



AAMA 507-07 THERMAL PERFORMANCE REPORT

Rendered to:

TUBELITE, INC.

SERIES/MODEL: Monumental Narrow Stile Pair Door

TYPE: Swinging Door - Double

Report No: B3772.07-116-45
Report Date: 10/27/11

AAMA 507-07 THERMAL PERFORMANCE REPORT

Rendered to:

TUBELITE, INC.
4878 Mackinaw Trail
Reed City, Michigan 49677

Report No: B3772.07-116-45
Report Date: 10/27/11
Simulation Date: 10/27/11

Project Summary:

Architectural Testing, Inc. was contracted by Tubelite, Inc. to provide U-Factor and Solar Heat Gain Coefficient thermal performance ratings on the Monumental Narrow Stile Pair Door Swinging Door - Double. The thermal performance ratings were determined in accordance with AAMA 507-07, Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Building.

Reference Documents:

AAMA 507-07, Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Buildings

NFRC 100-2010, Procedure for Determining Fenestration Product U-Factors

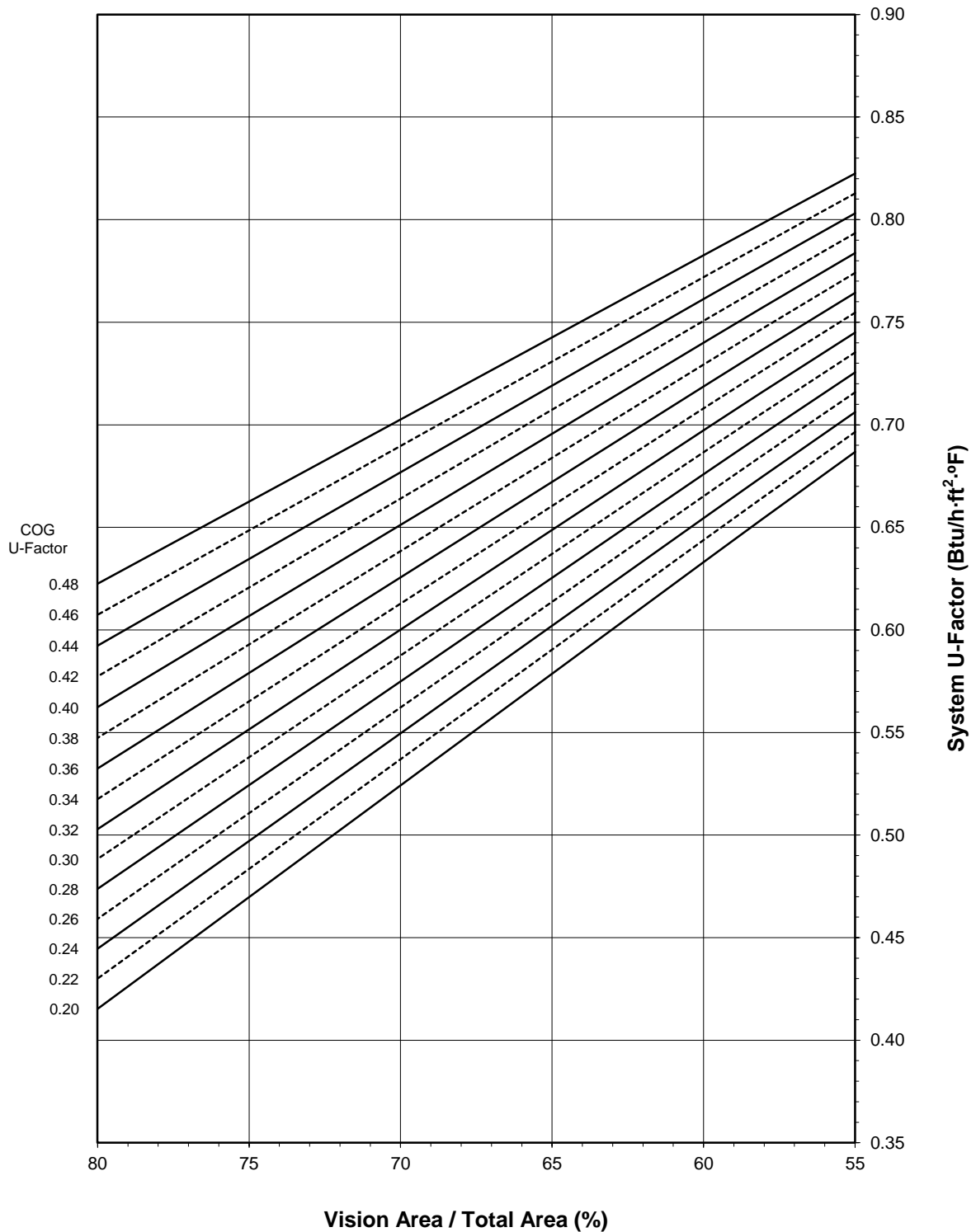
NFRC 200-2010, Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

Simulation Specimen Description:

Series/Model:	Monumental Narrow Stile Pair Door
Product Groupings:	2" Narrow w/o sweep grouped with 2" Narrow w/ sweep.
Type:	Swinging Door - Double
Frame Material:	Aluminum Framing System
Material Finish:	Painted Aluminum
Specimen Size:	1920mm wide by 2090mm high (75-1/2" by 82-3/8")
Configuration:	Two vision lites separated by one intermediate vertical
Drawing Reference:	Tubelite Standard Doors - Monumental Frame Details

Tubelite, Inc.
Monumental Narrow Stile Pair Door - Swinging Door - Double

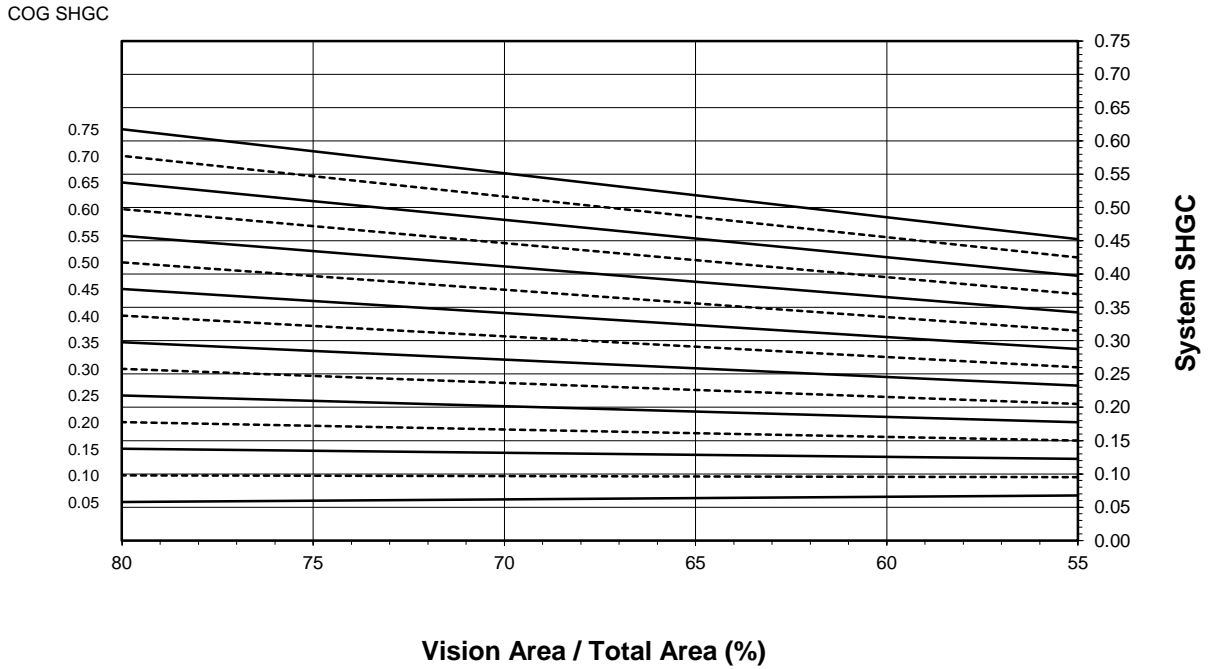
System U-Factor vs. Percentage of Vision Area



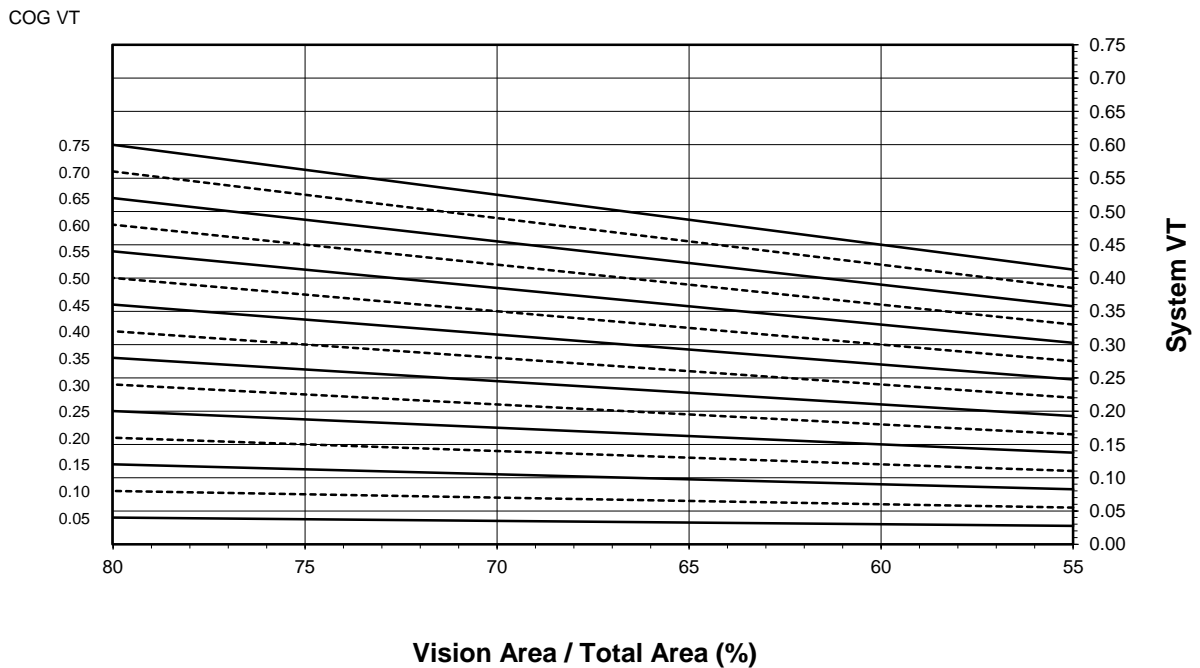
Note: 1 inch Overall - Dual Glazed Glass (0.48-0.20 COG) with Aluminum Spacer

Tubelite, Inc.
Monumental Narrow Stile Pair Door - Swinging Door - Double

System SHGC vs. Percentage of Vision Area



System VT vs. Percentage of Vision Area



Tubelite, Inc.
Monumental Narrow Stile Pair Door - Swinging Door - Double

Size Specific U-Factor Matrix*

Glazing Option	Center of Glass U-Factor	Overall U-Factor
1	0.48	0.78
2	0.46	0.77
3	0.44	0.76
4	0.42	0.75
5	0.40	0.74
6	0.38	0.73
7	0.36	0.72
8	0.34	0.71
9	0.32	0.70
10	0.30	0.69
11	0.28	0.68
12	0.26	0.67
13	0.24	0.66
14	0.22	0.65
15	0.20	0.64

Note: 1 inch Overall - Dual Glazed Glass (0.48-0.20 COG) with Aluminum Spacer

Size Specific SHGC Matrix*

Center of Glass SHGC	Overall SHGC
0.75	0.48
0.70	0.45
0.65	0.42
0.60	0.39
0.55	0.36
0.50	0.33
0.45	0.30
0.40	0.27
0.35	0.25
0.30	0.22
0.25	0.19
0.20	0.16
0.15	0.13
0.10	0.10
0.05	0.07

Size Specific VT Matrix*

Center of Glass VT	Overall VT
0.75	0.45
0.70	0.42
0.65	0.39
0.60	0.36
0.55	0.33
0.50	0.30
0.45	0.27
0.40	0.24
0.35	0.21
0.30	0.18
0.25	0.15
0.20	0.12
0.15	0.09
0.10	0.06
0.05	0.03

*Size Specific U-Factor, SHGC, and VT Matrices are based on the standard Swinging Door - Double specimen size of 1920mm wide by 2090mm high (75-1/2" by 82-3/8"). This represents 59.8% Vision Area / Total Area.

