

TAS 202 TEST REPORT

Rendered to:

TEMO, INC.

SERIES/MODEL: 36 x 80 Primed Entry Door/Full View Glass Door with Panel

PRODUCT TYPE: Aluminum Outswing Side Hinge Glass Door and Upper Panel

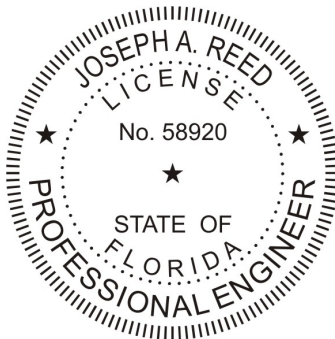
This report contains in its entirety:

Cover Page: 1 page

Report Body: 9 pages

Sketch: 1 page

Drawings: 22 pages



Date: 2006.06.22 18:02:45 -04'00'

A handwritten signature of Joseph A. Reed in black ink.

Digitally Signed by: Joseph A. Reed

Report No.: 65411.01-602-18

Test Dates: 06/08/06

Through: 06/14/06

Report Date: 06/22/06

Expiration Date: 06/14/16

TAS 202 TEST REPORT

Rendered to:

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

Report No.: 65411.01-602-18
Test Dates: 06/08/06
Through: 06/14/06
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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 three (3) Series/Model 36 x 80 Primed Entry Door/Full View Glass Door with Panel, aluminum outswing side hinge glass door and upper panel. The samples tested met the performance requirements set forth in the protocol for a ± 55.14 psf *Design Pressure* rating. Test specimen description and results are reported herein.

Test Procedures: The test specimens were evaluated in accordance with the following:

TAS 202-94, Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading.

Drawing Reference: The attached drawings have been checked by Architectural Testing, Inc. and are representative of the samples tested.

Test Specimen Description:

Series/Model: 36 x 80 Primed Entry Door/Full View Glass Door with Panel

Product Type: Aluminum Outswing Side Hinge Glass Door and Upper Panel

Overall Size with Receptor System: 3' 2" wide by 7' 1" high

Overall Door Size: 3' 1-1/4" wide by 6' 10" high

Door Panel Size: 2' 10-1/8" wide by 6' 5-7/8" high

Upper Panel Size: 3' 2" wide by 0' 3" high

Overall Area: 22.43 ft²

Test Specimen Description: (Continued)

Finish: Interior and exterior panel skins were painted white. Extruded aluminum frames were also painted white.

Glazing Details: The sash utilized nominal 12.7 mm (1/2") thick sealed insulated glass fabricated from two sheets of 3.18 mm (1/8") thick tempered glass separated by a 6.35 mm (1/4") neoprene super spacer. The glass was set from the exterior against a continuous PVC T-spline (Die # 5872) that was press-fit to the extruded frame members. A flexible PVC filler (Die #5873) was press-fit between the #1 glass surface and the extruded aluminum glazing bead. Extruded aluminum glazing beads (Die #11127) were snap-fit at the exterior and a bead of silicone was employed at the exterior face and interior leg of the glazing bead to frame members to create the perimeter glazing seal (see glazing detail).

Weatherstripping:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.625" wide by 0.875" high foam filled fin (Drawing No. UC303904)	1 Row	Frame jamb at hinge side
0.570" wide by 0.540" high foam filled fin (Drawing No. UP301154)	1 Row	Frame head, sill and jamb at lock side
0.300" wide by 0.518" high vinyl door sweep (Die No. 5975)	2 Rows	Extruded aluminum door sweep
0.500" diameter foam backer rod	1 Row	Behind weatherstripping at frame jamb at hinge side
1.875" by 0.875" by 34" reticulated foam	1 Row	Between bottom rail and extruded aluminum door sweep

Frame Construction: All frame members were of extruded aluminum. The frame jambs and head (Die No.13317) were square-cut, coped, press-fit over the female die (Die No.10967), sealed at the horizontal ends and secured to the horizontal female die at the door frame head with two (2) #8 x 1" screws per each connection. The frame jambs/female die were secured at both interior and exterior legs with four (4) #8 x 1/2" screws spaced 5" from ends and approximately 24" on center. The door frame head/female die utilized two (2) #8 x 1/2" screws 6" from each end. A laminated foam panel was inserted between the female die (Die No.10967) and the extruded aluminum head base/top track (Die No.14873).

Test Specimen Description: (Continued)

Frame Construction: (Continued) The jambs at the laminated foam panel location utilized an extruded aluminum adapter (Die No.10966) that was slide-fit and was secured to the female die with one (1) #8 x 1/2" screw at both ends. An extruded aluminum door threshold (Die No.15486) which utilized a poured and debridged thermal barrier system was press-fit over the modified sill base/top track (Modified Die No.14873) with silicone sealant applied at both ends.

Door Construction: The extruded aluminum door panels (Die No.11903) were utilized at the panel perimeter which was miter-cut and employed welded corner construction. An extruded aluminum door sweep (Die No.12375) was press-fit to the bottom rail and secured with two (2) #8 x 1/2" screws place 6" from each end. A bead of silicone sealant was utilized at both legs of door sweep to bottom rail and at all weatherstrip corners.

Upper Panel Construction: The panel utilized 0.055" thick Temkor (acrylonitrile-styrene-acrylate resin) skin at both the interior and exterior face. Skins were laminated to a 3-5/8" thick EPS foam core with rolled-on adhesive. The panel was slide-fit into the female die at the door frame head and the head base/top track with a continuous cap bead of sealant employed at the interior and exterior panel to frame perimeter.

Hardware:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
4" metal butt hinges (Template No. T399)	3	Panel/frame located 5-1/8", 37-1/8" and 69-1/8" from top rail
Handle set with titanium dead bolt	1	Panel stile 37" from bottom rail
Strike plate (Drawing No. Proj1903-R2)	2	Adjacent to handle and dead bolt
Vinyl end caps	2	Both ends of door sweep

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.375" by 0.500" slot	1	Vertical female die at horizontal intermediate connection
0.312" diameter hole	4	Bottom rail 3-1/2" and 12" from both ends

Test Specimen Description: (Continued)

Drainage: (Continued)

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.500" diameter hole	4	Door sweep 3-1/2" and 12" from both ends

Installation: Test specimen was installed into a nominal 2x12 Spruce-Pine-Fir wood surround. Extruded aluminum head base/top track (Die No.14873) was anchored to the wood surround with two (2) #12 x 1-1/2" screws spaced approximately 6" from each end. Extruded aluminum modified sill base/top track (Modified Die No.14873) was also anchored to the wood surround with two (2) #12 x 1-1/2" screws spaced approximately 6" from each end. The female dies at the jambs (Die No.10967) were secured to the wood surround with #10 x 2-7/8" screws spaced 8" from each end and midspan. Sealant end dams were employed at sill base/top track ends with sealant married into the vertical jambs. 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. All reference to sealant utilized Solar Seal #900 sealant.*

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)	0.10 cfm/ft²					
6.24 psf (50 mph)	0.22 cfm/ft²					
Structural Loads	Indicator Readings (inch)					
	#1	#2	#3	#4	#5	#6
50% of Test Pressure (+41.36 psf)						
Deflection	0.430	0.430	0.360	0.020	0.040	0.050
Permanent Set	0.010	0.010	0.010	0.010	0.010	0.010
Design Pressure (+55.14 psf)						
Deflection	0.480	0.480	0.380	0.040	0.050	0.070
Permanent Set	0.010	0.020	0.010	0.010	0.010	0.010
50% of Test Pressure (-41.36 psf)						
Deflection	0.230	0.390	0.520	0.060	0.080	0.100
Permanent Set	0.020	0.030	0.040	0.030	0.020	0.030
Design Pressure (-55.14 psf)						
Deflection	0.400	0.640	0.840	0.090	0.130	0.170
Permanent Set	0.020	0.030	0.050	0.010	0.010	0.020
Water Infiltration						
15% Positive Design Pressure (+8.35 psf)			No Penetration			
Test Pressure (+82.71 psf)						
Deflection	0.450	0.540	0.470	0.050	0.080	0.110
Permanent Set	0.010	0.010	0.020	0.010	0.010	<0.010
Test Pressure (-82.71 psf)						
Deflection	0.840	1.530	2.080	0.040	0.040	0.170
Permanent Set	0.210	0.300	0.370	0.010	0.040	0.040

Forced Entry – ASTM F 1304 Pass

Note: See Sketch #1 for indicator locations.

