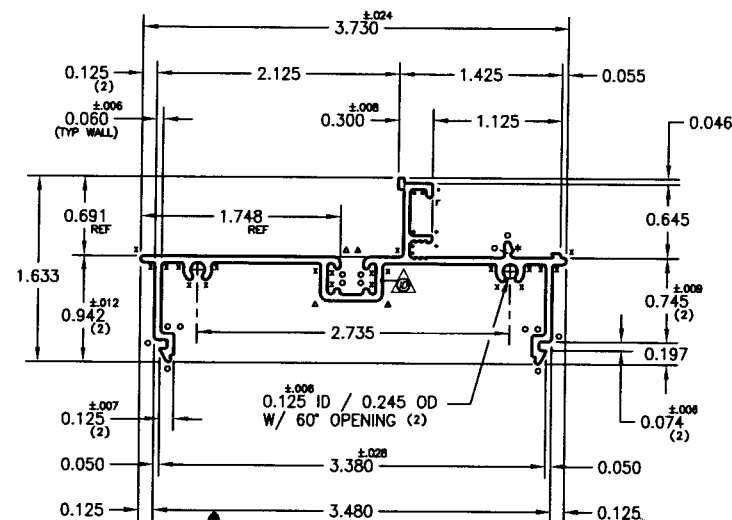
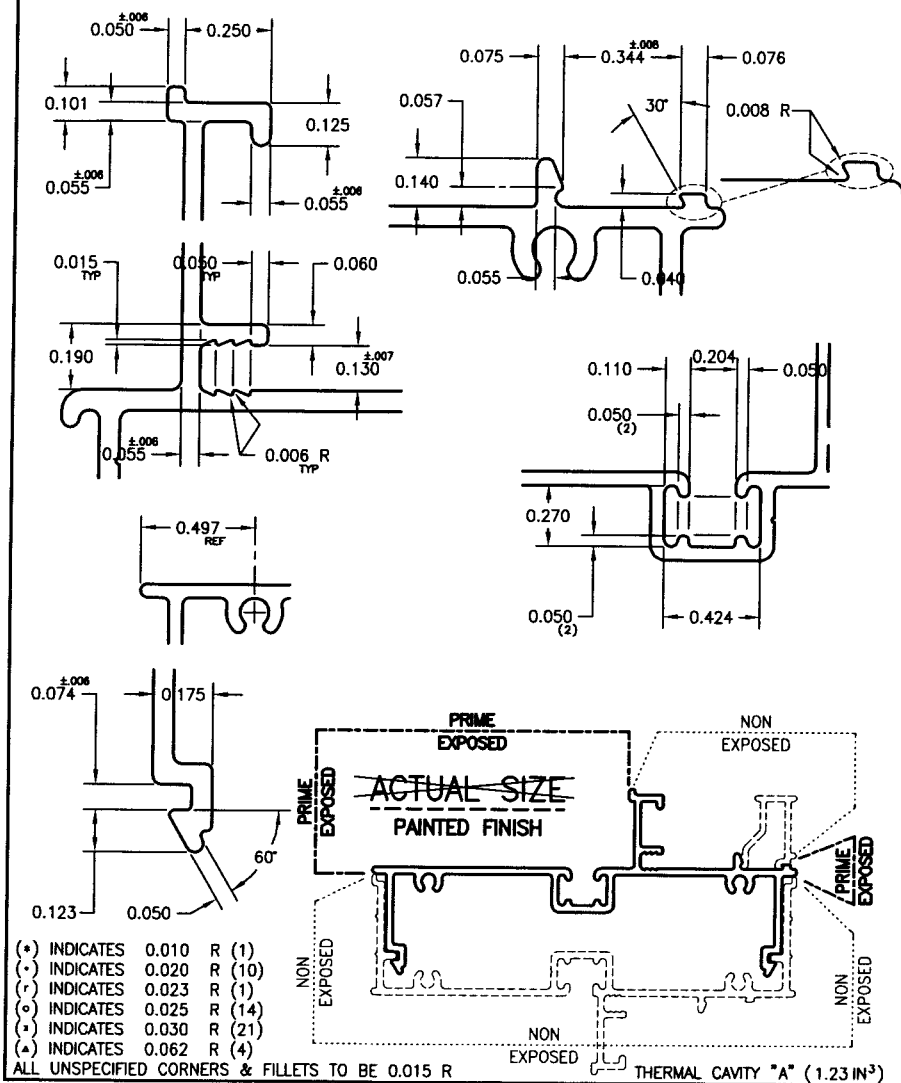
INITIAL RELEASE (KMM 06/21/05)

DWG. RELEASE NO.

This is not an Astro design. It is Astro's interpretation of the section designed and requested by its Customer. Customer should thoroughly check the drawing and test the design before using. AS ASTRO ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE PERFORMANCE OF GOODS OR PRODUCTS PRODUCED THEREFROM. ASTRO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO EXTRUSIONS/PRODUCTS PRODUCED PURSUANT TO THIS DRAWING. ASTRO'S ONLY WARRANTY SHALL BE AS STATED ON ASTRO'S SALES ACKNOWLEDGMENT FORM.

14558

ASTRO DIE NO.



Architectural Testing

Test sample complies with these details.
 Deviations are noted.