Vision Area Data

Option No.	COG U-Factor	COG Temperature	Cross Section	Frame Height	Frame U-Factor	Edge U-Factor	Total Product U-Factor		
							55% Vision Area	NFRC 100-2010	80% Vision Area
							66.43" by 72.32"	75.59" by 82.28"	161.69" by 176.01"
1	0.48	43.7	Ext. Head	6.7163	1.2410	0.5729	0.8225	0.7844	0.6226
			Int. Head	6.7163	1.2410	0.5729			
			Ext. Jamb	6.1545	1.2700	0.5735			
			Int. Jamb	6.1545	1.2700	0.5735			
			Mtg. Rail	8.4288	1.1573	0.5823			
			Ext. Sill	7.7790	1.1636	0.5820			
			Int. Sill	7.7790	1.1636	0.5820			
2	0.46	44.8	Ext. Head	6.7163	1.2409	0.5593	0.8128	0.7738	0.6074
			Int. Head	6.7163	1.2409	0.5593			
			Ext. Jamb	6.1545	1.2700	0.5600			
			Int. Jamb	6.1545	1.2700	0.5600			
			Mtg. Rail	8.4288	1.1571	0.5687			
			Ext. Sill	7.7790	1.1635	0.5684			
			Int. Sill	7.7790	1.1635	0.5684			
3	0.44	45.8	Ext. Head	6.7163	1.2409	0.5459	0.8031	0.7631	0.5924
			Int. Head	6.7163	1.2409	0.5459			
			Ext. Jamb	6.1545	1.2700	0.5466			
			Int. Jamb	6.1545	1.2700	0.5466			
			Mtg. Rail	8.4288	1.1569	0.5551			
			Ext. Sill	7.7790	1.1634	0.5548			
			Int. Sill	7.7790	1.1634	0.5548			
4	0.42	46.8	Ext. Head	6.7163	1.2409	0.5325	0.7934	0.7525	0.5774
			Int. Head	6.7163	1.2409	0.5325			
			Ext. Jamb	6.1545	1.2701	0.5333			
			Int. Jamb	6.1545	1.2701	0.5333			
			Mtg. Rail	8.4288	1.1567	0.5416			
			Ext. Sill	7.7790	1.1633	0.5413			
			Int. Sill	7.7790	1.1633	0.5413			
5	0.40	47.9	Ext. Head	6.7163	1.2409	0.5192	0.7837	0.7419	0.5624
			Int. Head	6.7163	1.2409	0.5192			
			Ext. Jamb	6.1545	1.2701	0.5200			
			Int. Jamb	6.1545	1.2701	0.5200			
			Mtg. Rail	8.4288	1.1564	0.5282			
			Ext. Sill	7.7790	1.1632	0.5279			
			Int. Sill	7.7790	1.1632	0.5279			
6	0.38	48.9	Ext. Head	6.7163	1.2409	0.5061	0.7741	0.7313	0.5474
			Int. Head	6.7163	1.2409	0.5061			
			Ext. Jamb	6.1545	1.2701	0.5069			
			Int. Jamb	6.1545	1.2701	0.5069			
			Mtg. Rail	8.4288	1.1562	0.5150			
			Ext. Sill	7.7790	1.1630	0.5146			
			Int. Sill	7.7790	1.1630	0.5146			

Vision Area Data

Option No.	COG U-Factor	COG Temperature	Cross Section	Frame Height	Frame U-Factor	Edge U-Factor	Total Product U-Factor		
							55% Vision Area	NFRC 100-2010	80% Vision Area
							66.43" by 72.32"	75.59" by 82.28"	161.69" by 176.01"
7	0.36	50.0	Ext. Head	6.7163	1.2409	0.4929	0.7644	0.7207	0.5325
			Int. Head	6.7163	1.2409	0.4929			
			Ext. Jamb	6.1545	1.2701	0.4937			
			Int. Jamb	6.1545	1.2701	0.4937			
			Mtg. Rail	8.4288	1.1560	0.5017			
			Ext. Sill	7.7790	1.1629	0.5013			
			Int. Sill	7.7790	1.1629	0.5013			
8	0.34	51.0	Ext. Head	6.7163	1.2409	0.4798	0.7547	0.7101	0.5176
			Int. Head	6.7163	1.2409	0.4798			
			Ext. Jamb	6.1545	1.2702	0.4807			
			Int. Jamb	6.1545	1.2702	0.4807			
			Mtg. Rail	8.4288	1.1558	0.4886			
			Ext. Sill	7.7790	1.1628	0.4883			
			Int. Sill	7.7790	1.1628	0.4883			
9	0.32	52.0	Ext. Head	6.7163	1.2409	0.4667	0.7450	0.6994	0.5029
			Int. Head	6.7163	1.2409	0.4667			
			Ext. Jamb	6.1545	1.2702	0.4677			
			Int. Jamb	6.1545	1.2702	0.4677			
			Mtg. Rail	8.4288	1.1556	0.4754			
			Ext. Sill	7.7790	1.1627	0.4750			
			Int. Sill	7.7790	1.1627	0.4750			
10	0.30	53.1	Ext. Head	6.7163	1.2409	0.4538	0.7353	0.6888	0.4884
			Int. Head	6.7163	1.2409	0.4538			
			Ext. Jamb	6.1545	1.2702	0.4548			
			Int. Jamb	6.1545	1.2702	0.4548			
			Mtg. Rail	8.4288	1.1555	0.4624			
			Ext. Sill	7.7790	1.1626	0.4620			
			Int. Sill	7.7790	1.1626	0.4620			
11	0.28	54.2	Ext. Head	6.7163	1.2409	0.4408	0.7256	0.6781	0.4738
			Int. Head	6.7163	1.2409	0.4408			
			Ext. Jamb	6.1545	1.2703	0.4419			
			Int. Jamb	6.1545	1.2703	0.4419			
			Mtg. Rail	8.4288	1.1553	0.4493			
			Ext. Sill	7.7790	1.1625	0.4489			
			Int. Sill	7.7790	1.1625	0.4489			
12	0.26	55.2	Ext. Head	6.7163	1.2409	0.4279	0.7159	0.6674	0.4592
			Int. Head	6.7163	1.2409	0.4279			
			Ext. Jamb	6.1545	1.2703	0.4290			
			Int. Jamb	6.1545	1.2703	0.4290			
			Mtg. Rail	8.4288	1.1551	0.4364			
			Ext. Sill	7.7790	1.1624	0.4360			
			Int. Sill	7.7790	1.1624	0.4360			

Vision Area Data

Option No.	COG U-Factor	COG Temperature	Cross Section	Frame Height	Frame U-Factor	Edge U-Factor	Total Product U-Factor		
							55% Vision Area	NFRC 100-2010	80% Vision Area
							66.43" by 72.32"	75.59" by 82.28"	161.69" by 176.01"
13	0.24	56.3	Ext. Head	6.7163	1.2410	0.4151	0.7062	0.6568	0.4447
			Int. Head	6.7163	1.2410	0.4151			
			Ext. Jamb	6.1545	1.2704	0.4162			
			Int. Jamb	6.1545	1.2704	0.4162			
			Mtg. Rail	8.4288	1.1549	0.4235			
			Ext. Sill	7.7790	1.1623	0.4231			
			Int. Sill	7.7790	1.1623	0.4231			
14	0.22	57.3	Ext. Head	6.7163	1.2410	0.4024	0.6965	0.6461	0.4301
			Int. Head	6.7163	1.2410	0.4024			
			Ext. Jamb	6.1545	1.2704	0.4036			
			Int. Jamb	6.1545	1.2704	0.4036			
			Mtg. Rail	8.4288	1.1547	0.4107			
			Ext. Sill	7.7790	1.1622	0.4103			
			Int. Sill	7.7790	1.1622	0.4103			
15	0.20	58.4	Ext. Head	6.7163	1.2410	0.3896	0.6868	0.6354	0.4153
			Int. Head	6.7163	1.2410	0.3896			
			Ext. Jamb	6.1545	1.2705	0.3908			
			Int. Jamb	6.1545	1.2705	0.3908			
			Mtg. Rail	8.4288	1.1546	0.3978			
			Ext. Sill	7.7790	1.1622	0.3973			
			Int. Sill	7.7790	1.1622	0.3973			

Detailed drawings, datasheets, 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 four 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 by Architectural Testing will expire. Results obtained are simulated 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 named herein and relates only to the specimen(s) simulated. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.:

SIMULATED BY:

REVIEWED BY:

Eric Barilar
Simulation Technician

Kevin S. Louder
Project Engineer

EAB:EAB
B3772.07-116-45

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

Appendix A: Drawings and Bills of Material (23)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.01R0	10/27/2011	All	Original Report Issue

All drawings and Bills of Material used in simulating this product are enclosed in this Appendix.

ATI

Report # B3772-116-45Date 10/20/2011Simulator Eric Basilan**MONUMENTAL PAIRS BOM****FRAME:**

Description	Part number	Material
Monumental Jamb 2" x 4 1/2"	E14121	
Header 2" x 4 1/2"	E14124	
Header Frame Clip	P1152	AL
Screws for frame clip	S009	
screws for header to clip	S070	
Door stops	E2942	
Weather pile	P1098A	Vinyl

DOOR:

Description	Narrow P/N	Medium P/N	Wide P/N	Material
Beveled Door Stiles	E1047 - 3"	E1397- 4 1/2"	E2937 - 6"	
Inactive Stile	E1048 - 3"	E3027 - 4 1/2"	E2938 - 6"	
Astragal Stile	E1153 - 3"	E1154 - 4 1/2"	E1155 - 6"	
Adjustable Astragal	E1152	E1152	E1152	
Stainless Steel Clip for Adj. Astragal	P1539	P1539	P1539	Stainless Steel
Adj. Astragal Pile	P938	P938	P938	Vinyl
Door Top Rail	E1050 - 3 1/2"	E3029 - 4/ 1/2"	E1051 - 6"	
Top Rail Lug		P1649	P908	AL
Door Botom Rail	E1051- 6"	E1051- 6"	E2954 - 10"	
Bottom Rail Lug	P908	P908	P1648	AL
Top Rail & Bottom Rail Tie Rods	P020	P020	P020	Steel
Washer for Tie Rods	P853	P853	P853	AL
Hex nuts for Tie rods	S071A	S071A	S071A	Steel
Exterior Glass Stop 1" glass	E0927	E0927	E0927	
Interior Glass Stop 1" glass	E0928	E0928	E0928	
Gasket	P0017	P0017	P0017	EPDM
Adjutable Wedge Setting Blck	2	P1911	P1911	P1911 Polypropylene

Self Adhesive Setting Blck
Threshold
Threshold clip

3
E0019
2

P1912
E0019
P679

~~P1912~~
~~E0019~~
~~P679~~

~~P1912~~
~~P679~~

EPDM
AL

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Report # B3772-116-45

Date 10/20/2011

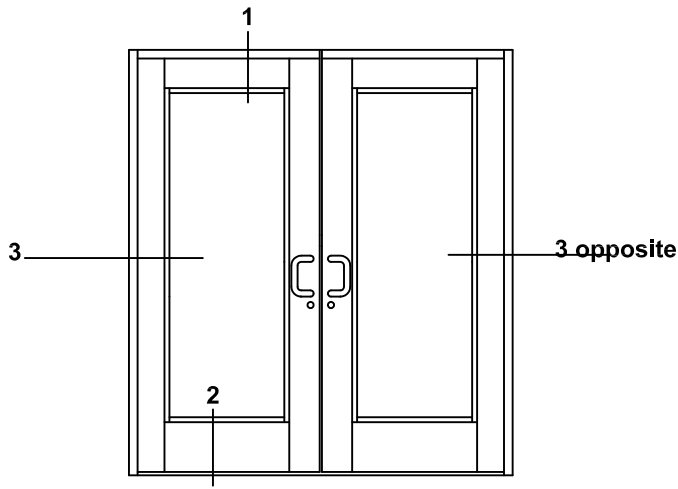
Simulator Eric Basilar

MATERIAL:

E - All E part numbers are AL extrusions

Monumental Doors - Pairs

Elevations & 1/4 Size Details



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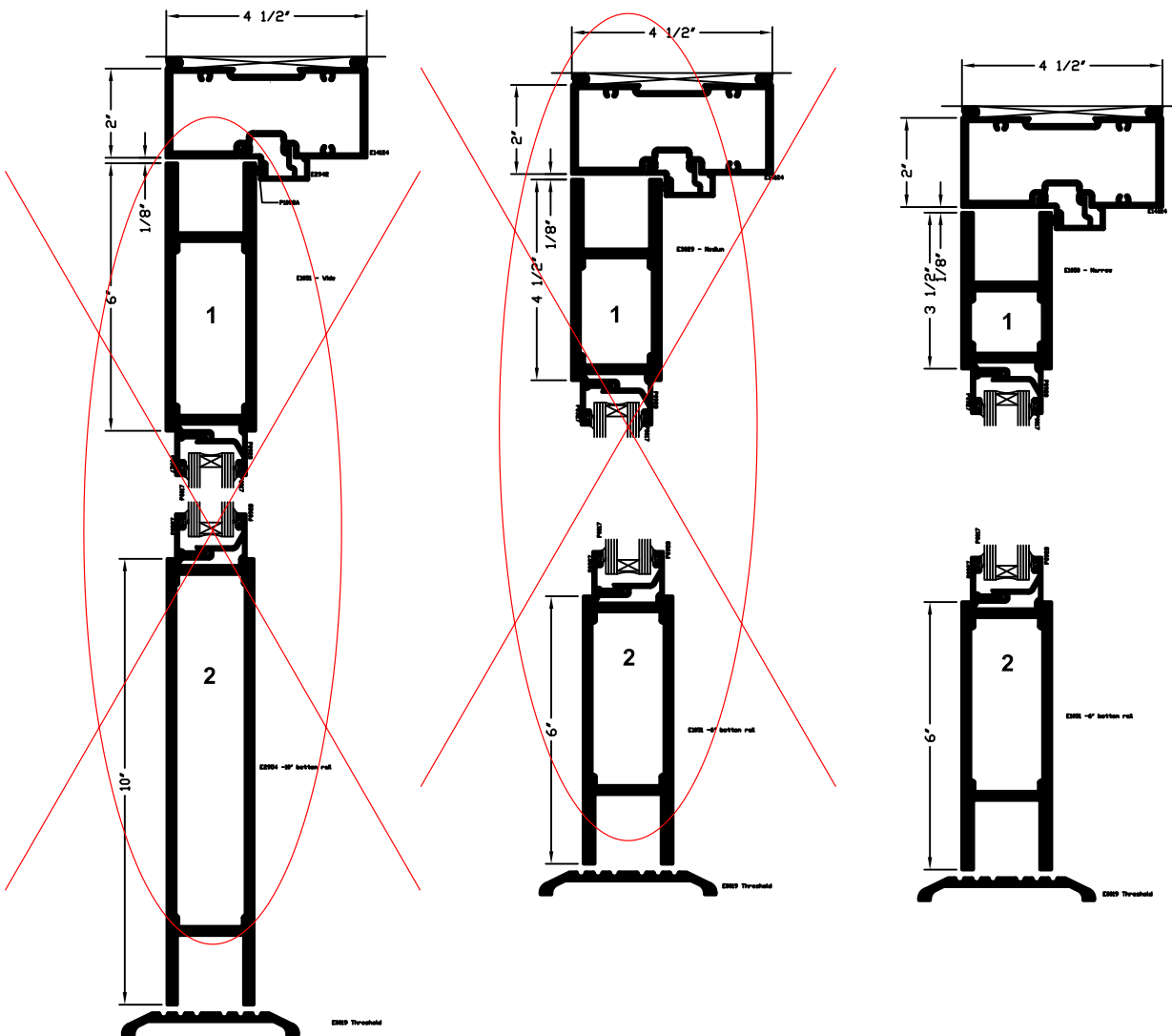
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Simulator Eric Barilko

Wide

Medium

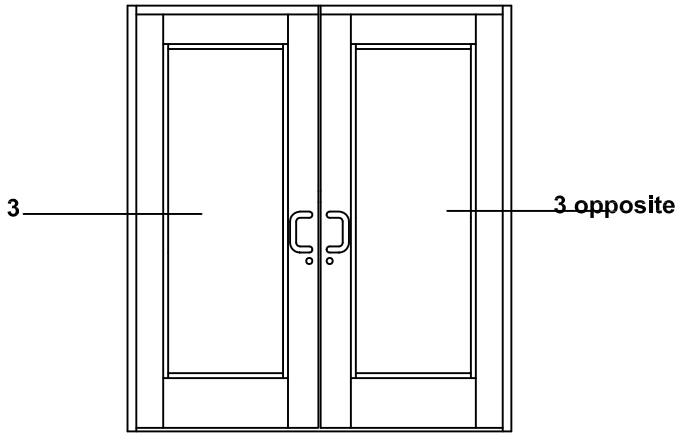
Narrow



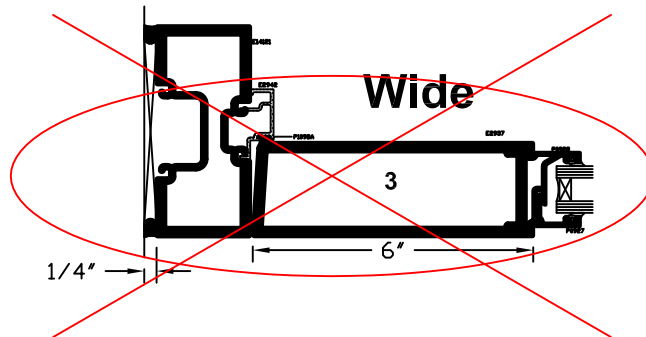
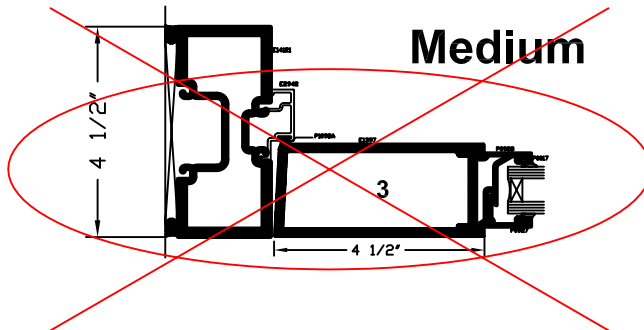
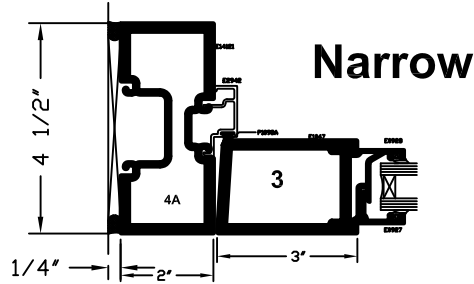
*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

Monumental Doors - Single Jamb detail

Elevations & 1/4 Size Details

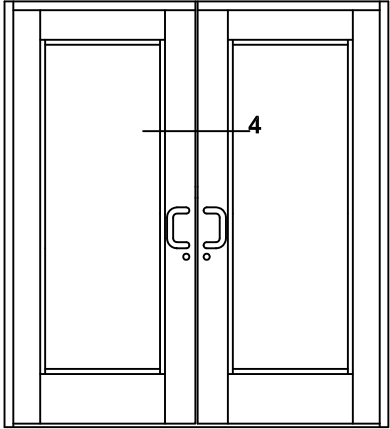


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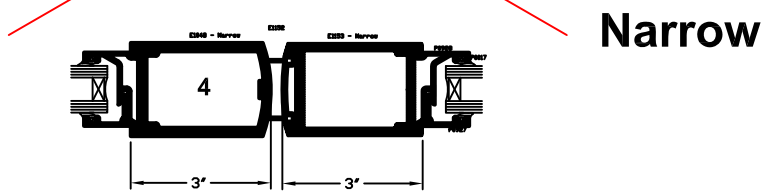
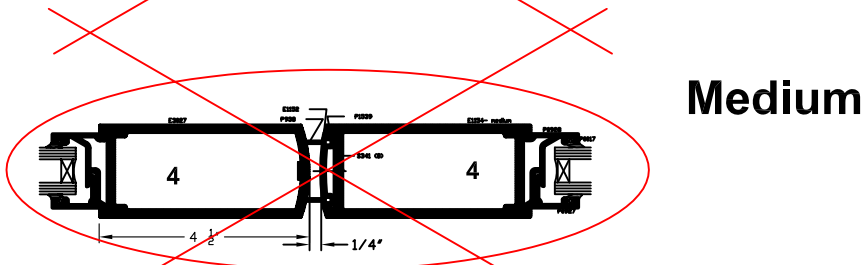
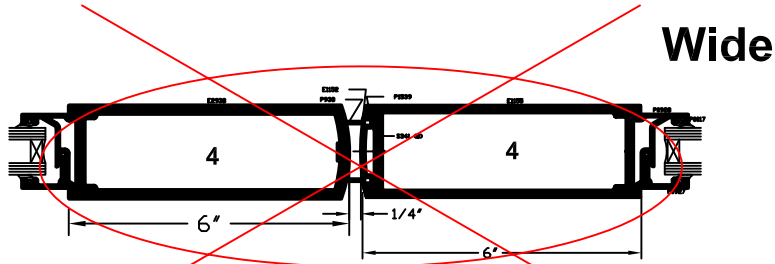


*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

Monumental Doors - Double Elevations & 1/4 Size Details

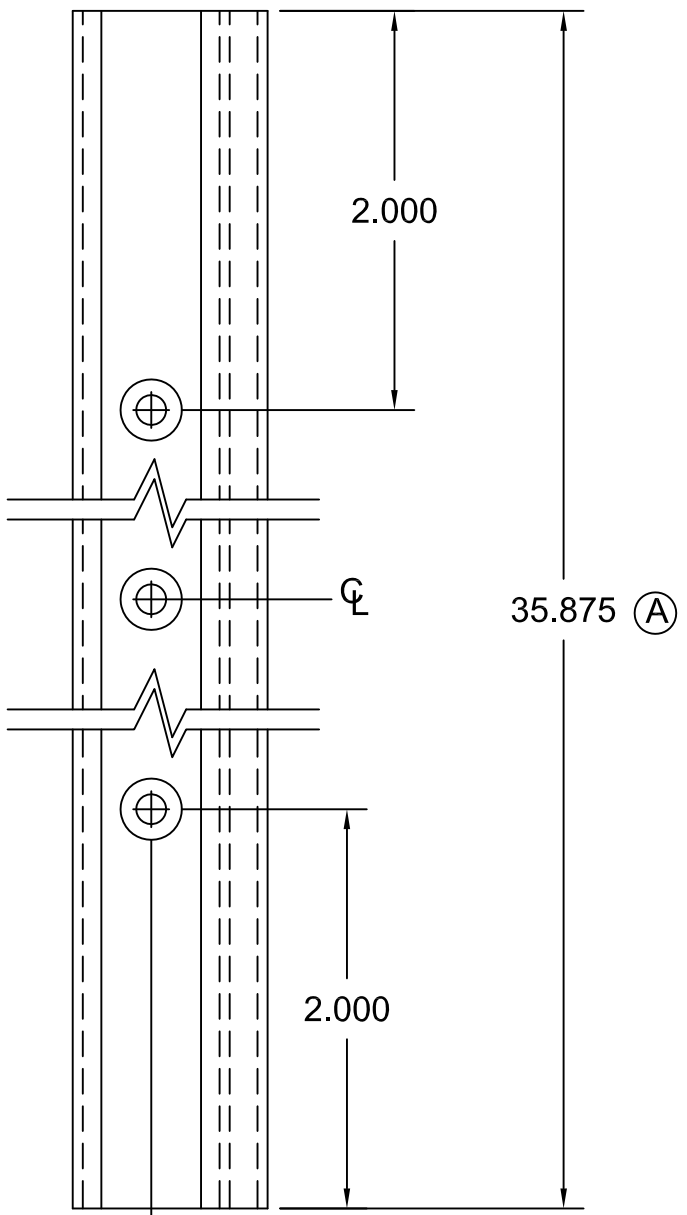


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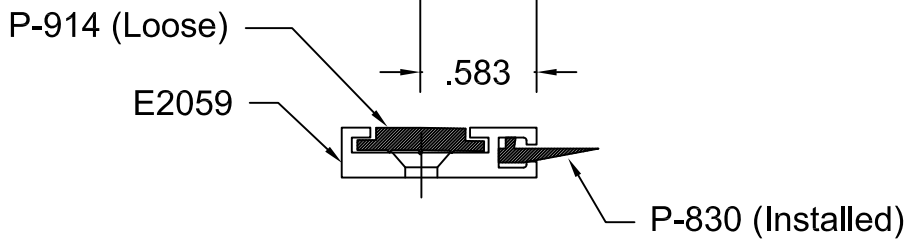
*SEALANT, ROD, & ANCHORS NOT BY TUBELITE

ATI
Report # B3772-116-45
Date 10/20/2011
Simulator *Eric Barila*



Operations:

1. Cut to length as required from E2059
2. Drill 3 holes with #25 Drl & Ctsk for S-064 (#6 FHCS)
3. Cut P-830 to length, Install, & Crimp ends
4. Cut P-914 to length, and install.
5. Paint ends as required
6. Ship with three (3) S064 Screws.