Test Results: (Continued)

Protocol TAS 202-94, Static Air Pressure Tests

Test Unit #2

Design Pressure: ±55.14 psf

Title of Test	Results
Air Infiltration	
1.57 psf (25 mph)	0.02 cfm/ft ²
6.24 psf (50 mph)	0.05 cfm/ft ²

Structural Loads

Indicator Readings (inch)

	#1	#2	#3	#4	#5	#6
50% of Test Pressure (+41.36 psf)						
Deflection	0.260	0.320	0.330	0.040	0.040	0.080
Permanent Set	0.020	0.020	0.020	0.010	0.030	0.010
Design Pressure (+55.14 psf)						
Deflection	0.310	0.380	0.380	0.070	0.070	0.100
Permanent Set	0.040	0.030	0.030	0.020	0.060	0.010
50% of Test Pressure (-41.36 psf)						
Deflection	0.270	0.420	0.560	0.060	0.050	0.100
Permanent Set	0.060	0.070	0.080	0.020	0.050	0.030
Design Pressure (-55.14 psf)						
Deflection	0.570	0.950	1.270	0.090	0.080	0.150
Permanent Set	0.180	0.220	0.240	0.020	0.050	0.030
Water Infiltration 15% Positive Design Pressure (+8.35 psf) Test Pressure (+82.71 psf)						
	No Penetration					
Deflection	0.480	0.570	0.530	0.140	0.140	0.200
Permanent Set	0.020	0.040	0.060	0.010	0.060	0.020
Test Pressure (-82.71 psf)						
Deflection	0.720	1.150	1.520	0.270	0.290	0.320
Permanent Set	0.310	0.310	0.310	0.160	0.150	0.130

Forced Entry – ASTM F 1304

Pass

Note: See Sketch #1 for indicator locations.

Test Results: (Continued)

Protocol TAS 202-94, Static Air Pressure Tests

Test Unit #3

Design Pressure: ±55.14 psf

Title of Test	Results					
Air Infiltration						
1.57 psf (25 mph)	0.04 cfm/ft²					
6.24 psf (50 mph)	0.09 cfm/ft²					
Structural Loads	Indicator Readings (inch)					
	#1	#2	#3	#4	#5	#6
50% of Test Pressure (+41.36 psf)						
Deflection	0.230	0.240	0.220	0.030	0.020	0.040
Permanent Set	0.010	0.010	0.010	0.010	0.010	0.010
Design Pressure (+55.14 psf)						
Deflection	0.270	0.300	0.270	0.040	0.030	0.060
Permanent Set	0.010	0.010	0.020	0.020	0.020	0.020
50% of Test Pressure (-41.36 psf)						
Deflection	0.210	0.300	0.410	0.040	0.030	0.050
Permanent Set	0.040	0.040	0.050	0.010	0.020	0.020
Design Pressure (-55.14 psf)						
Deflection	0.460	0.770	1.020	0.080	0.040	0.080
Permanent Set	0.150	0.160	0.180	<0.010	0.020	0.010
Water Infiltration						
15% Positive Design Pressure (+8.35 psf)	No Penetration					
Test Pressure (+82.71 psf)						
Deflection	0.370	0.410	0.330	0.060	0.020	0.060
Permanent Set	0.030	0.030	0.020	0.020	0.020	0.020
Test Pressure (-82.71 psf)						
Deflection	0.690	1.250	1.770	0.110	0.100	0.110
Permanent Set	0.230	0.280	0.320	0.010	0.090	0.030

Forced Entry – ASTM F 1304

Pass

Note: See Sketch #1 for indicator locations.

Test Equipment:

Control Panel: Computer controlled centrifugal blower with electronic pressure measuring device

Deflection Measuring Device: Linear transducers and 1" dial indicators

Laboratory Compliance Statements: The following are required by the protocol 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 used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

List of Official Observers:

<u>Name</u>	<u>Company</u>
Robert A. Walz, P.E.	TEMPO, Inc.
Race Hemby	TEMPO, Inc.
Jody D. White	Architectural Testing, Inc.
Chance C. Olson	Architectural Testing, Inc.
Joseph A. Reed, P.E.	Architectural Testing, Inc.
Audrey S. Matis	Architectural Testing, Inc.
Wanda L. Matis	Architectural Testing, Inc.

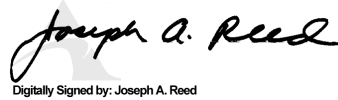
Detailed drawings, representative samples of the test specimen and a copy of this report will be retained by Architectural Testing, Inc. for a period of ten years from the original test date. This report is the exclusive property of the client so named herein and is applicable to the sample tested. Results obtained are tested values and do not constitute an opinion or endorsement by this laboratory. This report may not be reproduced, except in full, without the approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.



Digitally Signed by: Wanda L. Matis

Wanda L. Matis
Project Manager



Digitally Signed by: Joseph A. Reed

Joseph A. Reed, P.E.
Director – Engineering and Product Testing

WLM:hlr/cmd

Attachments (pages):

Appendix-A: Sketch (1)

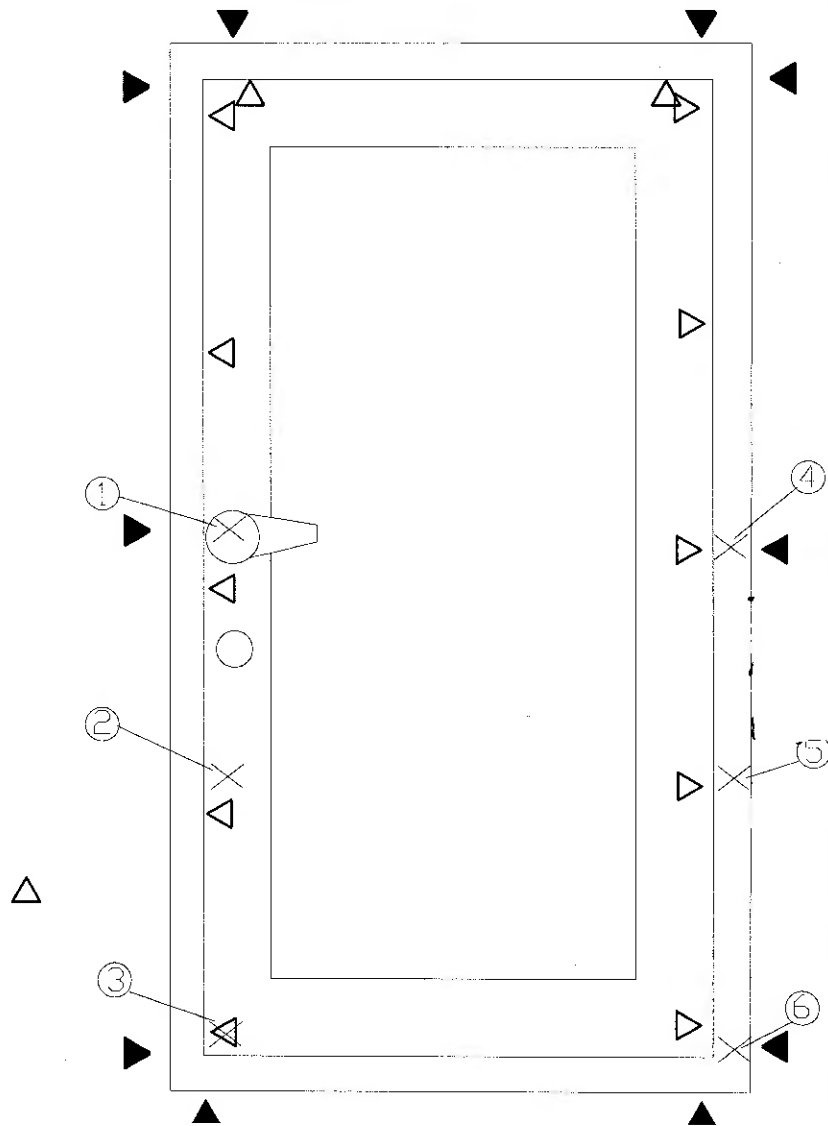
Appendix-B: Drawings (22)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	06/22/06	N/A	Original report issue

APPENDIX A

Sketch



▷ Door Panel Anchor Locations 10 (ten) (#8 x 5/16") screws placed 3" from the corners and spaced approximately 16" on center each jamb. 1 (one) screw was used approximately 3" from each end of the frame at the interior and exterior face.

▶ Frame Anchor Location 3 (three) (#10 x 2 5/8") screws used along the male jamb placed approximately 6" in from the ends and midspan attaching the receiving extrusions to the buck.

✕ Indicator Locations

Client Name

Temo, Inc.

Notes

TAS 202

Specimen #

Unit
1,2,3

ATI Job Number

65411.01-602-18

Architectural Testing, Inc.

Drawn By

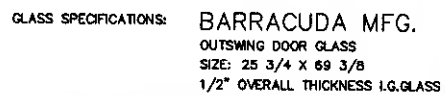
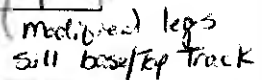
CCD

Sketch Number

1

APPENDIX B

Drawings



Any deviations noted.