Report# 81793.01

Date 5-21-08

Tech RLP

EST. AREA		0.525	SQ. IN.	EST. WT./FT		0.630	LBS.	CLASS	SOLID		
EST. O.S. PER		17.033	IN.	EST. TOT. PER		17.033	IN.	EST. FIN. PER		3.788	IN.
CR. DIA.		3.73	IN.	FACTOR		27		TYP. WALL		0.060 ±.006	
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.											
▲ ASTRO ID MARK: 0.010 R X 0.010 DP											
CUST. NO.				07800	CUST.		TEMO INC., MI				
DESCR				406 TRANS SILL							
CUST. PART NO.								SCALE 1=1 (DETAILS: N.T.S.)			
AS REF. NO.				AS-30747				DR TAM DATE 02/15/05			

TITLE BLOCK TB0005 12/21/99

Revision 1 10/09/03

Approval Number 00000-000

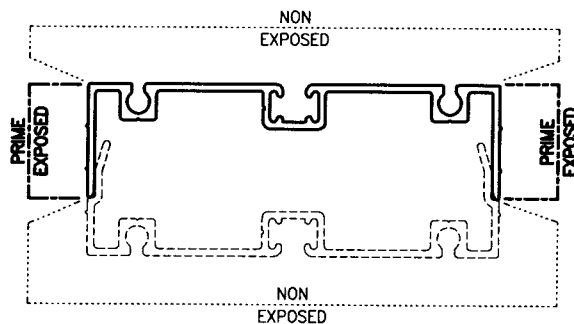
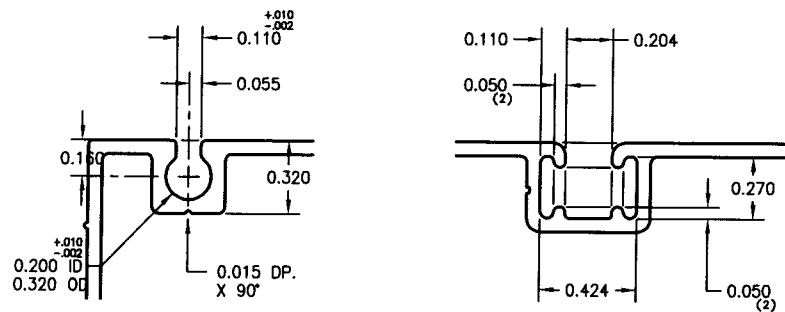
DRN INITIAL RELEASE (KMM 06/21/05)

DWG. RELEASE NO.

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14559

ASTRO DIE NO.

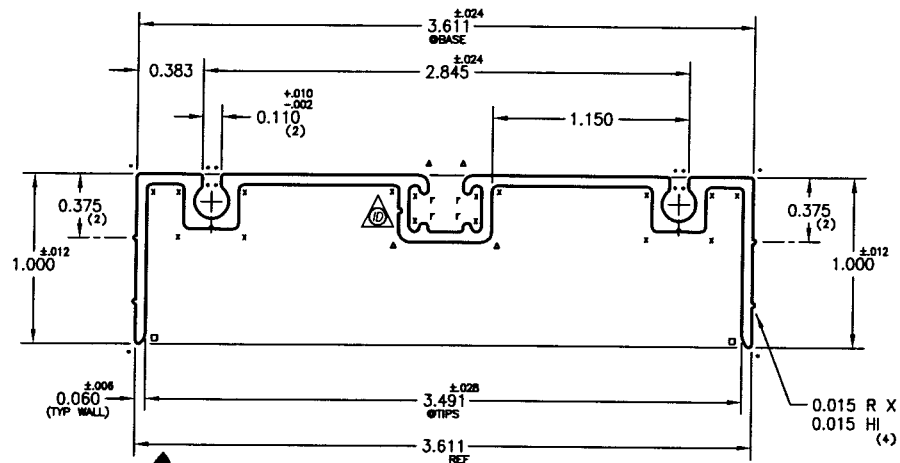


ACTUAL SIZE
PAINTED FINISH

- (•) INDICATES 0.020 R (12)
- (r) INDICATES 0.025 R (4)
- (o) INDICATES 0.027 R (2)
- (*) INDICATES 0.030 R (16)
- (A) INDICATES 0.060 R (4)
- (a) INDICATES 0.100 R (2)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

THERMAL CAVITY "A" (1.25 IN³)



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5-21-08 Tech RLP

EST. AREA	0.478	SQ. IN.	EST. WT./FT.	0.574	LBS.	CLASS	SOLID	
EST. O.S. PER	14.942	IN.	EST. TOT. PER	14.942	IN.	EST. FIN. PER	2.114	IN.
CIR. DIA.	3.74	IN.	FACTOR	26		TYP. WALL	0.060	±0.006

UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR
EXTRUDED ALUMINUM ARE USED.