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 * INDICATES .031 RADIUS
 □ DENOTES CRITICAL DIMENSION

TUBELITE®
 DEPENDABLE
 LEADERS IN ECO-EFFICIENT STOREFRONT,
 CURTAINWALL AND ENTRANCE SYSTEMS

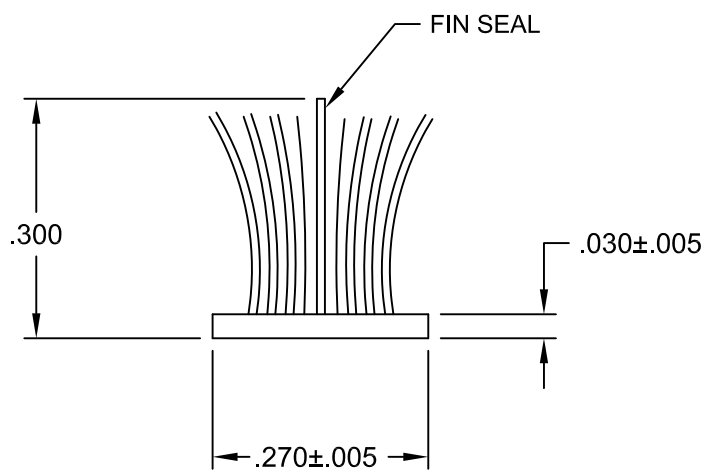
3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

REV	DATE	DESCRIPTION	INTL
	7/29/83	Released Part per ED 128	PJ
A	05/17/90	ED #1222 Dim was 34.875	KMH
B	8/24/01	Redrawn for CAD	DMT
C	06/19/03	OUTSOURCE - ADD S064 SCREWS	SRD

Door Seal to use with E2058 Threshold			
DRAWN BY PJ	DRWG DATE 05/09/83	APPV,D BY	DATE APPV'D
DRWG SCALE Full	PRODUCT CODE 380	P1275	
			REV C

P1098A
B

ATI
 Report # B3772-116-45
 Date 10/20/2011
 Simulator Eric Bakula



Actual Size

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 * INDICATES .031 RADIUS
 □ DENOTES CRITICAL DIMENSION

TUBELITE
 DEPENDABLE
 LEADERS IN ECO-EFFICIENT STOREFRONT,
 CURTAINWALL AND ENTRANCE SYSTEMS

3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

REV	DATE	DESCRIPTION	INTL
A	03/08/83	Release Part per ED 109	
B	05/29/02	Redrawn for CAD	DMT

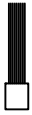
Poly Bond Fin-Seal Weathering use with Door Stop E1377			
DRAWN BY Don H	DRWG DATE 06/03/83	APPV,D BY	DATE APPV'D
DRWG SCALE Noted	PRODUCT CODE 380	P1098A	
			B

ATI

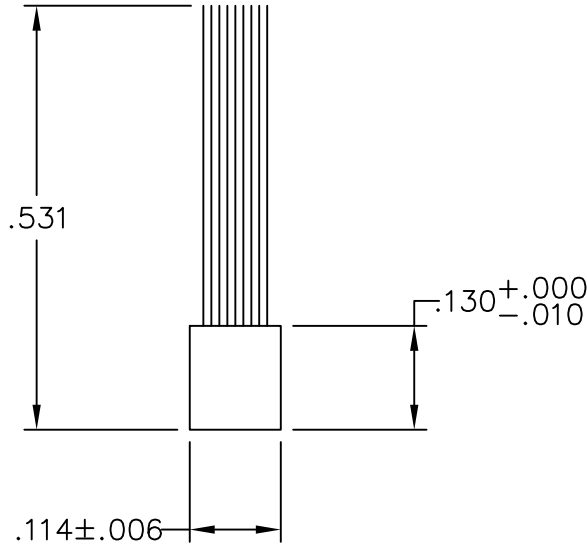
Report # B3772-116-45

Date 10/20/2011

Simulator Eric Borish



Actual Size



Four Times Size

Purchased Part

Schlege Pile Weathering
Part Number 364-1006-5101

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ALL UNSPECIFIED RADII .015

* INDICATES .031 RADIUS

□ DENOTES CRITICAL DIMENSION

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DEPENDABLE
LEADERS IN ECO-EFFICIENT STOREFRONT,
CURTAINWALL AND ENTRANCE SYSTEMS

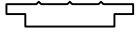
3056 WALKER RIDGE NW, SUITE G
WALKER, MICHIGAN 49544

REV	DATE	DESCRIPTION	INTL
A	05/03/02	Redrawn for CAD	DMT

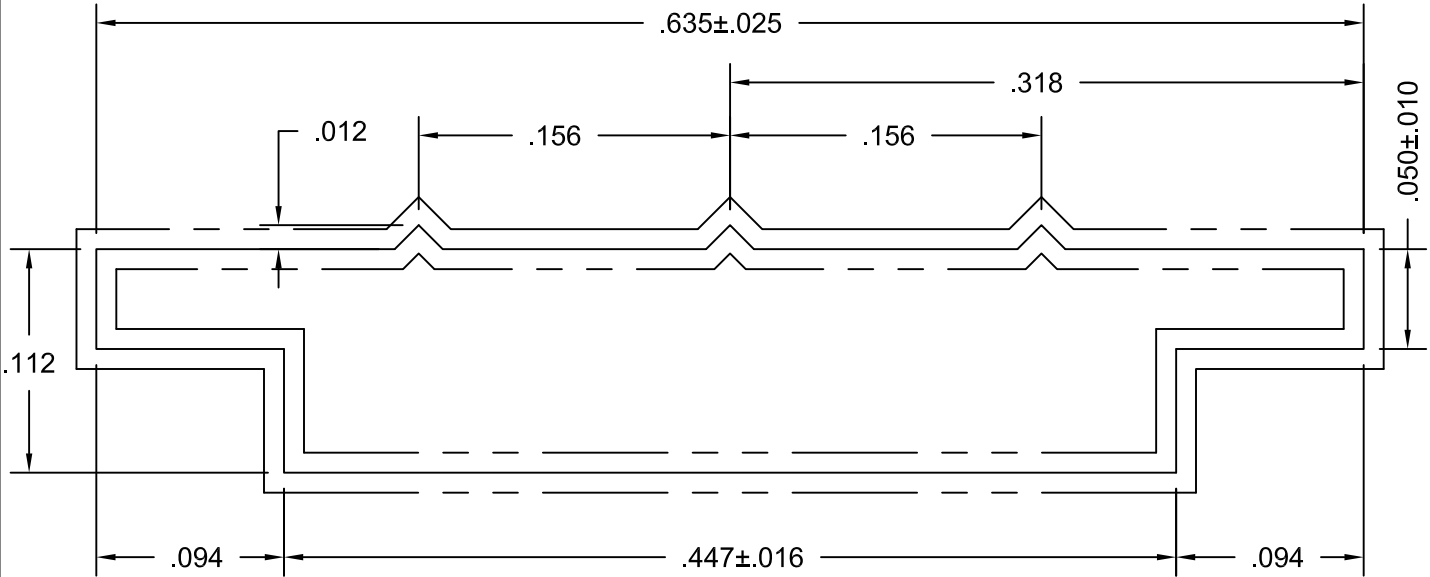
Pile Weathering to use
with E1195 and E1152

DRAWN BY PJ	DRWG DATE 10/03/75	APPV,D BY	DATE APPV'D	REV
DRWG SCALE Noted	PRODUCT CODE 110	P938		A

ATI
 Report # B3772-116-45
 Date 10/20/2011
 Simulator Eric Boriska



ACTUAL SIZE



Ten Times Size

NOTE: Part to receive Silicone Bath after Extruding

Purchased Part
 Avon Rubber
 90 Durometer
 250' Rolls

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ALL UNSPECIFIED RADII .015

* INDICATES .031 RADIUS

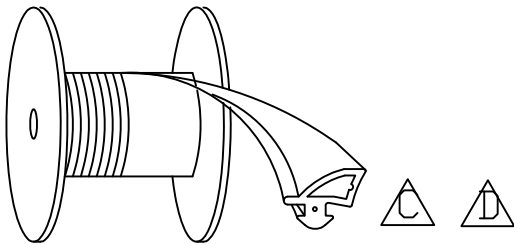
DENOTES CRITICAL DIMENSION

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 CURTAINWALL AND ENTRANCE SYSTEMS

3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

REV	DATE	DESCRIPTION	INTL
A	01/19/96	Redrawn for AutoCAD	DMT

<p>EPDM Rubber Glazing Use with M1061, M1063, M1202</p>			
DRAWN BY	KMH	DRWG DATE	01/19/96
APPV,D BY		DATE APPV'D	
DRWG SCALE	Noted	PRODUCT CODE	380
<p>P914</p>			<p>REV A</p>



ATI

Report # B3772-116-45

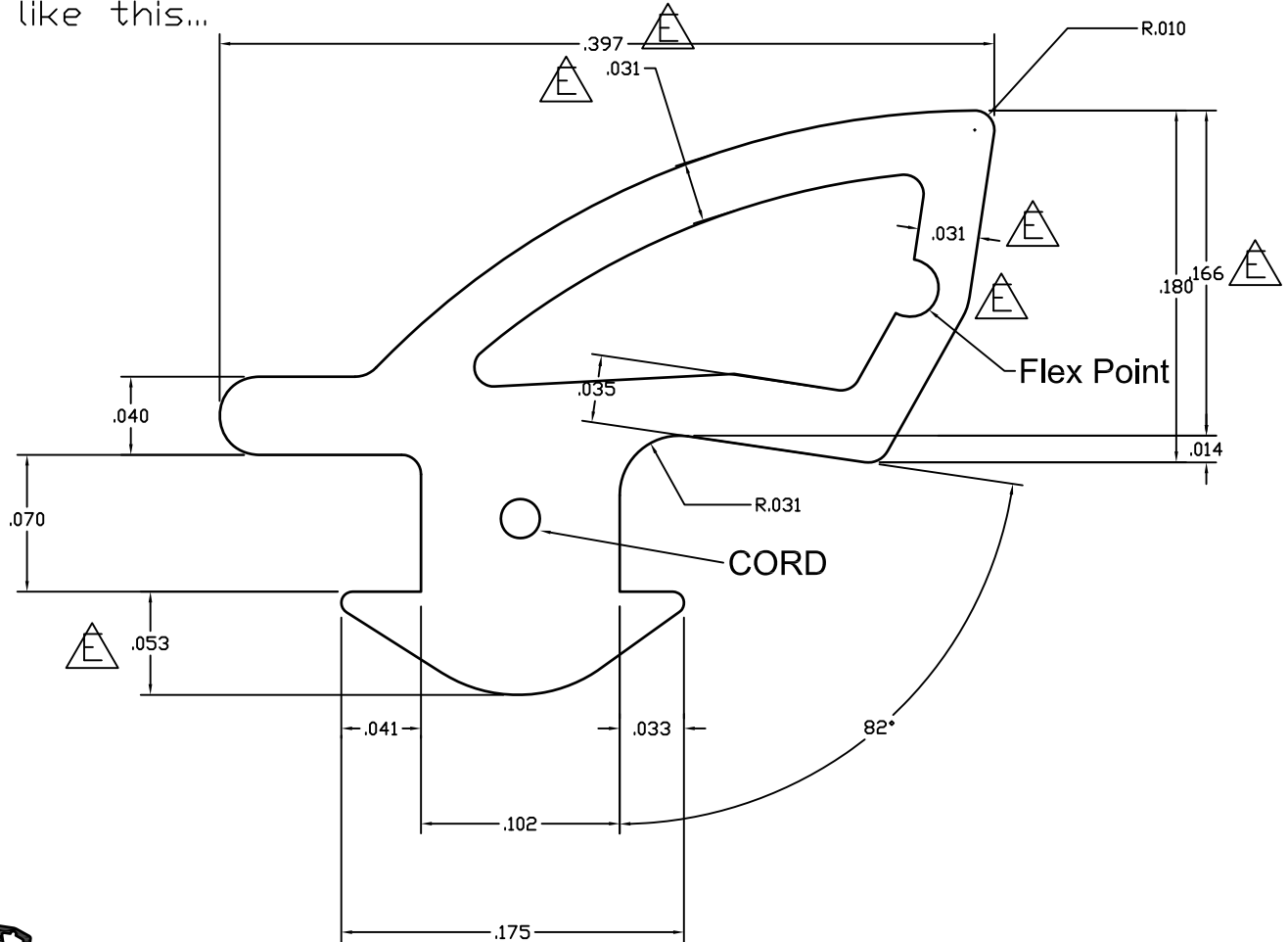
Date 10/20/2011

Simulator Eric Baribe

P0017

E

Material must UNREEL like this...