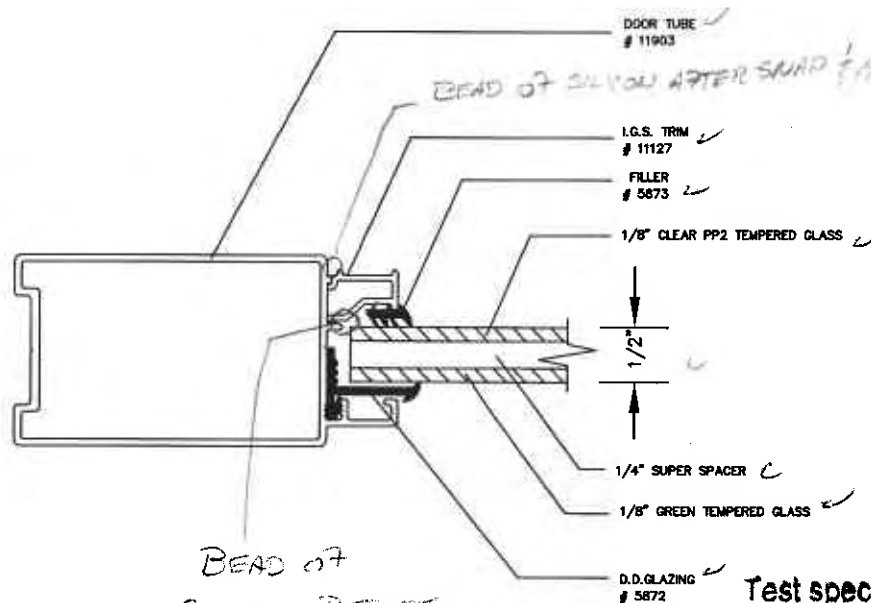
Project ATI 65411

Test Date 6/8/06 — 6/14/06

Checked By Lom

Terumo Inc.

3.625" SUNROOM
OUTSWING DOOR PARTS
DETAILS & NOTES



BEAD OF
SILICON BEFORE
SNAP

GLASS SPECIFICATIONS:

BARRACUDA MFG.

OUTSWING DOOR GLASS

SIZE: 25 3/4 X 69 3/8

1/2" OVERALL THICKNESS I.G.GLASS

Test specimen complies with these details.

Any deviations noted.

Project ATI 605411

Test Date 6/8/06 - 6/14/06

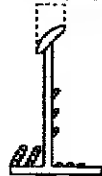
Checked By Wm

3.625" SUNROOM
OUTSWING DOOR PARTS
DETAILS & NOTES

Temo inc.

20400 HALL ROAD • CLINTON TOWNSHIP • MICHIGAN 48038
810-288-0410 1-800-344-8368 FAX 810-288-8409

EXPOSED



ACTUAL SIZE

INSPECTION PROCEDURE

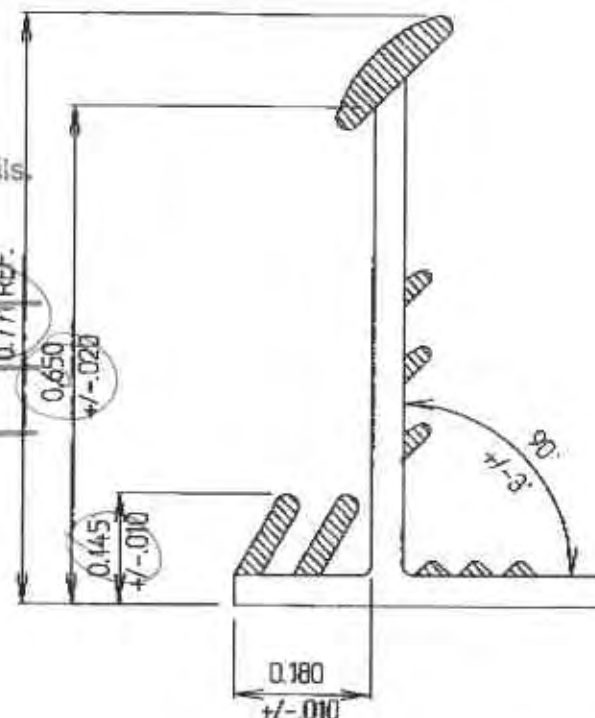
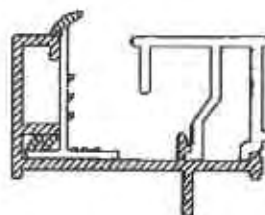
- 1) VERIFY THAT DIMENSIONS ARE WITHIN SPECIFIED TOLERANCES.
- 2) VERIFY THAT PROFILE IS MAINTAINED PER PRINT.
- 3) VERIFY THAT EXPOSED AREAS HAVE GOOD FINISH.
- 4) VERIFY THAT COLOR MATCHES STANDARD.
- 5) VERIFY LENGTH IS 12' +1' -0"
- 6) VERIFY MATERIAL IS NOT BRITTLE. PART MUST NOT CRACK OR SPLIT.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

Test specimen complies with these details.
Any deviations noted.

Project AT1

Test Date

Checked By



ATLANTIS PLASTICS

PROFILE EXTRUSION OPERATIONS

Production Control Print

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

Signed _____

Date _____

LTD	REVISIONS	DATE	BY	CUSTOMER	DIE#
A	PRELIMINARY PROD PRINT DRAWN PER QP REVIEW	1/14/02	MEB	TEMO	5872
					DATE: 1/14/02
				DESCRIPTION	OWN BY: MEB
				O.D. GLAZING	SCALE: 4X
				MATERIAL: DUAL DUROMETER: RPVC & 80 DURO	
				COLOR: PER ORDER	

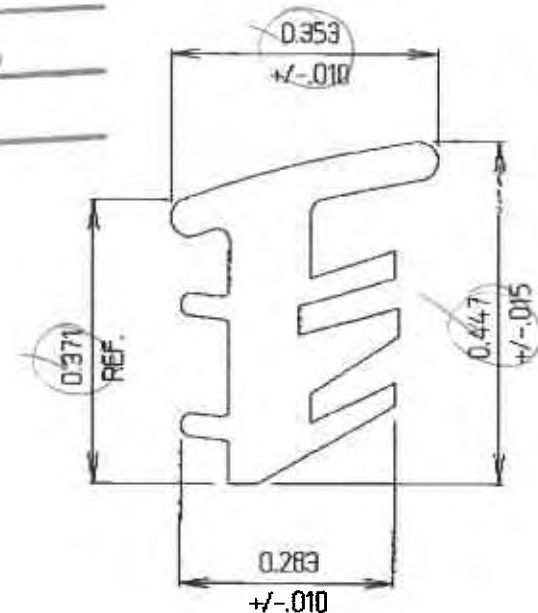
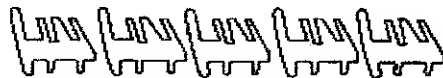


ACTUAL SIZE

Test specimen complies with these details.
Any deviations noted.

Project ATI 65411Test Date 6/8/06 - 6/14/06Checked By wm**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 7' COIL.



ATLANTIS PLASTICS

PROFILE EXTRUSION OPERATIONS

Production Control Print

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

Signed _____ Date _____

LTR	REVISIONS	DATE	BY	CUSTOMER	DIE#
A	PRELIMINARY PROD PRINT DRAWN PER QP REVIEW	1/14/02	MEB	TEMO	5873
					DATE: 1/14/02
				DESCRIPTION	DWN BY: MEB
				FILLER	SCALE: 4X
				MATERIAL: FLEX PVC 80A DUROMETER	
				COLOR: PER ORDER	

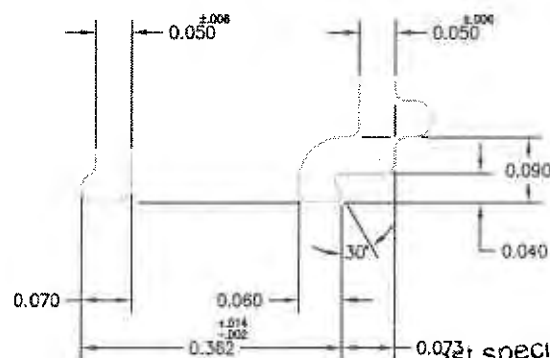
Q704 INITIAL RELEASE (MPD 01/21/02)

DWG. RELEASE NO.

This is not an Astro graphic. It is a reproduction of the master drawing and is intended to be a duplicate. It is not a drawing. The drawing and the master drawing are the property of the company. The company is not responsible for the accuracy of the reproduction. The company is not responsible for the accuracy of the reproduction. The company is not responsible for the accuracy of the reproduction.

11127

ASTRO DNE NO.



Best specimen complies with these details.
Any deviations noted.