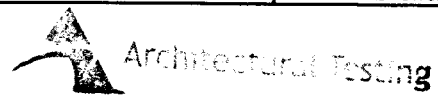
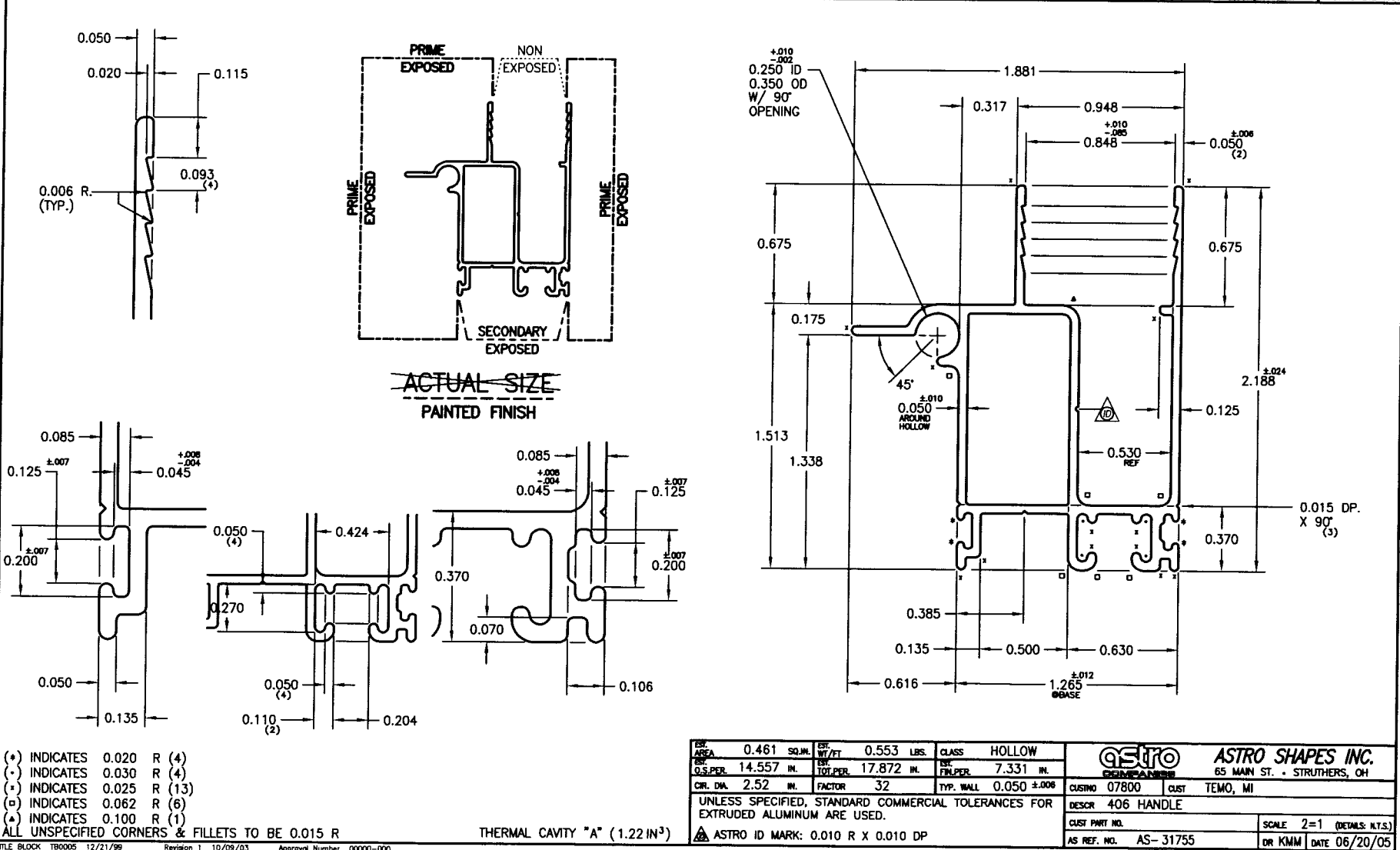
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.

ASTRO ID MARK: 0.010 R X 0.010 DP

ASTRO
COMPANIES

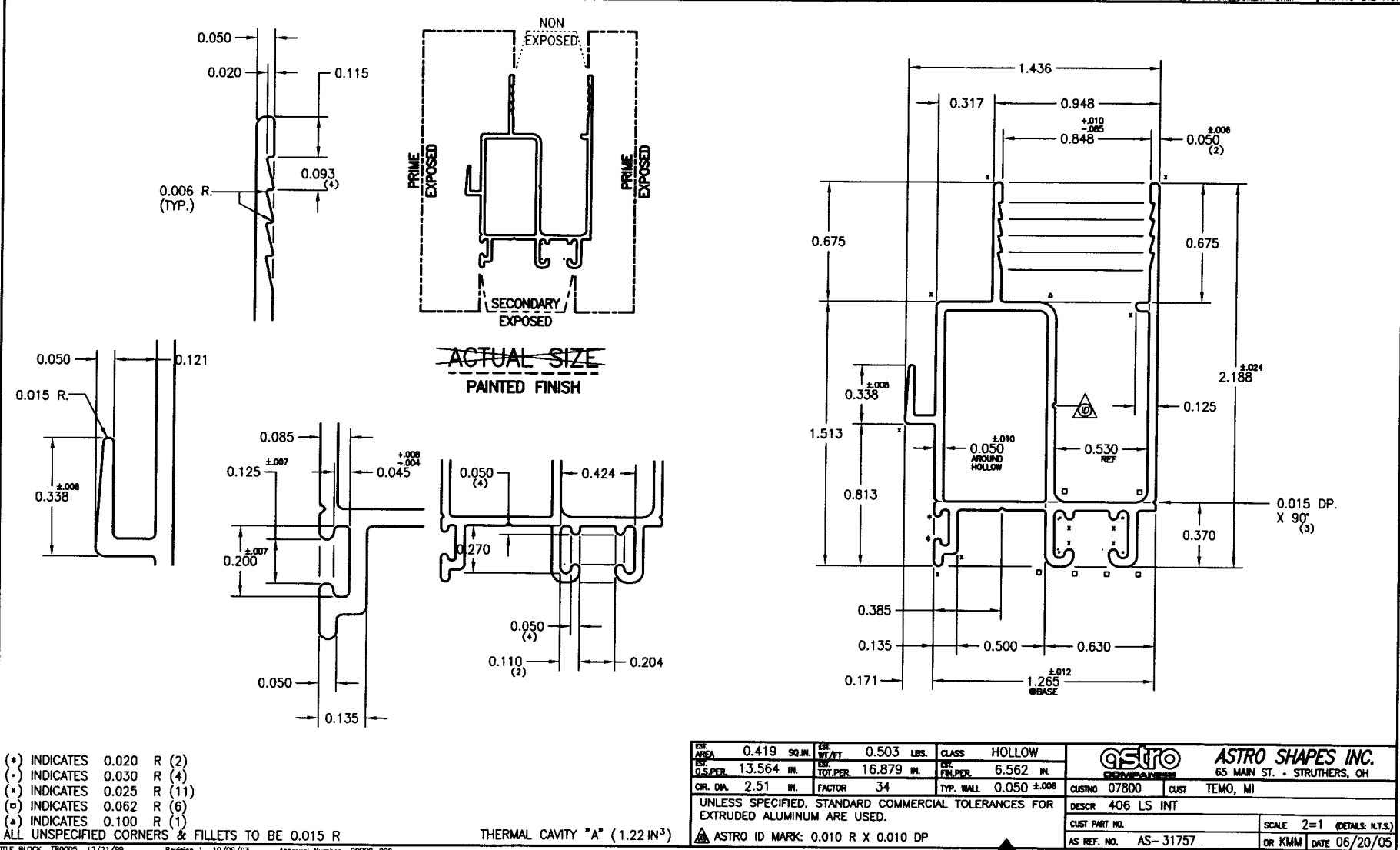
ASTRO SHAPES INC.
65 MAIN ST. • STRUTHERS, OH