ACTUAL SIZE

MATERIAL: EPDM 60 DUROMETER WITH CORD

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ALL UNSPECIFIED RADII .015

* INDICATES .031 RADIUS

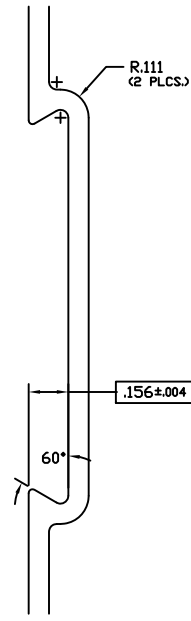
□ DENOTES CRITICAL DIMENSION

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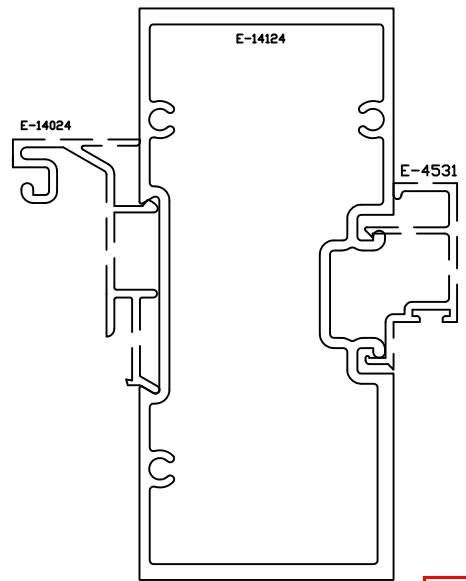
3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

REV	DATE	DESCRIPTION	INTL
A	08/20/07	MODIFIED DART: .070 WAS .060 AND .051 WAS .061 ADDED CORD	NIK
B	10/16/08	ADDED MANUFACTURER'S TOLERANCES FOR REFERENCE	SRD
C	10/22/10	Modified gasket position of how the reel should roll	TT
D	12/16/10	Modified gasket position of how the reel should roll	TT
E	02/15/11	Rev flex pt, thickness was .032, .180 was .188	TT

1/4"-1" DOOR GLAZING GASKET 500' ROLLS			
DRAWN BY NIK	DRWG DATE 4-17-07	APPV.D BY	DATE APPV'D
DRWG SCALE 10X	PRODUCT CODE 100	P0017	REV E

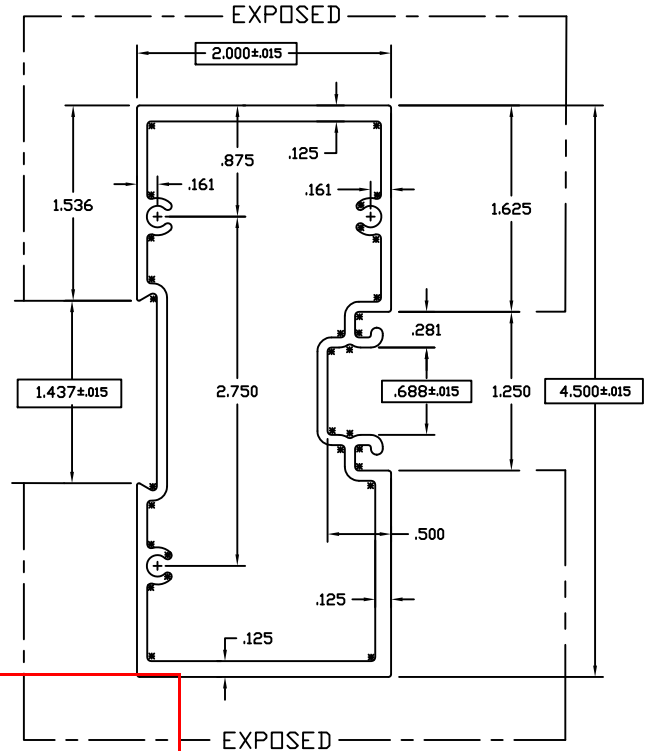


TWO TIMES SIZE



ASSEMBLY

MATES W/ E-4532, E-4026 & E-14024



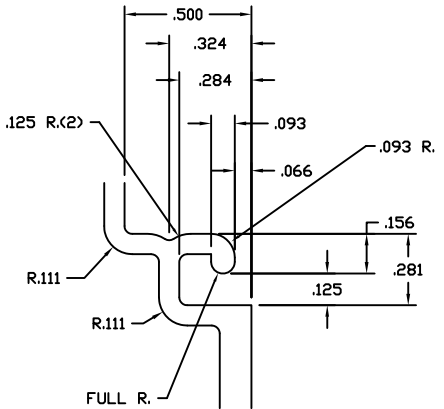
EXPOSED
ACTUAL SIZE

ATI

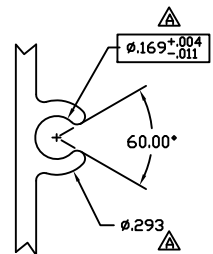
Report # B3772-116-45

Date 10/20/2011

Simulator Eric Barilko



TWO TIMES SIZE



TWO TIMES SIZE

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3056 WALKER RIDGE NW, SUITE G
WALKER, MICHIGAN 49544

WALL THK. .080	SECTION H THKS	MAT'L 6063-T5	RATIO 38:1
PERIMETER OUT (TOTAL) 15.371(29.969)	AREA 1.464	WGT/FT 1.722	
FACTOR 17	CIRCLE SIZE 4.924	INFILL VOLUME N/A	
RXX 1.601	SXX 1.640	IXX 3.751	CXX 2.287
RYY .780	SYY .849	IYY .890	CYY 1.049

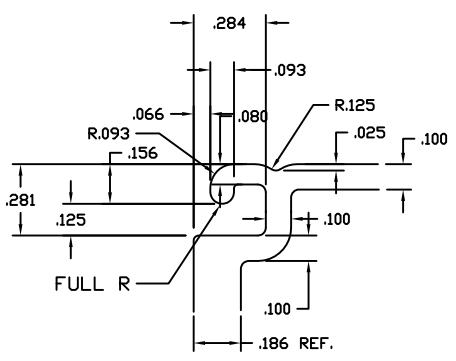
DENOTES CRITICAL DIMENSION
 ALL DIES PROPERTY OF TUBELITE

REV	DATE	DESCRIPTION	INTL
	9-11-93	RELEASE TO TOOLING	KMH
	7-7-93	REVISE EXTR. # WAS E-14023	KMH
	7-28-93	RELEASE TO PRODUCTION	KMH
A	1/17/2011	J69 +.004/-0.011 was .162+/-0.004, .293 WAS .322	CRH

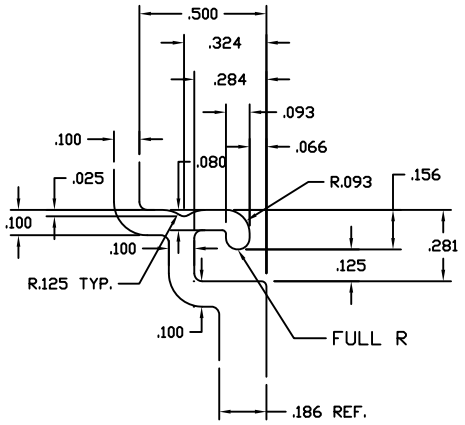
DOOR HEADER 2" X 4 1/2"
E14000 NON THERMAL STOREFRONT

DRAWN BY SMH	DRWG DATE 05/11/93	APPV'D BY	DATE APPV'D
DWG SCALE NOTED	PRODUCT CODE 190	E14124	REV A

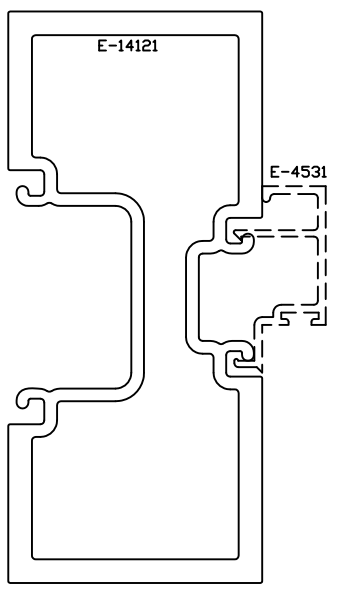
E14121
A



DETAIL "A"
TWO TIMES SCALE

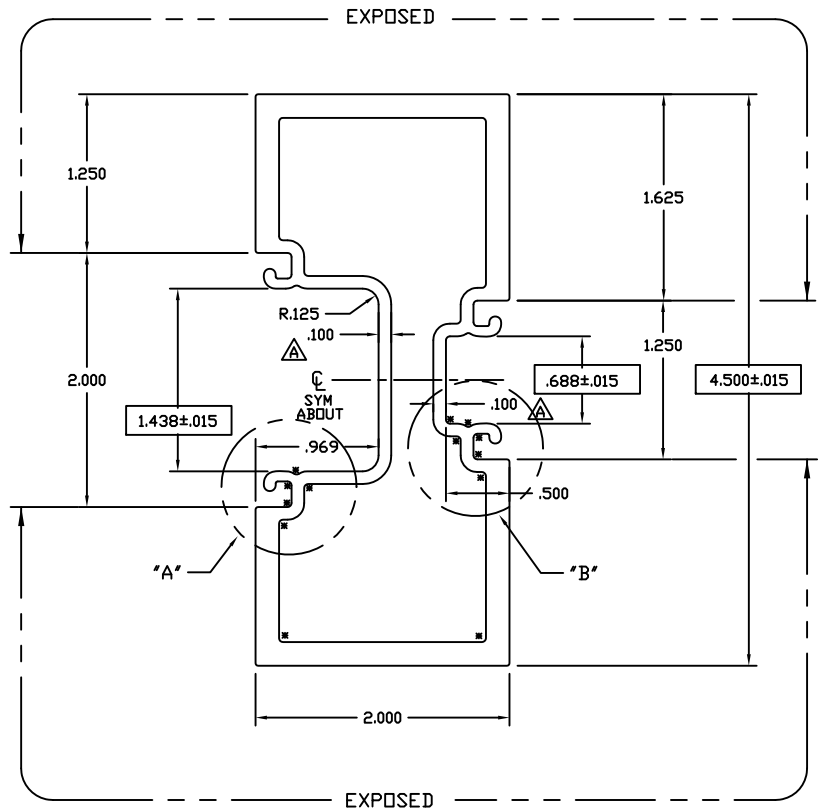


DETAIL "B"
TWO TIMES SCALE



FULL SCALE ASSEMBLY

ALSO MATES W/ E-4013



FULL SCALE

ATI

Report # B3772-116-45

Date 10/20/2011

Simulator Eric Bahler

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3056 WALKER RIDGE NW, SUITE G
WALKER, MICHIGAN 49544

WALL THK	.186	SECTION CLASS	H	MAT'L	6063-T5	RATIO	24:1
PERIMETER OUT (TOTAL)	17.706(31.122)		AREA	2.307		WGT/FT	2.713
FACTOR	11	CIRCLE SIZE	4.924	INFILL VOLUME	N/A		

RXX	1.577	SXX	2.549	IXX	5.736	CXX	2.250
RYY	.719	SYY	1.124	IYY	1.192	CYY	1.061

DENOTES CRITICAL DIMENSION
 ALL DIES PROPERTY OF TUBELITE

REV	DATE	DESCRIPTION	INTL
EP-2688	8/7/98	RELEASE TO TOOLING	SMF
EP-8647	10/28/98	RELEASE TO PRODUCTION	KRH
A	01/02/03	REVISED POCKET CONFIGURATION AND WALL THICKNESS	CRH