Project ATI 65411

Test Date 6/8/06 - 6/14/06

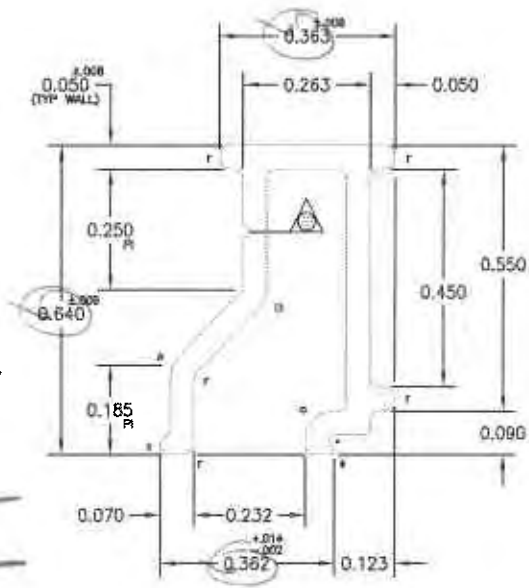
Checked By wm



ACTUAL SIZE
PAINTED FINISH

- (*) INDICATES 0.008 R (1)
- (*) INDICATES 0.010 R (1)
- (*) INDICATES 0.020 R (1)
- (*) INDICATES 0.025 R (5)
- (*) INDICATES 0.060 R (1)
- (*) INDICATES 0.065 R (1)
- (*) INDICATES 0.075 R (1)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

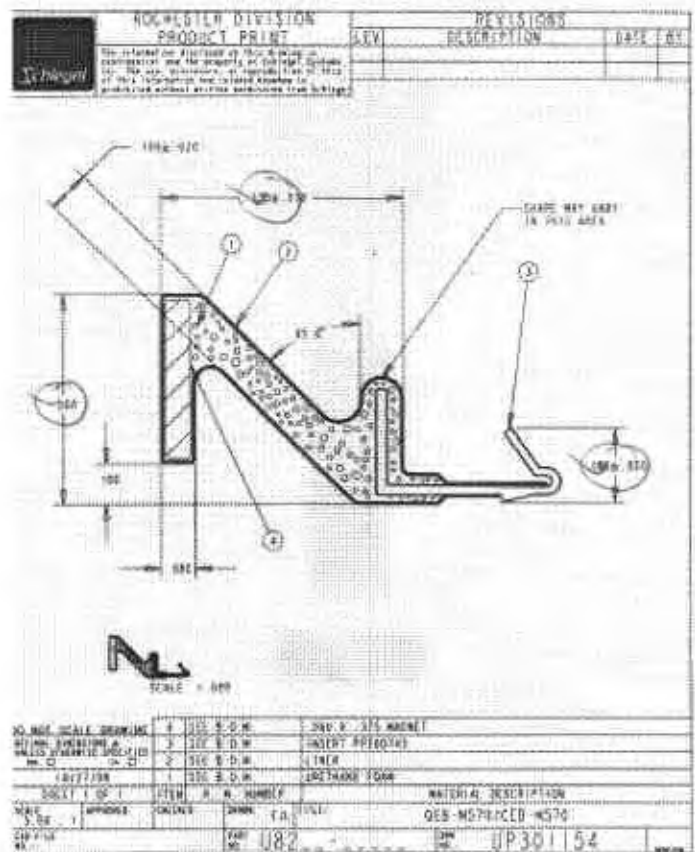


SP. AREA	0.065	SP. WT.	0.103	CLASS	SOLID
Q. SPEC.	3.452	Q. TOLER.	3.452		
Q. DIA.	0.78	Q. FACTOR	34	TYP. WALL	0.050
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.					
◇ INDICATES CRITICAL DIMENSIONS					
△ ASTRO ID MARK: 0.010 R X 0.010 DP					
ASTRO SHAPES INC.			85 MAIN ST. • STRUTHERS, OH		
CUSTO 07800			CUST TEMO INC., MI		
DESCR I.G.S. TRIM			SCALE 4=1 (EXCEPT WTS)		
CUST PART NO.			AS REF. NO AS-21449		
			DR MPD DATE 10/26/01		

Any deviations noted.

Test Date 6/8/06 - 6/14/06

Checked By Wm

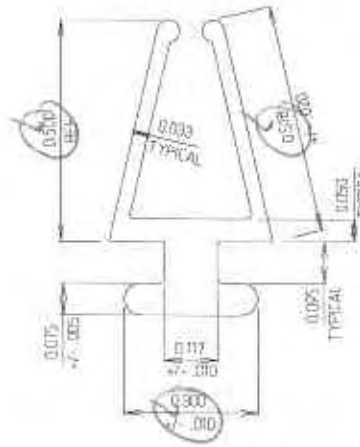
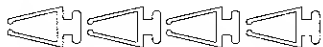


ACTUAL SZIE

ISO 9000

INSPECTION PROCEDURE

- 1) VERIFY THAT DIMENSIONS ARE WITHIN SPECIFIED TOLERANCES.
- 2) VERIFY THAT PROFILE IS MAINTAINED PER PRINT. MATCH 10X PROFILE DRAWING OF PART.
- 3) VERIFY THAT THE OUTSIDE OF THE .518" LEGS HAVE SMOOTH FINISH.
- 4) VERIFY THAT COLOR MATCHES STANDARD.
- 5) VERIFY FIT WITH MATING PART, AS ILLUSTRATED.
- 6) VERIFY PART IS WOUND NEAT AND LOOSE AS SHOWN.



ATLANTIS PLASTICS

PROFILE EXTRUSION OPERATIONS

Production Control Print

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

Signed _____ Date _____

LYN	REVISIONS	DATE	BY	CUSTOMER	VIEW
A	PRELIMINARY PROD PRINT DRAWN PER QPREVIEW	3/11/03	SH	TEMP	DATE: 3/11/03
B	REVISED PER CUSTOMER APPROVAL .117 WAS .140 - .095 WAS .085	4/14/03	MEB		DRAWN BY: ROCH
				DESCRIPTION	SCALE: 4X
				DOOR SWEEP	
				MATERIAL: 70 DUND PPVL	
				COLOR: PER ORDER	

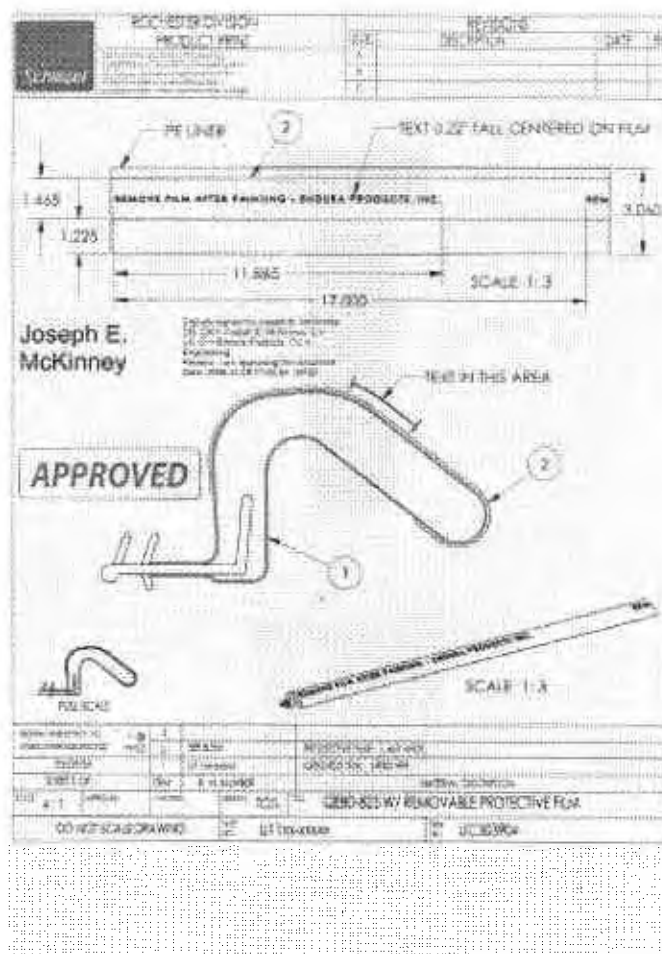
Test specimen complies with these details.

Any deviations noted.

Project ATI C05411

Test Date 6/8/00 - 6/14/00

Checked By km



Test specimen complies with these details.

Any deviations noted.