CUSTNO	07800	CUST	TEMO INC, MI
DESCR	406 FEMALE		
CUST PART NO.			
AS REF. NO.	AS-24994	SCALE	1.5=1 (DETAILS: N.T.S.)
DR	NKM	DATE	08/27/04



Test sample complies with these details.
 Deviations are noted.

Report# 81793.01
 Date 5.21.08 Tech RLP

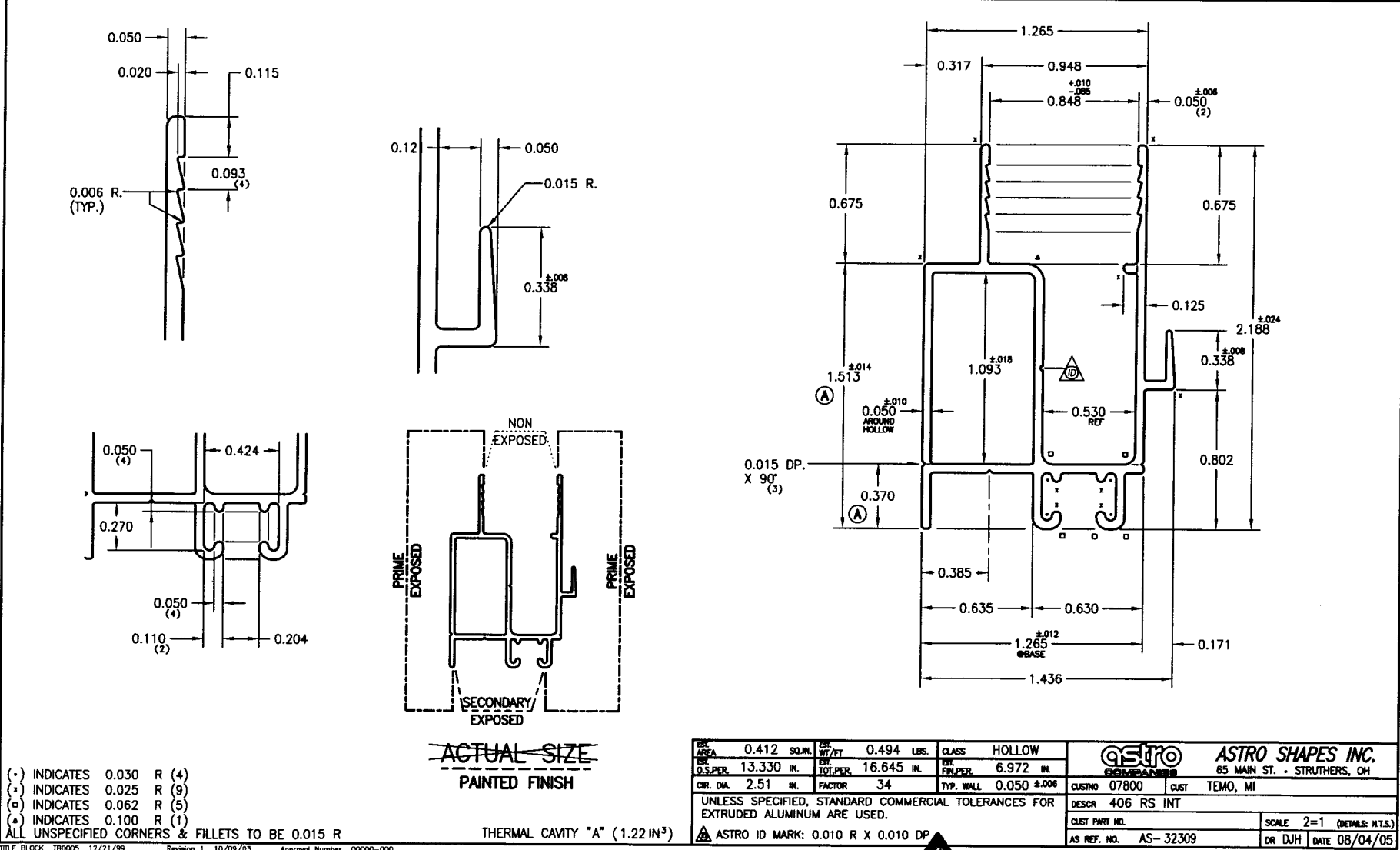


Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5.21.08 Tech RLP

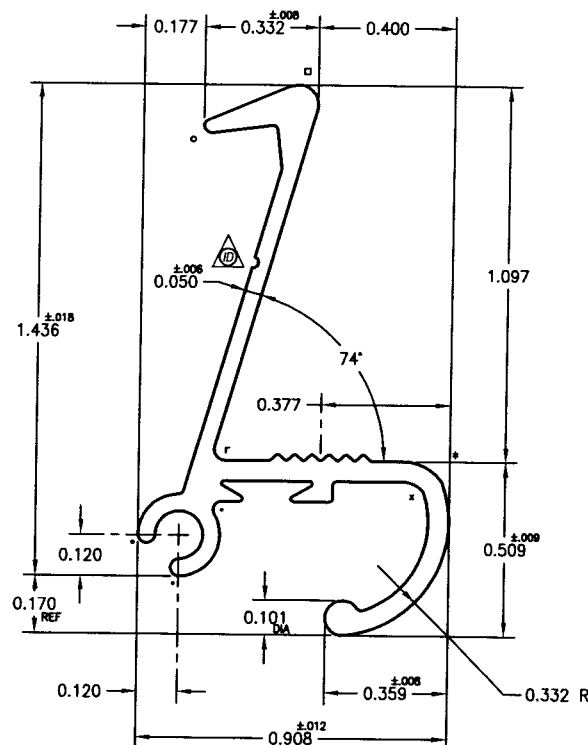
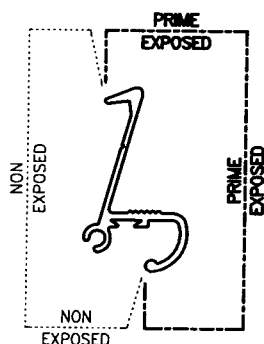
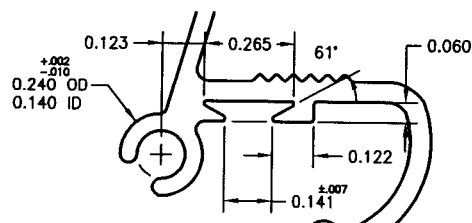
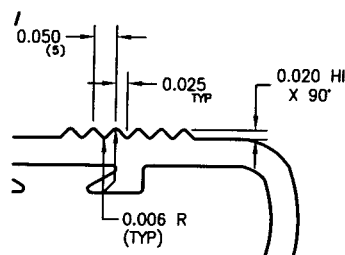
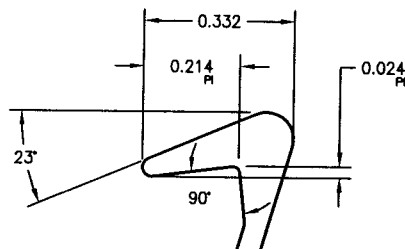


Architectural Testing
 Test sample complies with these details.
 Deviations are noted.
 Report# 81793.01
 Date 5.21.08 Tech RLP

DRN INITIAL RELEASE (KMM 08/22/05)

This is not an Astro design. It is Astro's interpretation of the section designed and requested by its Customer. Customer should thoroughly check the drawing and test the design before using. AS ASTRO ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE PERFORMANCE OF GOODS OR PRODUCTS PRODUCED