THICK WALL DOOR JAMB 2" X 4 1/2"
E14000 NON THERMAL STOREFRONT

DRAWN BY	SMF	DRWG DATE	08/07/98	APPV'D BY		DATE APPV'D	
DWG SCALE	NOTED	PRODUCT CODE	190	E14121		REV	A

E2942

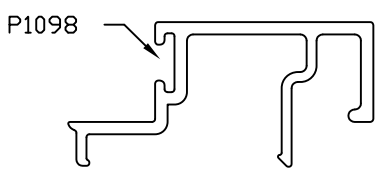
A

ATI

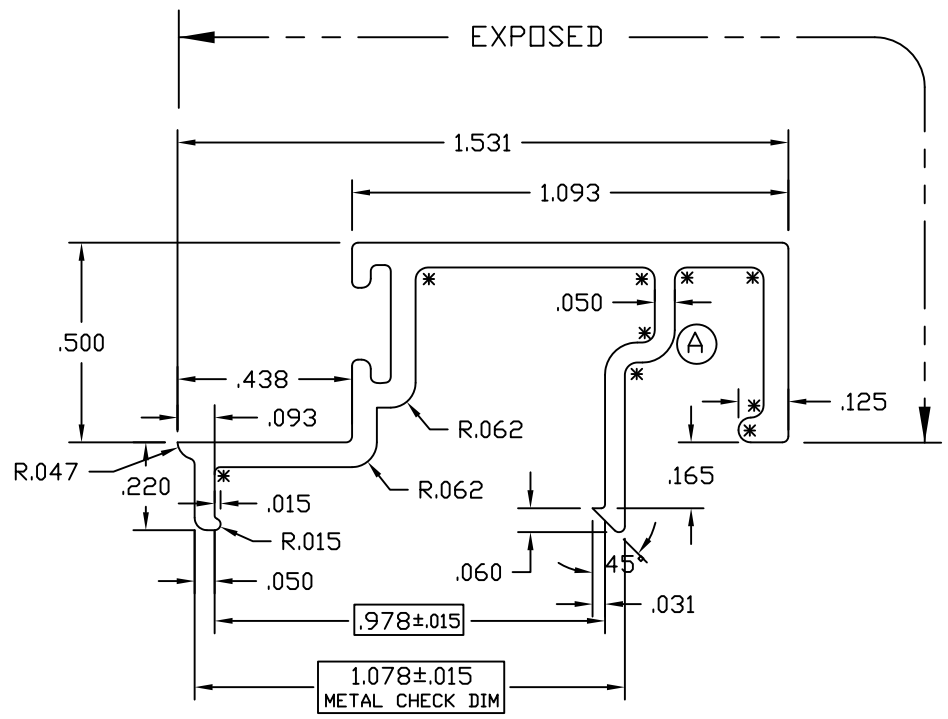
Report # B3772-116-45

Date 10/20/2011

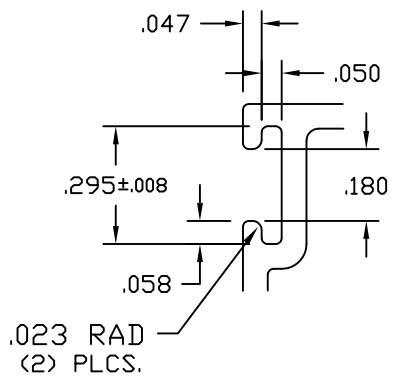
Simulator Eric Barilla



FULL SCALE



TWO TIMES SCALE



TWO TIMES SCALE

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3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

WALL THK.	.062	SECTION CLASS	S	MAT'L	6063-T5	RATIO	262:1
PERIMETER OUT (TOTAL)	7.135	AREA	.210	WGT/FT	.247		
FACTOR	29	CIRCLE SIZE	1.654	INFILL VOLUME	N/A		

RXX	.217	SXX	.037	IXX	.010	CXX	.455
RYY	.456	SYX	.066	IYY	.044	CYY	.868

DOOR STOP 1/2" X 1 3/32"
 CUSTOM DOORS/FRAMES

DRAWN BY	DM	DRWG DATE	06/10/90	APPV'D BY		DATE APPV'D	
DWG SCALE	NOTED	PRODUCT CODE	110	E2942		REV	A

REV	DATE	DESCRIPTION	INTL
ED-1229	06/04/90	RELEASED TO TOOLING	DSM
ED-1272	10/02/90	RELEASED TO PRODUCTION	DSM
A	10/02/03	REVISED LEG TO AVOID CONFUSION PER ER120302	DMT

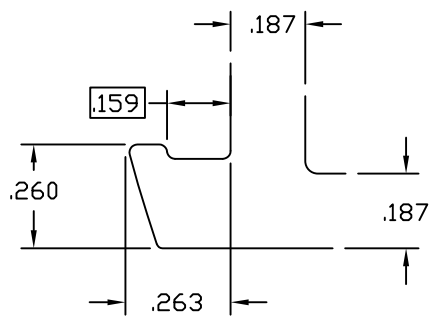
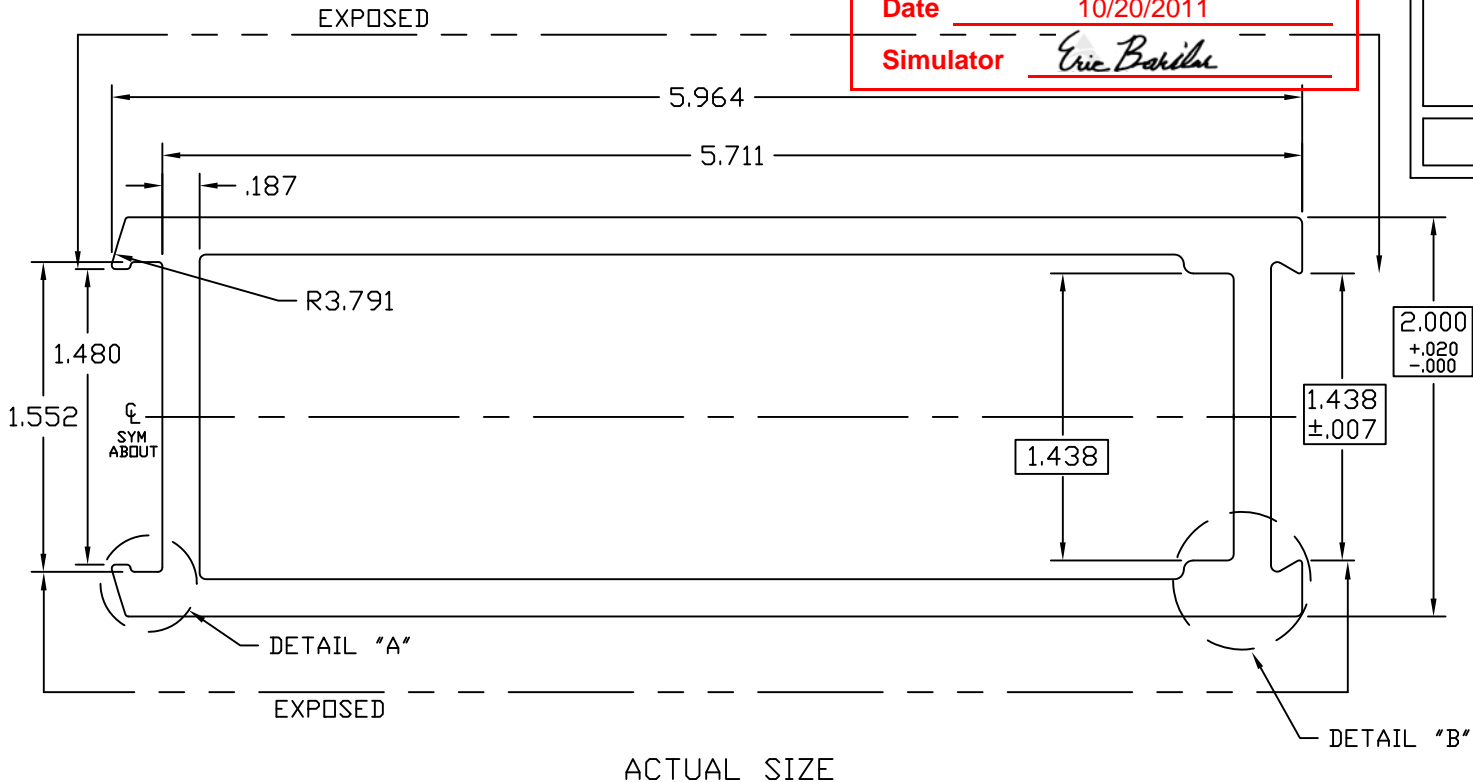
☐ DENOTES CRITICAL DIMENSION
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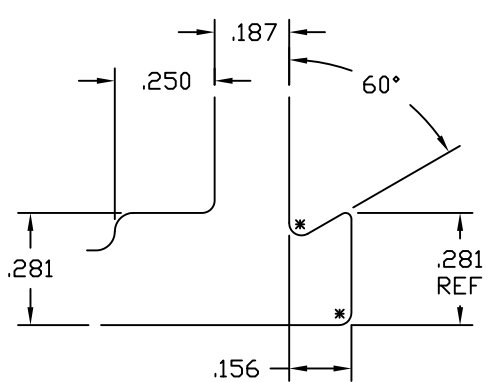
Report # B3772-116-45

Date 10/20/2011

Simulator Eric Basile



DETAIL "A"
TWO TIMES SIZE



DETAIL "B"
TWO TIMES SIZE

DENOTES CRITICAL DIMENSION

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3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

WALL THK.	NOTED	SECTION CLASS	H	MAT'L	6063-T5	RATIO	19:1
PERIMETER OUT (TOTAL)	16.772	AREA	2.915	WGT/FT	3.428		
FACTOR	5	CIRCLE SIZE	6.212	INFILL VOLUME	N/A		

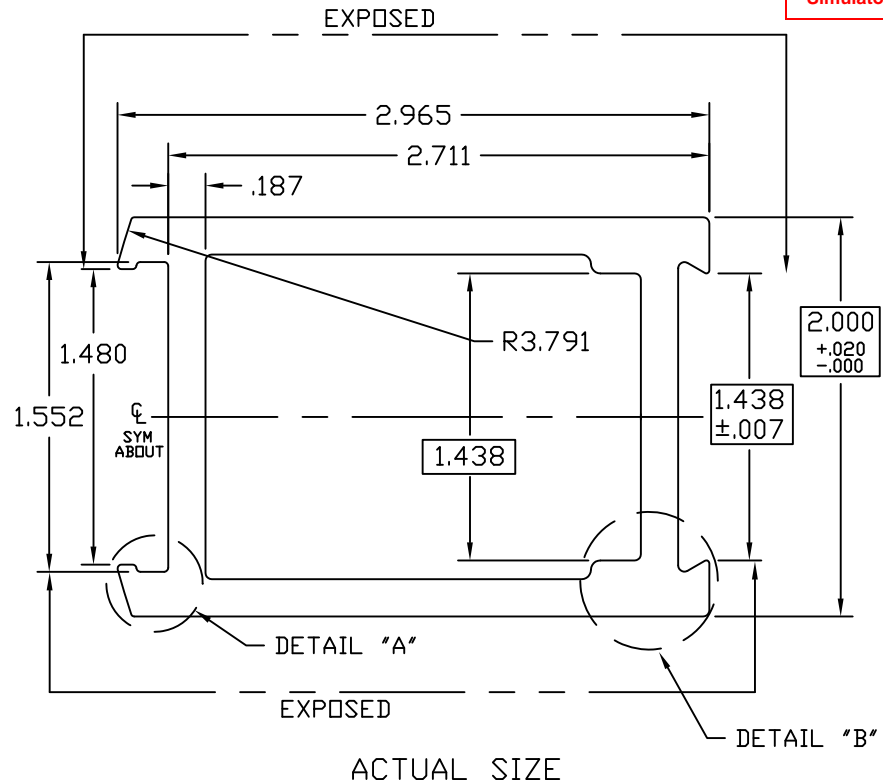
RXX	.831	SXX	2.015	IXX	2.015	CXX	1.000
RYY	1.988	SYX	3.944	IYY	11.520	CYY	3.044

MON. ADJ. ASTRAGAL STILE 2" X 6"
 CUSTOM DOORS/FRAMES

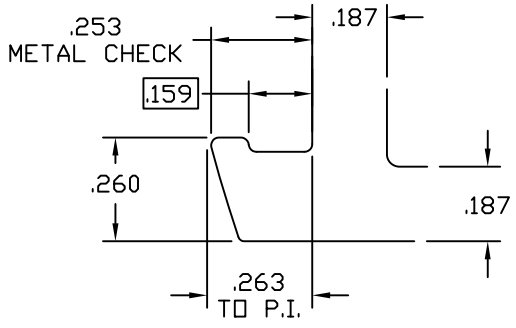
REV	DATE	DESCRIPTION	INTL
	09/25/07	RELEASE FOR TOOLING	JEM
	05/04/09	RELEASE FOR PRODUCTION PER ER-040905	JEM

DRAWN BY	JEM	DRWG DATE	09/17/07	APPV'D BY		DATE APPV'D	
DWG SCALE	NOTED	PRODUCT CODE	110	E1155			REV

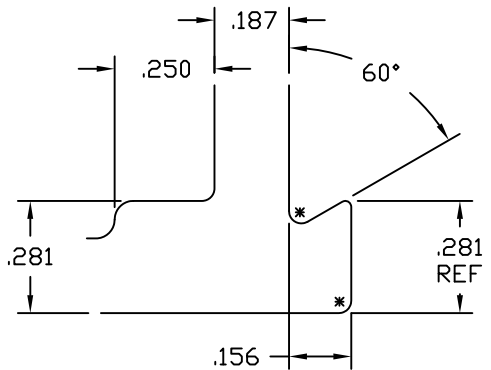
ATI
 Report # B3772-116-45
 Date 10/20/2011
 Simulator *Eric Barthele*