Project ATI 65411

Test Date 4/8/06 - 4/14/06

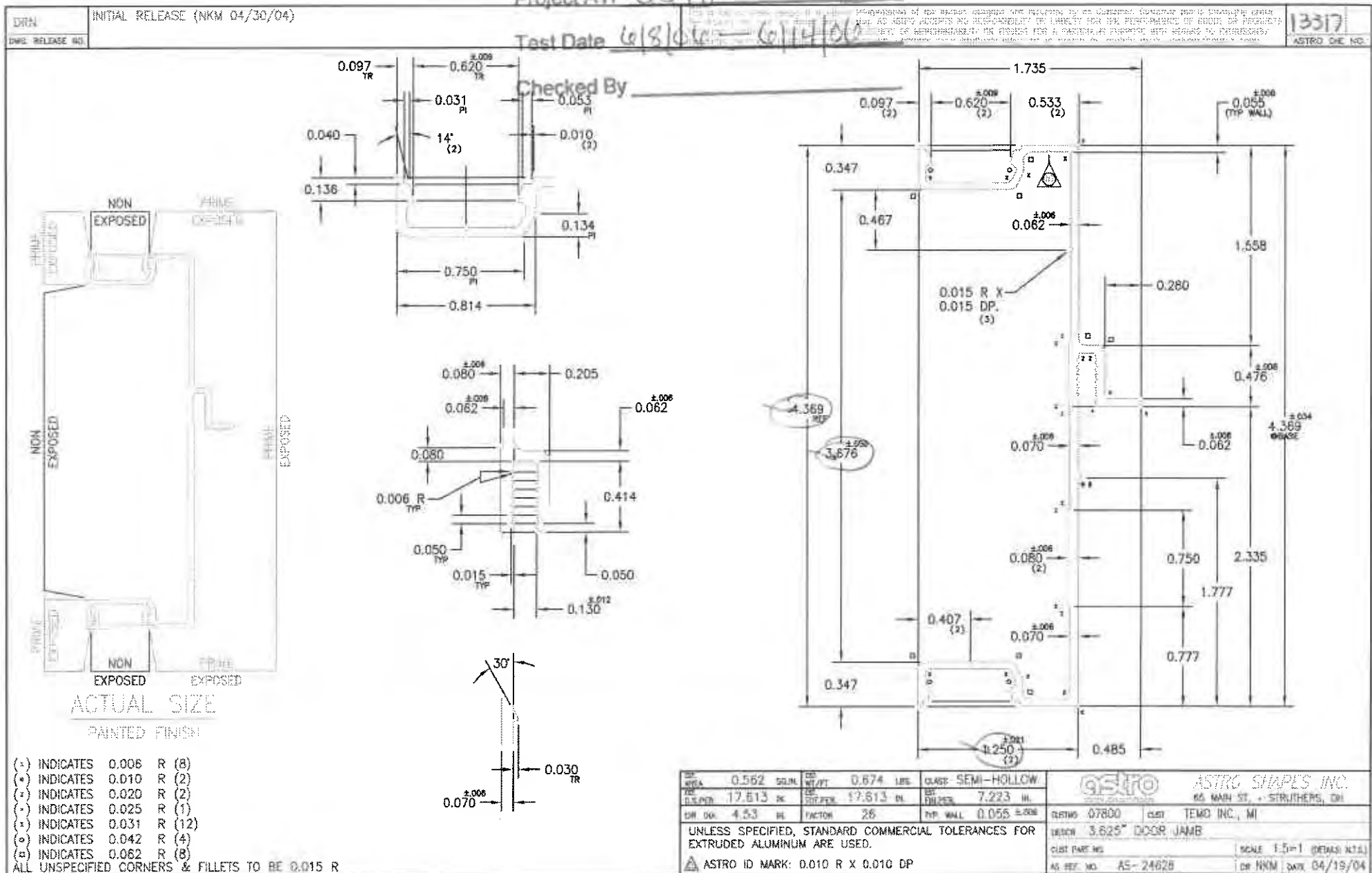
Checked By WIM

Any deviations noted.

Project AT! 65411

Test Date 6/8/06 - 6/14/06

Checked By _____



Test specimen complies with these details.

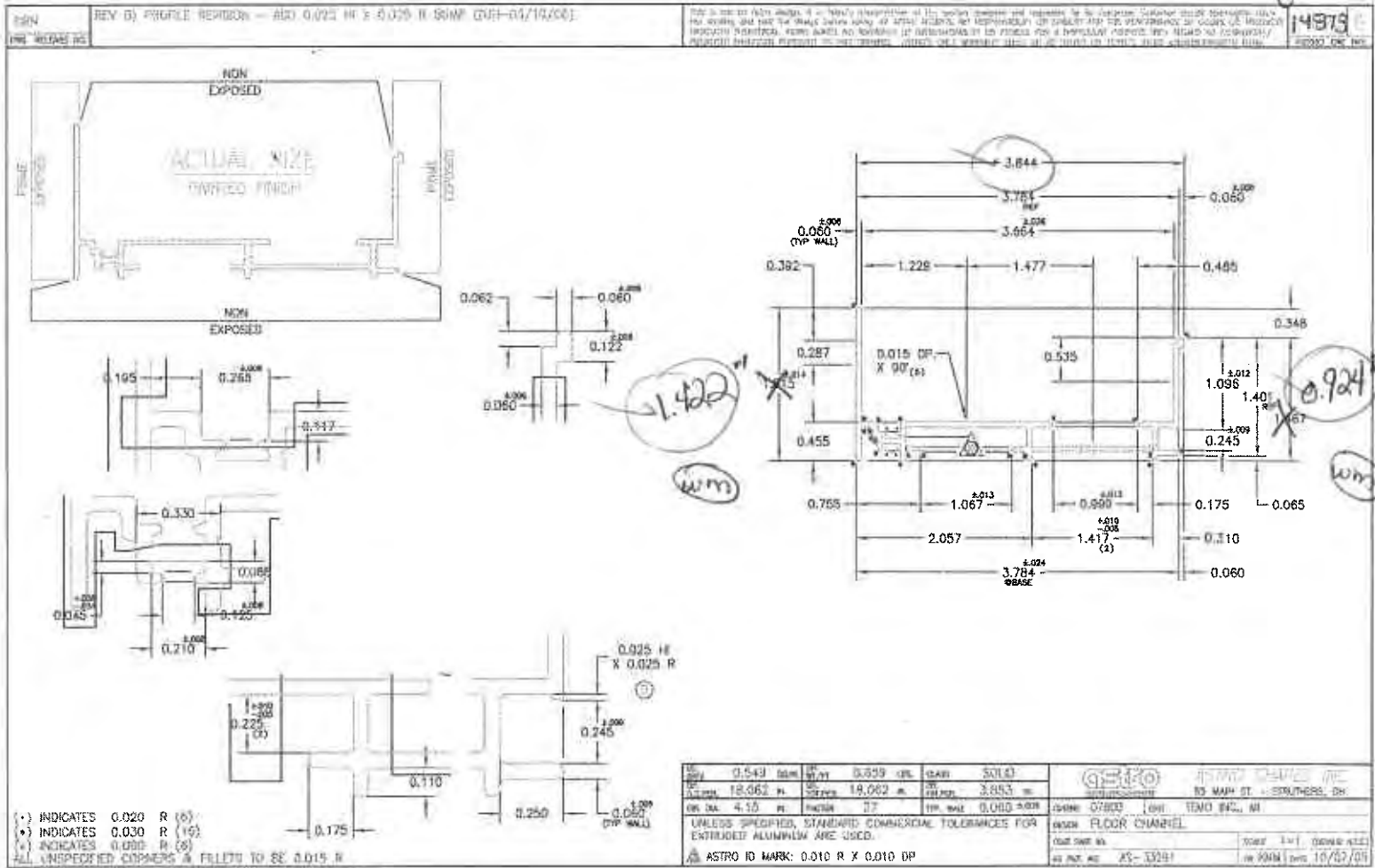
Any deviations noted.

Project ATI U5411

Test Date 6/8/06 — 6/14/06

Checked By WM

Modified



(modified by Temo for door threshold)

Any deviations noted.

Test Date 6/8/06 — 6/14/06

Checked By Wm

REV D) PROFILE REVISION -- ADD 0.025 H X 0.025 R BUMP

NON EXPOSED

NON EXPOSED

0.195 0.265 0.117

0.330 0.085 0.125 0.210

0.062 0.060 0.060 0.122 0.060

0.025 H X 0.025 R

0.250 0.245 0.060 (TOP WALL)

0.175 0.110

14873

0.060 (TOP WALL)

0.382 0.287 0.455 0.755 2.057 3.764 (TOTAL WIDTH)

3.844 REF 3.784 REF 3.664 REF

1.228 1.477 0.485 0.348 1.098 1.401 1.467 0.245 0.175 0.310 0.085 0.060

0.015 DP X 90° (S)

0.535 0.909 1.417 (S)

0.025 H X 0.025 R

(•) INDICATES 0.020 R (6)

(•) INDICATES 0.030 R (16)

(•) INDICATES 0.050 R (8)

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

ITEM	QTY	DESCRIPTION	UNIT	QTY	DESCRIPTION	UNIT
1.0	1.0	0.544 IN. WIDE	IN.	0.544	0.544 IN. WIDE	IN.
2.0	1.0	1.052 IN. HIGH	IN.	1.052	1.052 IN. HIGH	IN.
3.0	1.0	4.15 IN. LONG	IN.	4.15	4.15 IN. LONG	IN.