THEREFROM. ASTRO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO EXTRUSIONS/PRODUCTS PRODUCED PURSUANT TO THIS DRAWING. ASTRO'S ONLY WARRANTY SHALL BE AS STATED ON ASTRO'S SALES ACKNOWLEDGMENT FORM.

14770
ASTRO DIE NO.



(.) INDICATES 0.020 R (4)
(r) INDICATES 0.031 R (1)
(+) INDICATES 0.083 R (1)
(*) INDICATES 0.143 R (1)
ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

ACTUAL SIZE
PAINTED FINISH

DR. AREA	0.204	SQ. IN.	EST. WT./FT	0.245	LIBS.	CLASS	SOLID
O.S. PER	6.814	IN.	EST. TOT. PER	6.814	IN.	EST. FIN. PER	2.940
CR. DIA.	1.61	IN.	FACTOR	28		TYP. WALL	0.060 ±.008
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.							
ASTRO ID MARK: 0.010 R X 0.010 DP							



ASTRO SHAPES INC.
65 MAIN ST. • STRUTHERS, OH

CUSTO 07800 CUST TEMO INC., MI

DESCR HANDLE

CUST PART NO.

AS REF. NO. AS-32510

SCALE 3=1 (DETAILS: N.T.S.)

DR DJH DATE 08/19/05



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5.21.08

Tech RLL

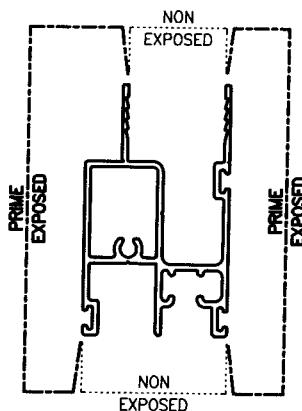
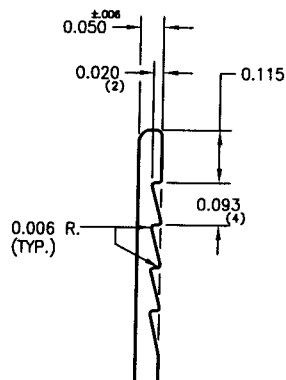
DRN INITIAL RELEASE (KMM 11/17/05)

DWG. RELEASE NO.