ACTUAL SIZE



DETAIL "A"
TWO TIMES SIZE



DETAIL "B"
TWO TIMES SIZE

DENOTES CRITICAL DIMENSION

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3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

WALL THK.	NOTED	SECTION CLASS	H	MAT'L	6063-T5	RATIO	31:1
PERIMETER OUT (TOTAL)	10.772	AREA	1.793	WGT/FT	2.108		
FACTOR	6	CIRCLE SIZE	3.501	INFILL VOLUME	N/A		

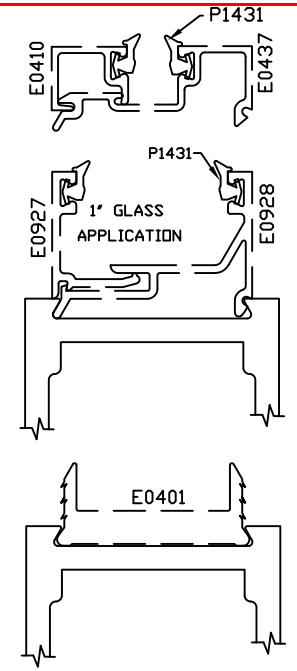
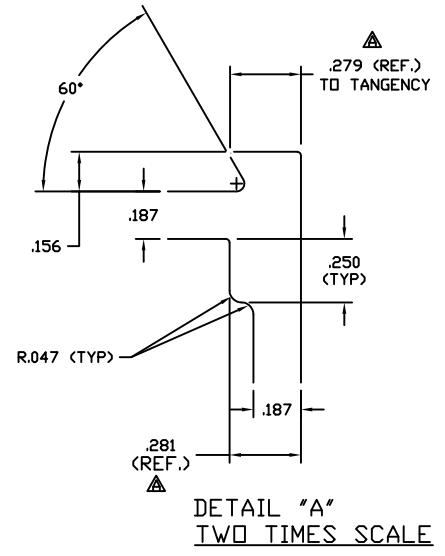
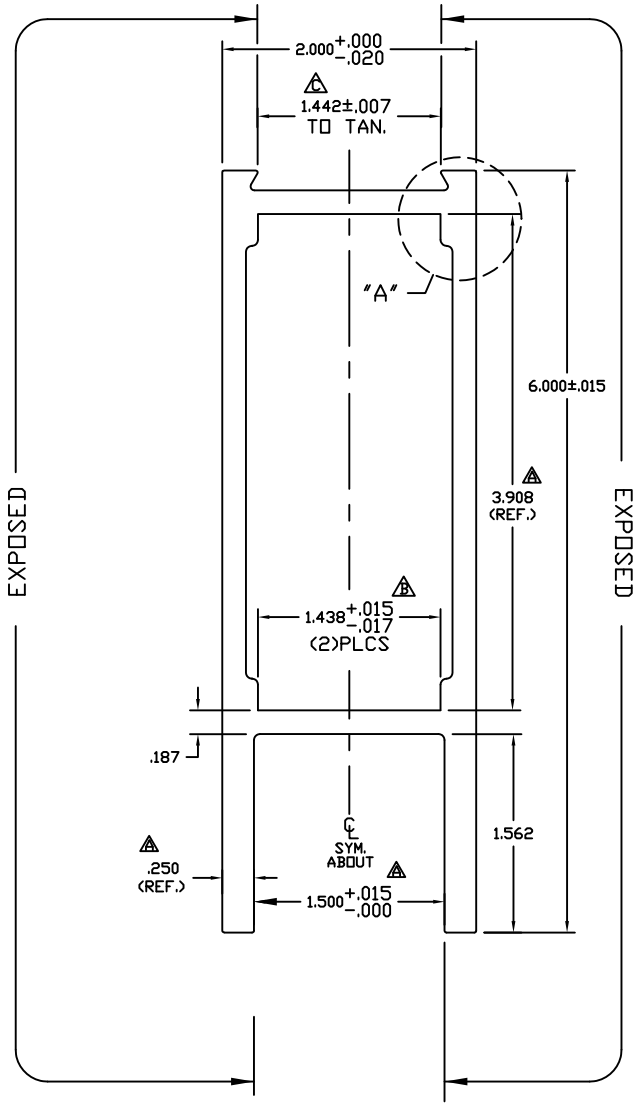
RXX	.780	SXX	1.090	IXX	1.090	CXX	1.000
RYY	.992	SYX	1.234	IYY	1.765	CYY	1.534

MON. ADJ. ASTRAGAL STILE 2" X 3"
 CUSTOM DOORS/FRAMES

REV	DATE	DESCRIPTION	INTL
	03/31/08	RELEASE FOR TOOLING	JEM
	05/04/09	RELEASE FOR PRODUCTION PER ER-040905	JEM

DRAWN BY	JEM	DRWG DATE	10/15/07	APPV'D BY		DATE APPV'D	
DWG SCALE	NOTED	PRODUCT CODE	110	E1153		REV	

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 Report # B3772-116-45
 Date 10/20/2011
 Simulator Eric Borilak



Use with door lugs P908
 SNAP FIT W/E0437(1/4"GLASS) AND E0928(1"GLASS)

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 3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

WALL THK	NOTED	SECTION H	MAT'L	6063-T5	RATIO	17:1	
PERIMETER OUT (TOTAL)	19.538(30.445)	AREA	3.161	WGT/FT	3.717		
FACTOR	8	CIRCLE SIZE	6.325	INFILL VOL/ME	N/A		
RXX	.829	SXX	2.172	IXX	2.172	CXX	1.000
RYY	1.874	SYY	3.659	IYY	11.104	CYY	3.035

MONUMENTAL HORIZONTAL RAIL 6" X 2"
 CUSTOM DOORS/FAMES

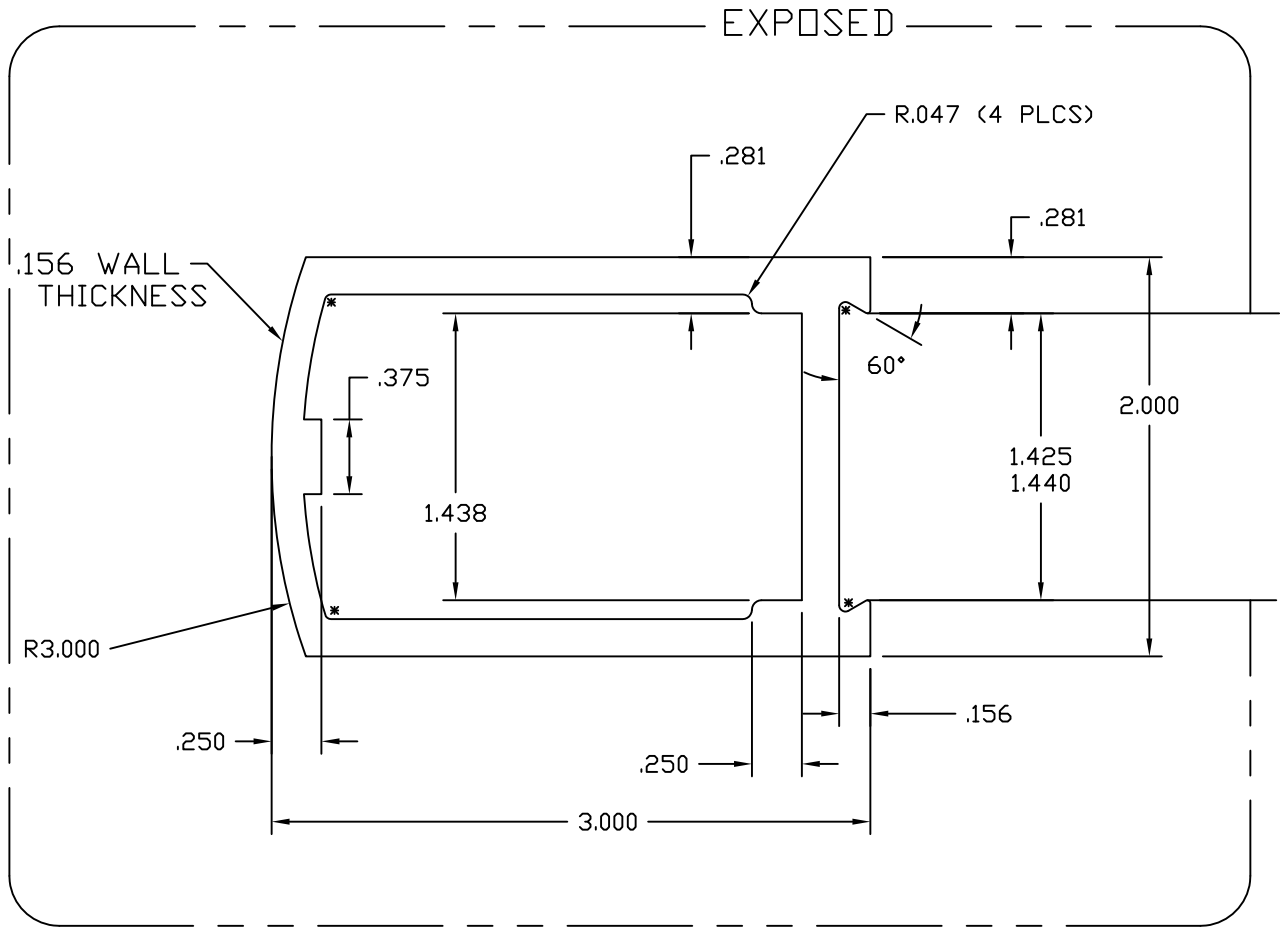
DRAWN BY	DLH	DRWG DATE	08/06/64	APPV'D BY	MJC	DATE APPV'D	02/05/01
DWG SCALE	NOTED	PRODUCT CODE	110			E1051	

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Report # B3772-116-45

Date 10/20/2011

Simulator Eric Barilko



FULL SIZE

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3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

WALL THK.	.187	SECTION CLASS	S	MAT'L	6063-T5	RATIO	32:1
PERIMETER OUT (TOTAL)	10.110(18.231)	AREA	1.732	WGT/FT	2.037		
FACTOR	9	CIRCLE SIZE	3.464	INFILL VOLUME	N/A		

RXX	.777	SXX	1.046	IXX	1.046	CXX	1.576
RYY	1.031	SYY	1.169	IYY	1.842	CYY	1.000

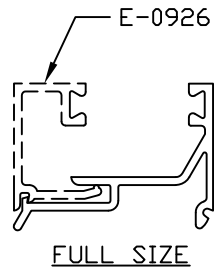
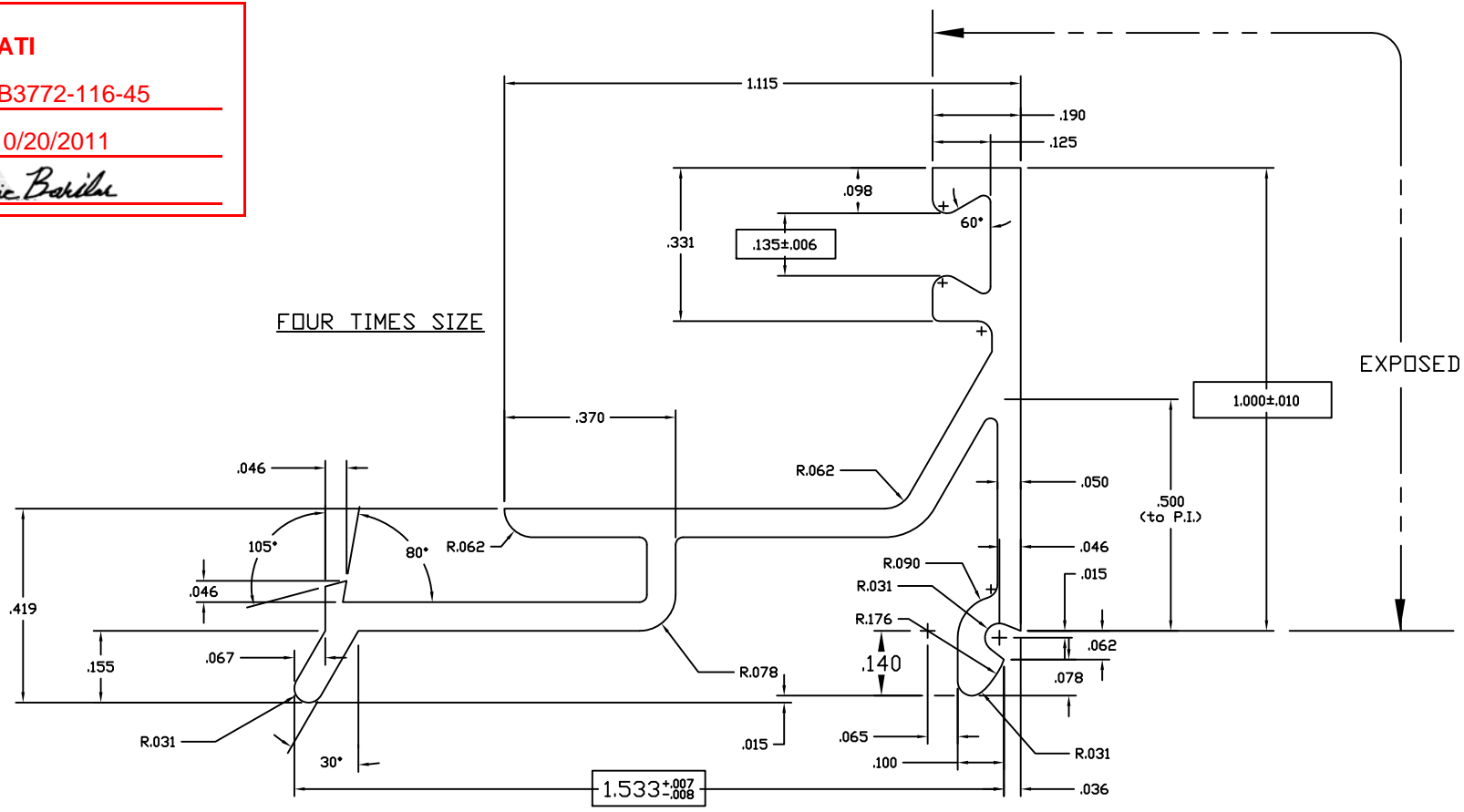
MONUMENTAL VERTICAL STILE 2" X 3"
 CUSTOM DOORS/FRAMES