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

ASTRO ID MARK: 0.010 R X 0.010 DP

ASTRO

65 MAIN ST. - SOUTHBOROUGH, MA

QTY: 17800

DATE: 10/07/01

DESIGN: FLOOR CHANNEL

REV: 1

BY: JMS

DATE: 10/07/01

Checked By LOM

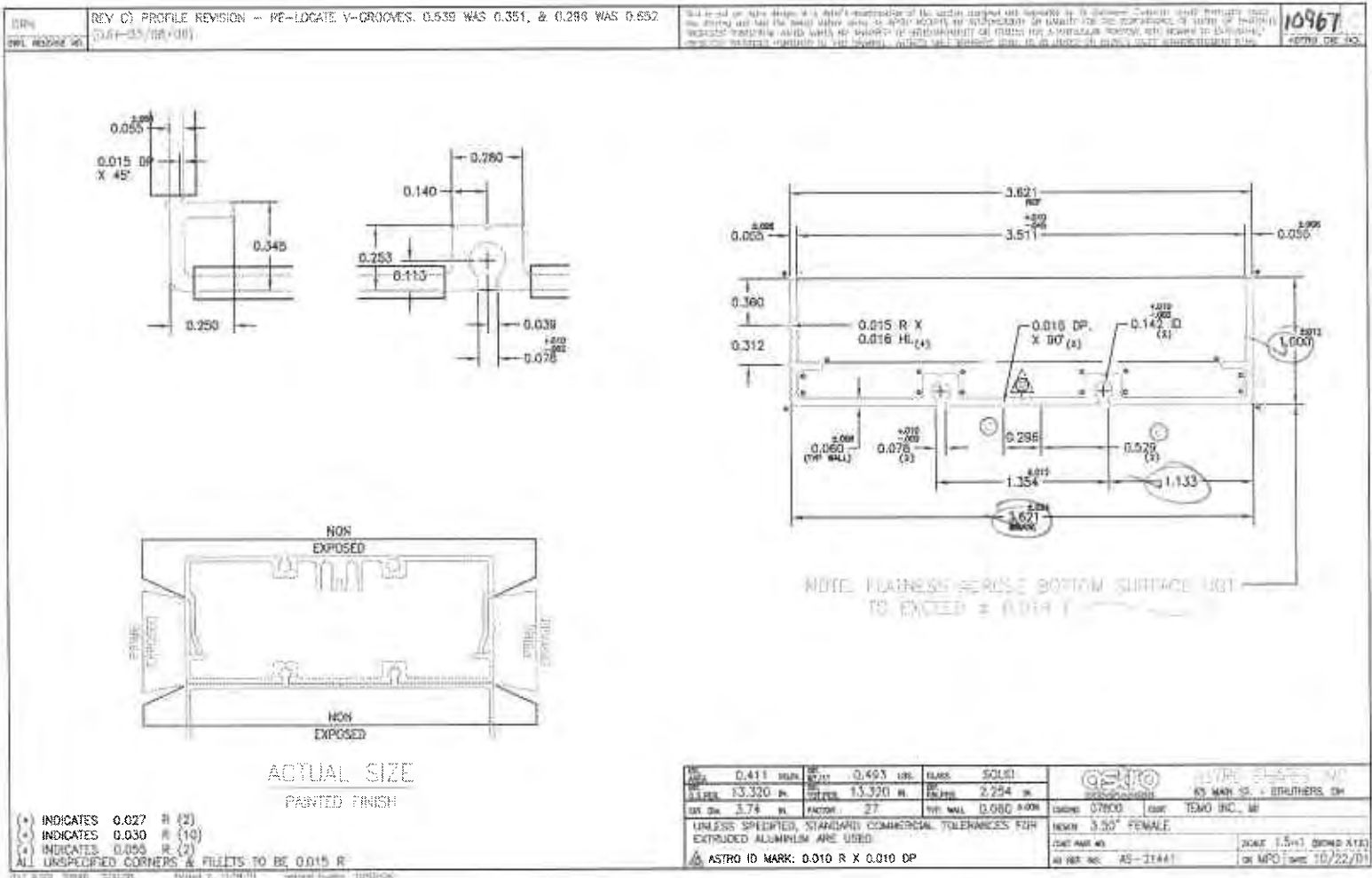
Test specimen complies with these details.

Any deviations noted.

Project ATI 65411

Test Date 6/8/06 - 6/14/06

Checked By wm



Checked By WM

[illegible]

Test specimen complies with these details.

Any deviations noted..

Project AT# 65411

Test Date 6/8/00 - 6/14/00

Checked By WM

EPS FOAM

0.056"
Tem Kor

0.056"
Tem Kor

FILL PANEL DETAIL

DRN

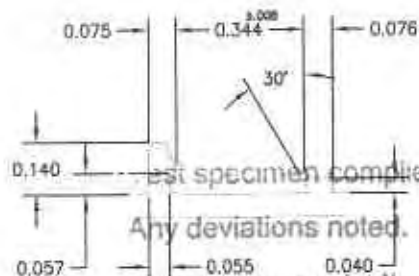
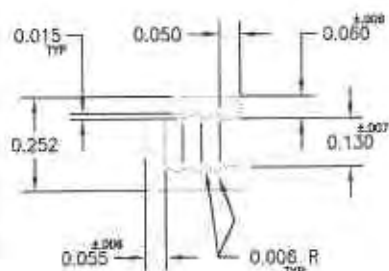
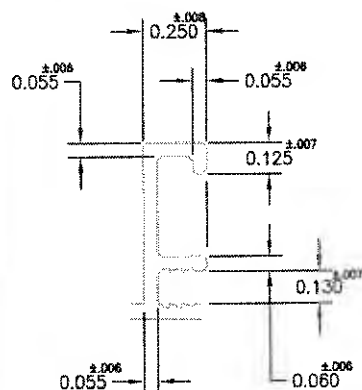
INITIAL RELEASE (NKM 09/16/02)

CNC RELEASE 80

This is not an ASSTO design. It is ASSTO's responsibility if the design submitted has not been approved by ASSTO. Customer should carefully check the drawing and then the design before using it. ASSTO is not responsible for the design or the results of the design. The design is the property of the customer and should not be used for any other purpose without the written permission of the customer. ASSTO is not responsible for the design or the results of the design. The design is the property of the customer and should not be used for any other purpose without the written permission of the customer.

11903

ASTRO D.E. NO.



Test specimen complies with these details.

Any deviations noted.

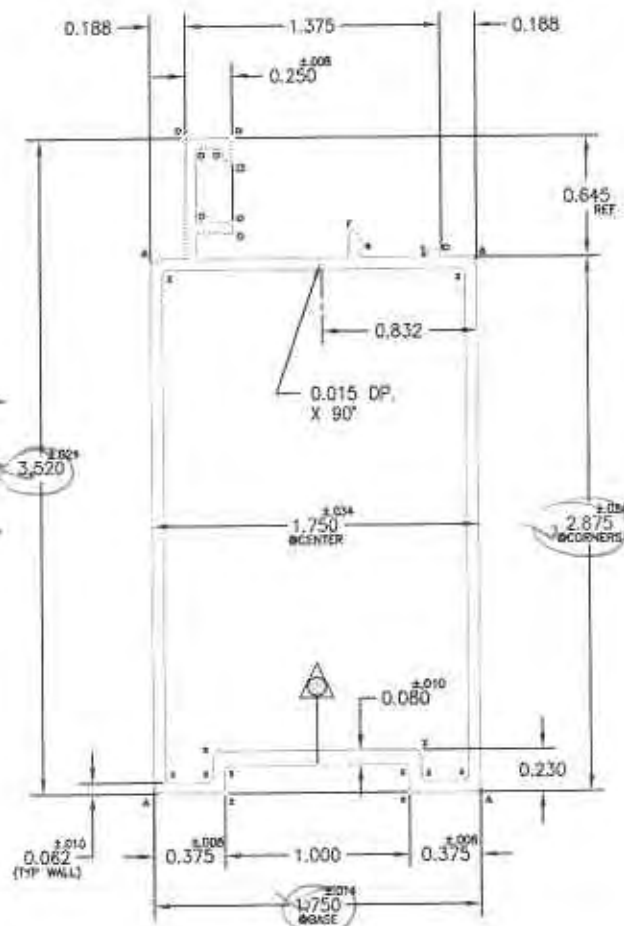
Project ATI 65411

Test Date 6/8/06 - 6/14/06

Checked By wmm



ACTUAL SIZE
PAINTED FINISH



- (.) INDICATES 0.008 R (2)
 (*) INDICATES 0.010 R (1)
 (o) INDICATES 0.022 R (8)
 (r) INDICATES 0.025 R (1)
 (d) INDICATES 0.027 R (1)
 (s) INDICATES 0.031 R (12)
 (A) INDICATES 0.062 R (4)
 ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R

NET AREA	0.664 SQ IN	NET WT	0.797 LBS	CLASS	HOLLOW
NET VOL	11.932 IN	NET WT	20.916 IN		
COR DIA	3.85 IN	FACTOR	2.6		
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.					
◇ INDICATES CRITICAL DIMENSIONS					
△ ASTRO ID MARK: 0.010 R X 0.010 DP					

ASTRO

ASTRO SHAPES INC.

85 MAIN ST. • STRUTHERS, OH

DATE: 07800

CUST: TEMO INC., MI

DESCR: VERT. DOOR TUBE

CUST PART NO:

AS REF. NO. AS-22550

SCALE 1.5=1 (DETAILS N.T.S.)

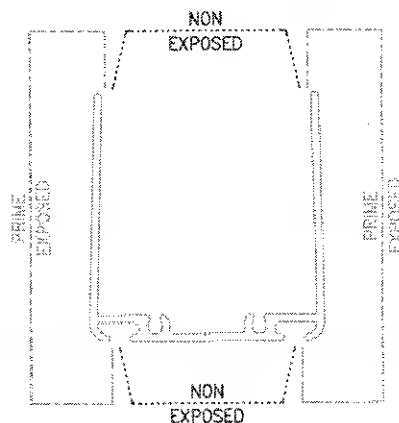
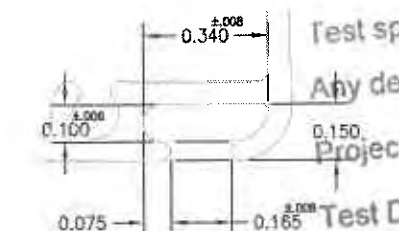
OR MPD DATE 08/05/02

2025 RELEASE UNDER E.O. 14176

This is not to imply change in the basic philosophy of the Agency, declared and reaffirmed by its Chairman, however many times it may be stated. The fact is that the Agency has been able to carry out its mission of providing the Government with the information it needs to make the most effective use of its resources and to protect the Nation's security.