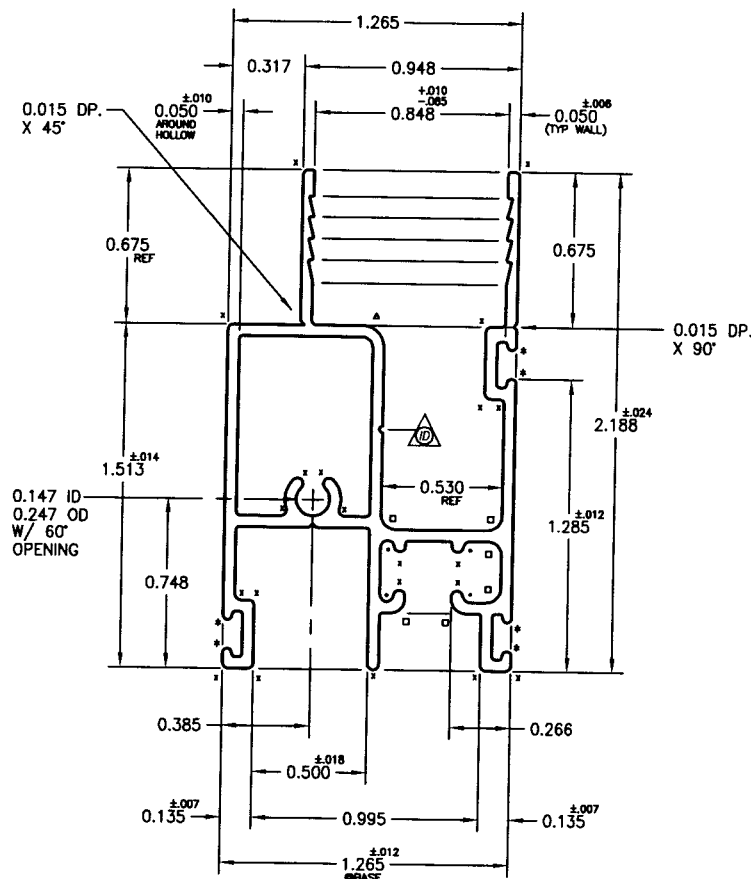
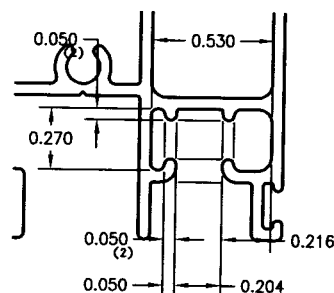
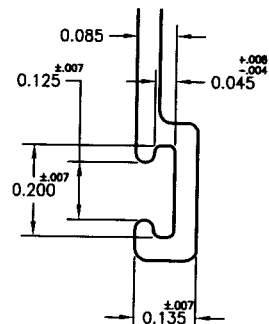
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15013

ASTRO DIE NO.



ACTUAL SIZE
PAINTED FINISH



- (*) INDICATES 0.020 R (6)
- (.) INDICATES 0.030 R (4)
- (.) INDICATES 0.025 R (21)
- (□) INDICATES 0.062 R (6)
- (Δ) INDICATES 0.100 R (1)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

THERMAL CAVITY "A" (1.55 IN³)

EST. AREA	0.446	SQ. IN.	EST. WT./FT	0.536	LBS.	CLASS	HOLLOW
EST. O.S.P.R.	14.225	IN.	EST. TOT.P.R.	17.523	IN.	EST. FIN.P.R.	4.534
CR. DIA.	2.51	IN.	FACTOR	33		TYP. WALL	0.060 ±.006
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.							
ASTRO ID MARK: 0.010 R X 0.010 DP							

ASTRO

ASTRO SHAPES INC.

65 MAIN ST. - STRUTHERS, OH

CUSNO 07800

CUST TEMO, MI

DESCR 406 SASH

CUST PART NO.

SCALE 2=1 (DETAILS: N.T.S.)

AS REF. NO. AS-34149

DR DJH DATE 11/16/05

Architectural Testing

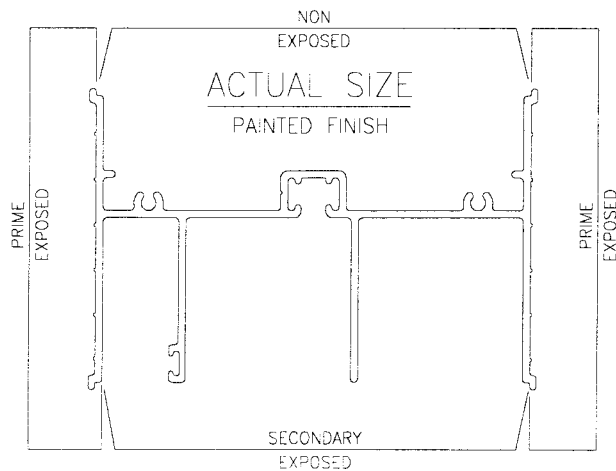
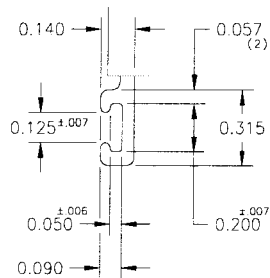
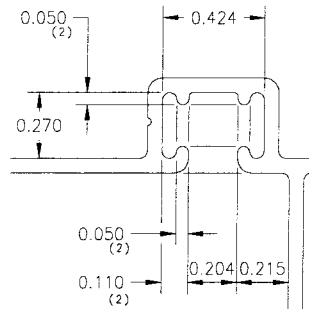
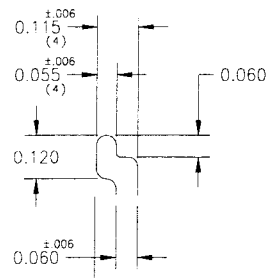
Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5-21-08

Tech RLP

DRN	REV A) NON-PROFILE REVISION - UPDATE EXPOSED SURFACES (KMM-05/17/06)	This is not an Astro design. It is Astro's interpretation of the section designed and requested by its Customer. Customer should thoroughly check the drawing and test the design before using. AS ASTRO ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR THE PERFORMANCE OF GOODS OR PRODUCTS PRODUCED THEREFROM. ASTRO MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH REGARD TO EXTRUSIONS/PRODUCTS PRODUCED PURSUANT TO THIS DRAWING. ASTRO'S ONLY WARRANTY SHALL BE AS STATED ON ASTRO'S SALES ACKNOWLEDGMENT FORM.	15049	A
DWG. RELEASE NO.			ASTRO DIE NO.	