DENOTES CRITICAL DIMENSION
 ALL DIES PROPERTY OF TUBELITE

REV	DATE	DESCRIPTION	INTL
X	xx/xx/xx	XXXXXXXXXXXXXXXX	XXX

DRAWN PR BY	DRWG DATE	07/23/84	APPV'D BY	DATE APPV'D
DWG SCALE	FULL	PRODUCT CODE	110	E1048
				REV

ATI
 Report # B3772-116-45
 Date 10/20/2011
 Simulator Eric Barila



NOTES:

- 1) USE E-0927/0928 FOR 1" MAT'L
- 2) USE E-0926/0928 FOR 5/8" MAT'L
- 3) USE GLAZING BEAD P-302 FOR BOTH SIDES OF GLASS OR PANEL

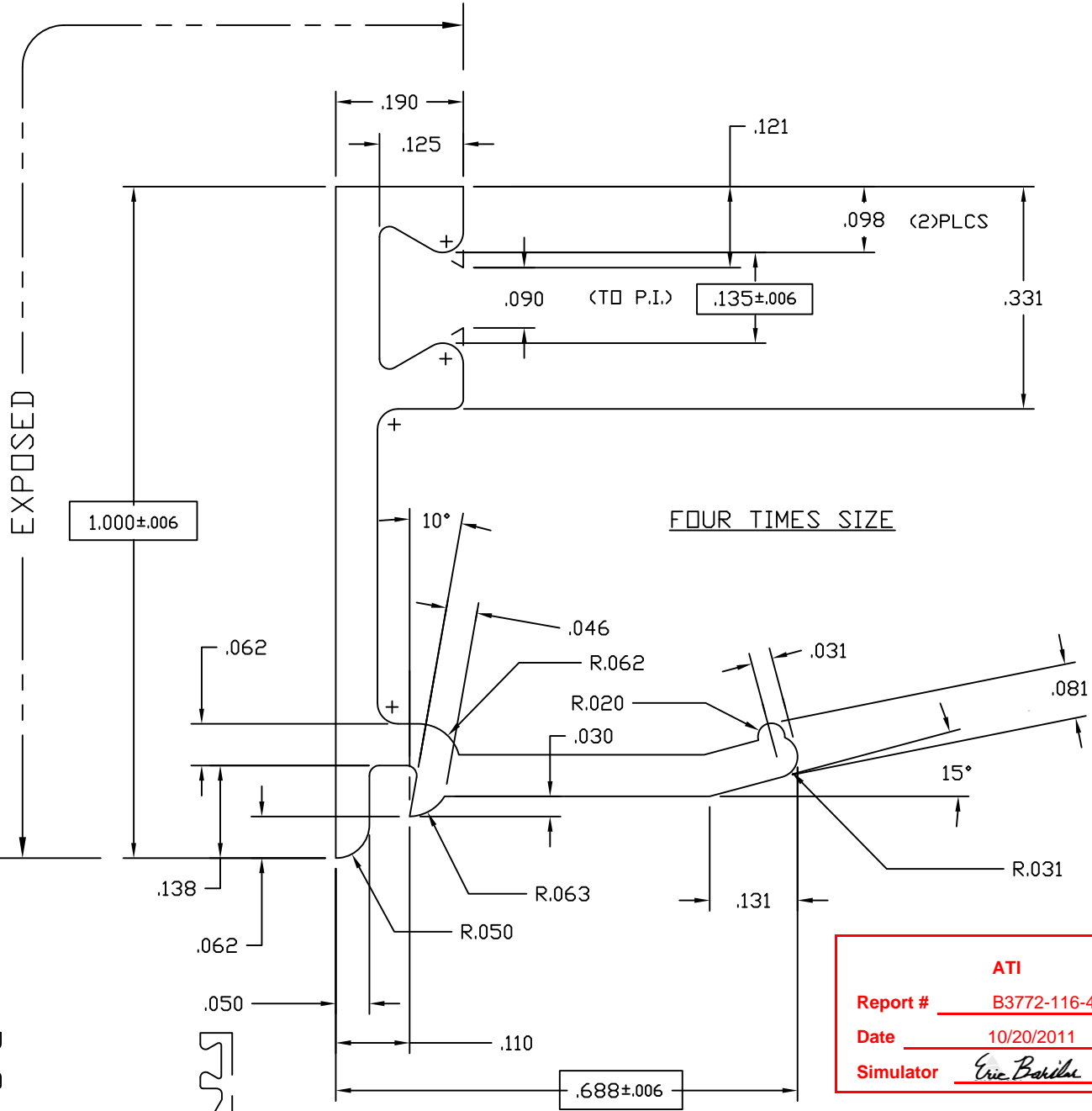
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TUBELITE
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 3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

WALL THK	.062	SECTION CLASS	S	MAT'L	6063-T5	RATIO	59:1
PERIMETER OUT (TOTAL)	7.540	AREA	.234	WGT/FT	.275		
FACTOR	27	CIRCLE SIZE	1.938	INFILL VOLUME	N/A		
RXX	.302	SXX	.030	IXX	.021	CXX	.701
RYY	.501	SYX	.113	IYY	.059	CYY	1.049

GLASS STOP, 1" HIGH FOR 1" GLASS STOCK DOORS

DRAWN BY	DWG DATE	07/03/84	APPV'D BY	DATE APPV'D
DWG SCALE	NOTED	PRODUCT CODE	100	E0928



ATI

Report # B3772-116-45

Date 10/20/2011

Simulator Eric Baribe

- NOTES:
- 1) USE WITH 1" INSULATED GLASS OR 1" PANEL
 - 2) USE GLAZING BEAD P-302 BOTH SIDES
 - 3) USE WITH E-0928 OR E-0929

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TUBELITE
 LEADERS IN ECO-EFFICIENT STOREFRONT,
 CURTAINWALL AND ENTRANCE SYSTEMS

3056 WALKER RIDGE NW, SUITE G
 WALKER, MICHIGAN 49544

WALL THK.	.062	SECTION CLASS	S	MAT'L	6063-T5	RATIO	74:1
PERIMETER OUT (TOTAL)	4.001	AREA	.124	WGT/FT	.146	INFILL VOLUME	N/A
FACTOR	27	CIRCLE SIZE	1.120				

RXX	.321	SXX	.023	IXX	.013	CXX	.321
RYY	.185	SYY	.008	IYY	.004	CYY	.185

GLASS STOP, 1" HIGH FOR 1" GLASS
 STOCK DOORS

DRAWN BY	CRH	DRWG DATE	04/21/99	APPV'D BY		DATE APPV'D	
DWG SCALE	NOTED	PRODUCT CODE	100	E0927		REV	

REV	DATE	DESCRIPTION	INTL
X	xx/xx/xx	XXXXXXXXXXXXXXXX	XXX

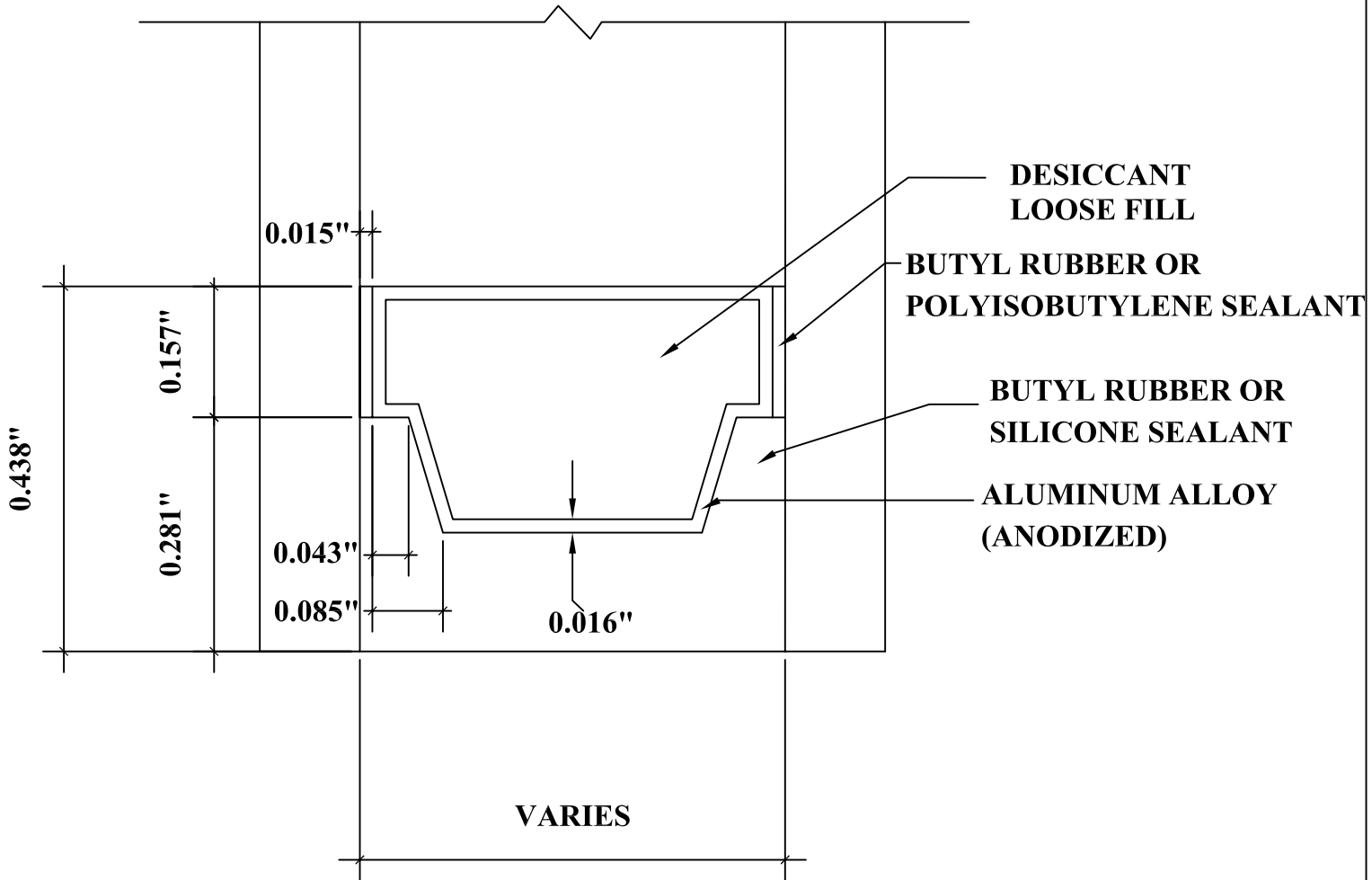
☐ DENOTES CRITICAL DIMENSION
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Report # B3772-116-45

Date 10/20/2011

Simulator Eric Barilko



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