ASTRO DE 40

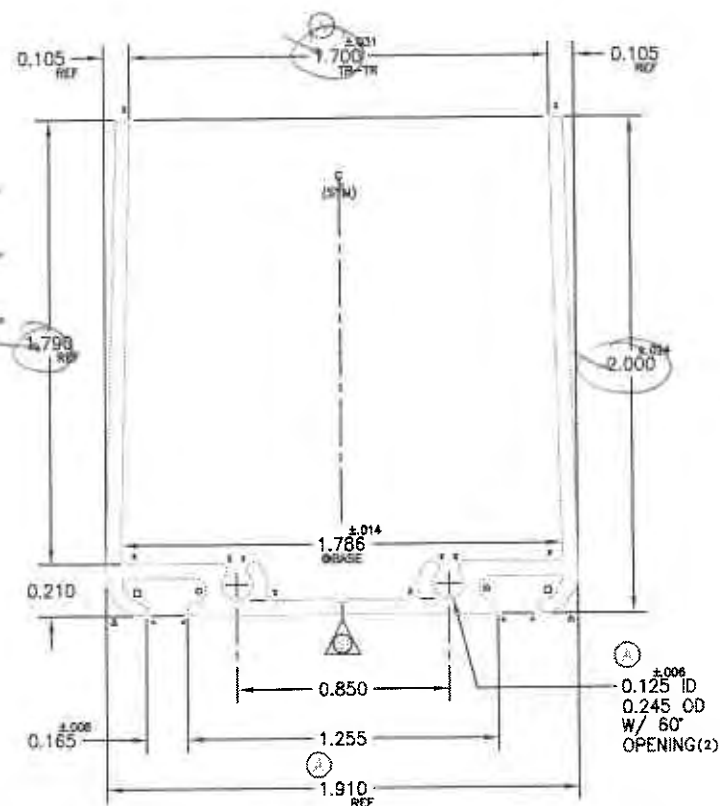
Checked By Wm



ACTUAL SIZE
PRINTED HERE

- | | | | |
|-----|-----------|-------|--------|
| (•) | INDICATES | 0.025 | R (4) |
| (*) | INDICATES | 0.030 | R (10) |
| (◦) | INDICATES | 0.050 | R (2) |
| (◻) | INDICATES | 0.100 | R (2) |
| (△) | INDICATES | 0.150 | R (2) |

ALL UNSPECIFIED CORNERS & FILLETS TO BE 0.015 R



FTG. AREA 0.404 SQ. IN. DR. WT/FT 0.485 LBS. CLASS SOLID DI. 0.5268 IN. ID 13.042 IN. TYP. WALL 0.060 CR. DIA. 2.66 IN. FACED IN 27		 ASTRO SHAPES INC. 65 MAIN ST. • STRUTHERS, OH	
UNLESS SPECIFIED, STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED ALUMINUM ARE USED.		ORDER# 07800 QESTO TENO INC, MI QESTO DOOR SWEEP QEST PART NO. SCALE 3=1 (DIMED R.T.S.) AC. REV. NO. AS-23182 OR MFD. DATE 02/19/03	
ASTRO ID MARK: 0.010 R X 0.010 DP			

Test specimen complies with these details.

Any deviations noted.

Project AT1 65411

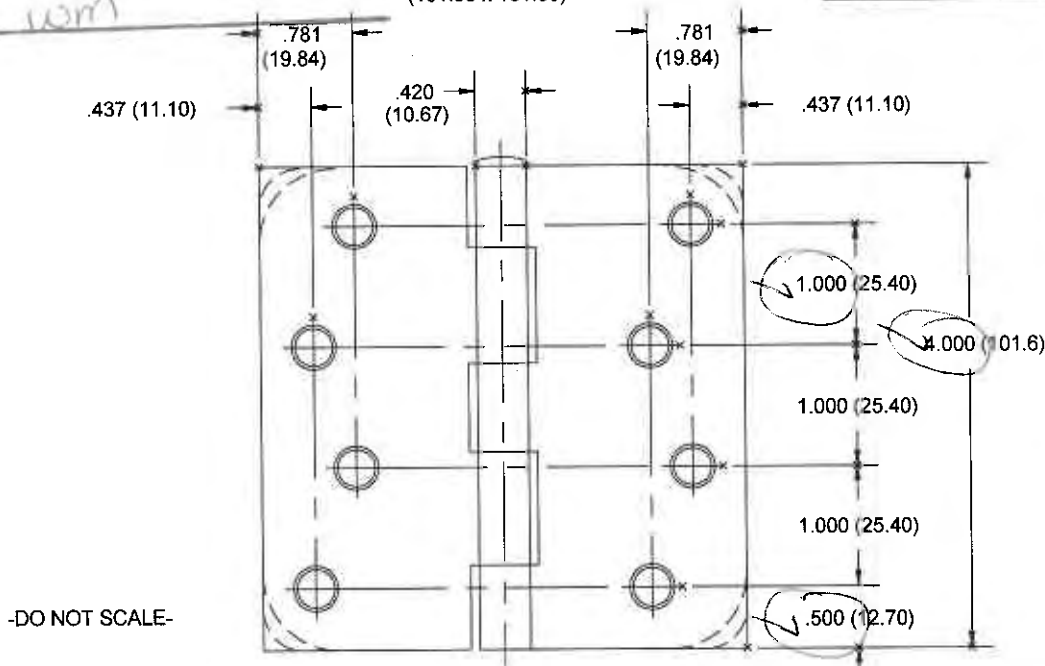
Test Date 6/8/06 - 6/14/06

Checked By Wm

FULL MORTISE
RESIDENTIAL HINGE
SIZE: 4 x 4
(101.60 x 101.60)

Template No. T 399

No.	REVISION	BY	DATE
3	ECO CT02051	RM	1-30-03



ALL NON-BRACKETED DIMENSIONS
ARE IN INCHES.
ALL BRACKETED DIMENSIONS
ARE IN MILLIMETERS.

CATALOG NUMBER		TYPICAL CORNER RADII	METAL GAUGE
STEEL HINGES	NON- FERROUS HINGES		
	1541	SQUARE	.085 (2.16)
1741		SQUARE	.085 (2.16)
1743		SQUARE	.085 (2.16)
1746		SQUARE	.085 (2.16)
	RC1541	1/4 (6.35)	.085 (2.16)
RC1741		1/4 (6.35)	.085 (2.16)
7741		1/4 (6.35)	.085 (2.16)
RC1743		1/4 (6.35)	.085 (2.16)
RC1746		1/4 (6.35)	.085 (2.16)

Hager testing conforms to ANSI-A156.1.

HAGER RESERVES THE RIGHT TO MAKE
DESIGN CHANGES WITHOUT NOTICE. CALL
HAGER ENGINEERING AT 1-800-325-9995
FOR LATEST REVISION DATE OF TEMPLATE.