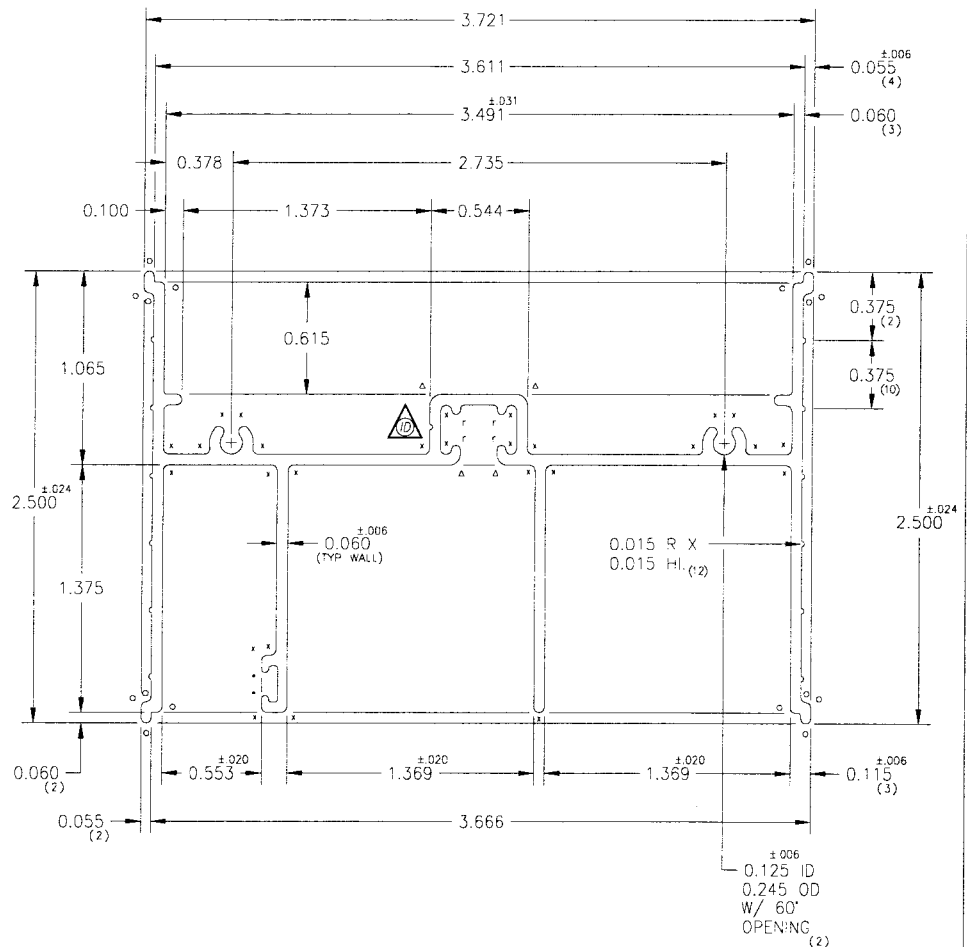


- (•) INDICATES 0.020 R (2)
- (r) INDICATES 0.025 R (4)
- (o) INDICATES 0.028 R (16)
- (*) INDICATES 0.030 R (27)
- (Δ) INDICATES 0.060 R (6)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

THERMAL CAVITY "A" (1.25 IN²)

EST. AREA	0.812 SQ. IN.	EST. WT./FT.	0.974 LBS.	CLASS	SOLID		
EST. O.S. PER	26.421 IN.	EST. TOT. PER	26.421 IN.	EST. FIN. PER	16.562 IN.		
CIR. DIA.	4.46 IN.	FACTOR	27	TYP. WALL	0.060 ± 0.006	CUST. NO.	07800
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.						CUST. I	TEMO, MI
ASTRO ID MARK: 0.010 R X 0.010 DP						DESCR	406 HEADER
						CUST. PART NO.	
						SCALE	1.5"=1 (DETAILS: N.T.S.)
						DR. DATE	11/16/05



Architectural Testing

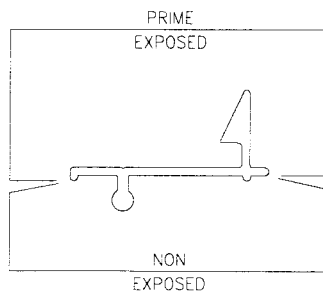
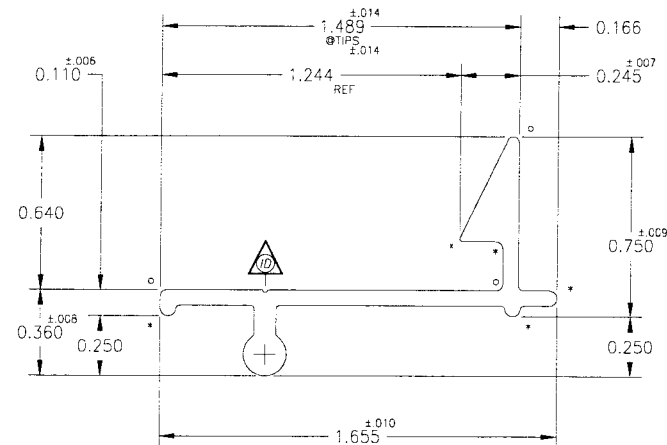
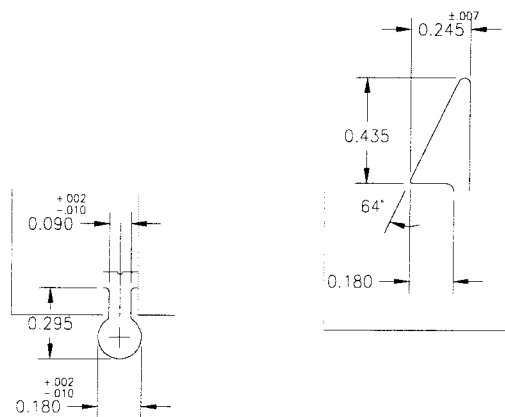
Test sample complies with these details.
Deviations are noted.

Report# 81793.01
Date 5-21-08 Tech RLP

Test sample complies with these details.
Deviations are noted.

Report# 81793.01

Date 5-21-08 Tech RJP



ACTUAL SIZE
PAINTED FINISH

- (*) INDICATES 0.010 R (1)
- (o) INDICATES 0.025 R (3)
- (•) INDICATES 0.032 R (4)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

FILE BLOCK 190065 11/21/05 Revision 1 10/09/03 Approval Number 00500-006



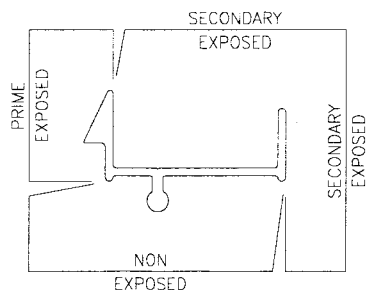
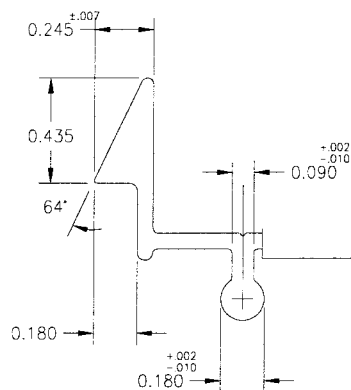
Architectural Testing

Test sample complies with these details.
Deviations are noted.

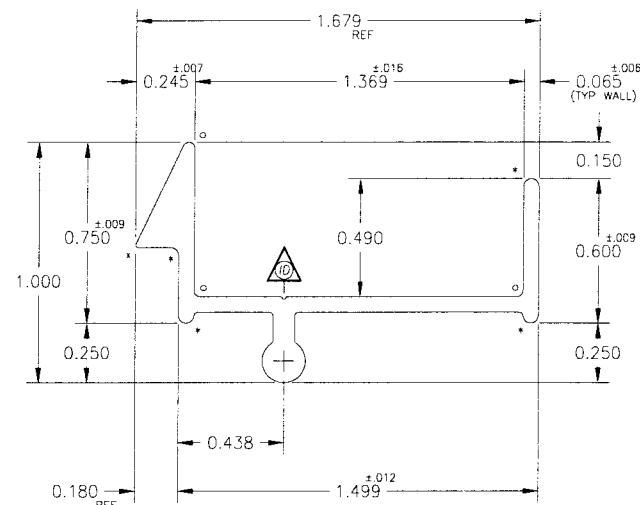
Report# 81793.01

Date 5-21-08 Tech RLP

EST. AREA	0.225 SQ. IN.	EST. WT./FT.	0.270 LBS.	CLASS	SOLID	ASTRO COMPANY		ASTRO SHAPES INC.	
EST. D.S. PER	5.566 IN.	EST. TOT. PER	5.566 IN.	EST. FIN. PER	3.364 IN.	65 MAIN ST. • STRUTHERS, OH			
OR DIA.	1.69 IN.	FACTOR	21	TYP. WALL	0.065 ±0.006	CUSTNO	07800	CUST	TEMO, MI
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.						DESCR	THIS JAMB		
ASTRO ID MARK: 0.010 R X 0.010 DP						CUST PART NO			
						AS REF. NO	AS-34155		
						DR DJH	DATE 11/16/05		



(•) INDICATES 0.010 R (1)
 (◊) INDICATES 0.025 R (3)
 (•) INDICATES 0.032 R (4)
 ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R



Test sample complies with these details.
 Deviations are noted.

Report# 81793.01
 Date 5.21.08 Tech RLP

EST. AREA	0.247	SQ. IN.	EST. WT./FT.	0.296	LBS.	CLASS	SOLID	ASTRO COMPANY	ASTRO SHAPES INC.
EST. D.S. PER	6.251	IN.	EST. TOT. PER	6.251	IN.	EST. FIN. PER	4.038	65 MAIN ST. • STRUTHERS, OH	
DIR. DIA.	1.72	IN.	FACTOR	21		TYP. WALL	0.065 ±.005	CUSTNO 07800	CUST TENO, MI
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.								DESCR RHIS JAMB - REVISED	
ASTRO ID MARK: 0.010 R X 0.010 DP								CUST PART NO	SCALE 2=1 (DETAILS: N.T.S.)
								AS REF. NO. AS-34153	DR DJH DATE 11/16/05