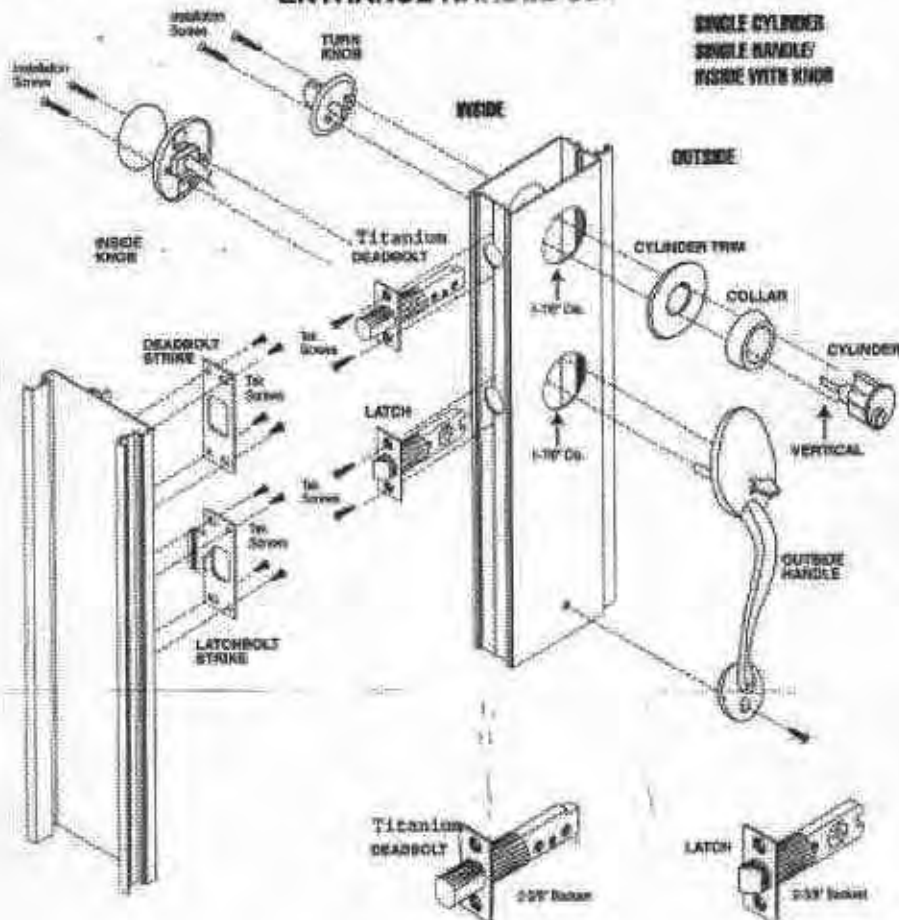


HAGER COMPANIES
139 VICTOR STREET
P.O. BOX 12300
ST. LOUIS, MISSOURI 63157-0300

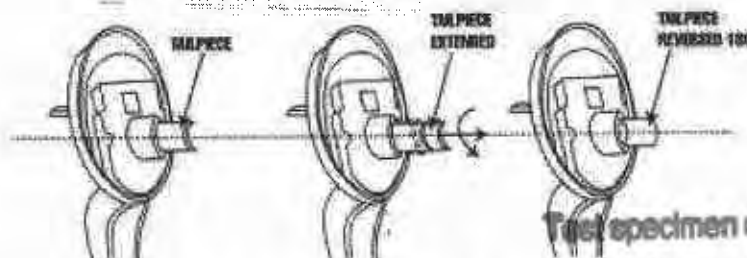
CATALOG NUMBER		TYPICAL CORNER RADII	METAL GAUGE
STEEL HINGES	NON- FERROUS HINGES		
	RC1542	5/8 (15.88)	.085 (2.16)
RC1641		5/8 (15.88)	.085 (2.16)
8641		5/8 (15.88)	.085 (2.16)
RC1841		5/8 (15.88)	.085 (2.16)
RC1842		5/8 (15.88)	.085 (2.16)
8741		5/8 (15.88)	.085 (2.16)
RC1843		5/8 (15.88)	.085 (2.16)
RC1846		5/8 (15.88)	.085 (2.16)
8744		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
RC1847		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
1848		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
8746		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
1816		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
BB1816		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
1817		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
BB1817		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
1818		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
1819		1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
	1543	1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)
	BB1543	1 LEAF SQUARE/ 1 LEAF 5/8 (15.88)	.085 (2.16)

Template No. T 399

EASY INSTALLATION INSTRUCTIONS FOR INSTALLING YOUR ENTRANCE HANDLE SET



THE LOCK HAS BEEN ASSEMBLED TO FIT DOORS THAT WHEN FACING THE DOOR FROM THE OUTSIDE THE HINGES ARE ON THE LEFT. IF YOUR DOOR HAS THE HINGES ON THE RIGHT SIDE OF THE DOOR WHEN FACING THE DOOR FROM THE OUTSIDE, SEE ILLUSTRATIONS BELOW FOR INSTRUCTIONS TO TURN THE HALF-ROUND TAILPIECE TO THE PROPER POSITION.



Test specimen complies with these details.

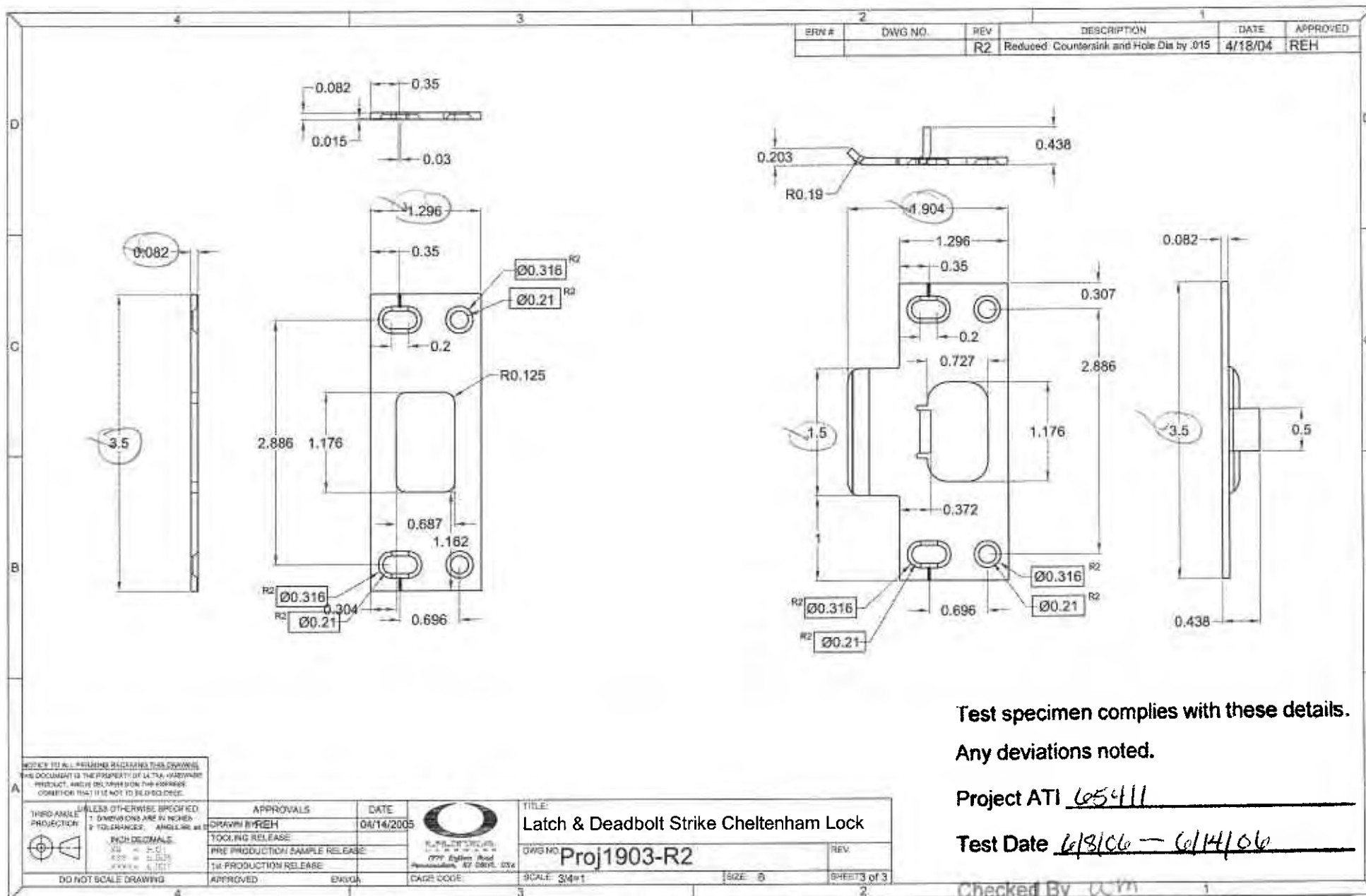
Any deviations noted.

Project ATI 65411

Test Date 6/8/06 - 6/14/06

Checked By WJM

ULTRA



Test specimen complies with these details.

Any deviations noted.

Project ATI 65411

Test Date 6/8/06 - 6/14/06

Checked By um

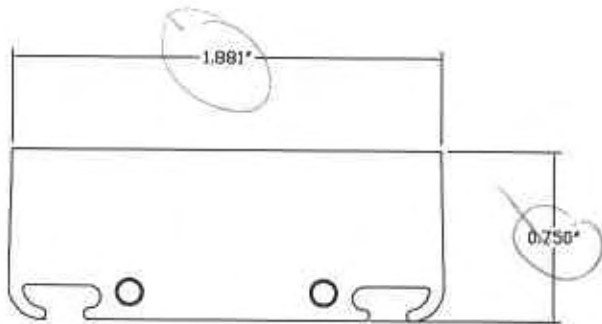
Test specimen complies with these details.

Any deviations noted.

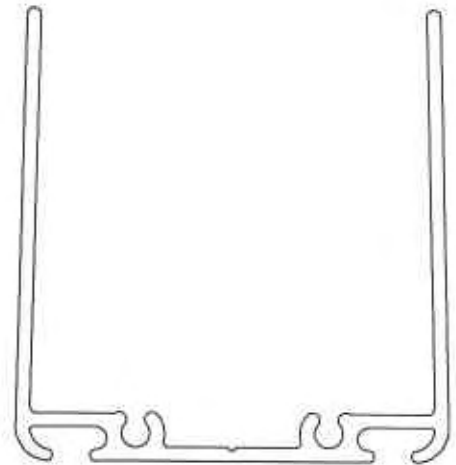
Project ATI 65411

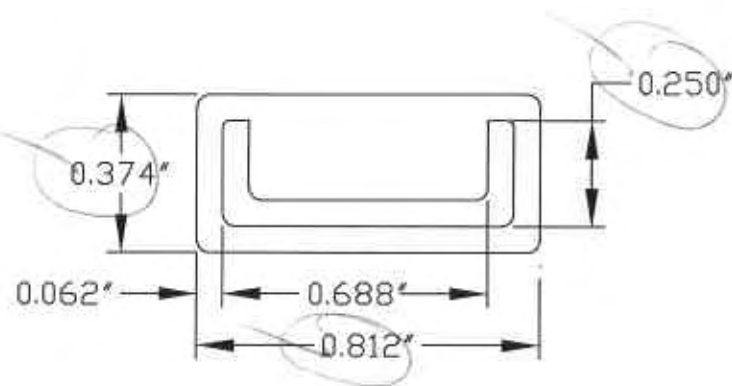
Test Date 6/8/06 - 6/14/06

Checked By WM



DOOR SWEEP





END CAP

Test specimen complies with these details.
Any deviations noted.

Project ATI 625411

Test Date 6/5/06 - 6/14/06

Checked By WM