



**AAMA 507-07 THERMAL PERFORMANCE REPORT**

**Rendered to:**

**TUBELITE, INC.**

**SERIES/MODEL: Standard 1-3/4" Medium Stile Single Door**

**TYPE: Swinging Door - Single**

**Report No: B3772.19-116-45**  
**Report Date: 10/27/11**

## AAMA 507-07 THERMAL PERFORMANCE REPORT

Rendered to:

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

Report No: B3772.19-116-45  
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 Standard 1-3/4" Medium Stile Single Door Swinging Door - Single. 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*

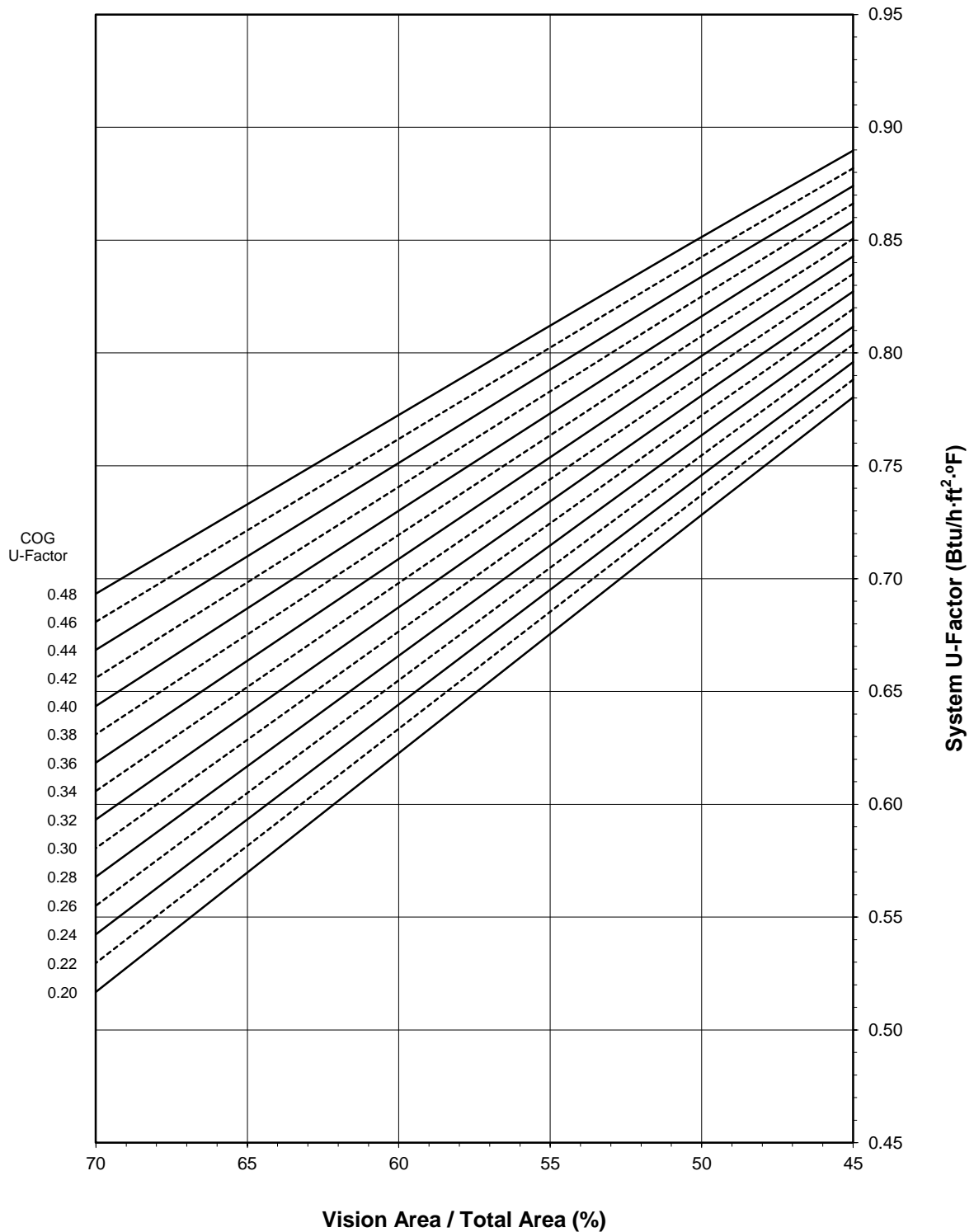
*NFRC 200-2010, Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence*

### Simulation Specimen Description:

**Series/Model:** Standard 1-3/4" Medium Stile Single Door  
**Product Groupings:** 1-3/4" Medium w/o sweep grouped with 1-3/4" Medium w/ sweep.  
**Type:** Swinging Door - Single  
**Frame Material:** Aluminum Framing System  
**Material Finish:** Painted Aluminum  
**Specimen Size:** 960mm wide by 2090mm high (37-3/4" by 82-3/8")  
**Configuration:** Single vision Ilte  
**Drawing Reference:** Tubelite Standard Doors - 2" Frame Details

**Tubelite, Inc.**  
**Standard 1-3/4" Medium Stile Single Door - Swinging Door - Single**

**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.**  
**Standard 1-3/4" Medium Stile Single Door - Swinging Door - Single**

**Size Specific U-Factor Matrix\***

| Glazing Option | Center of Glass U-Factor | Overall U-Factor |
|----------------|--------------------------|------------------|
| 1              | 0.48                     | 0.84             |
| 2              | 0.46                     | 0.83             |
| 3              | 0.44                     | 0.82             |
| 4              | 0.42                     | 0.81             |
| 5              | 0.40                     | 0.80             |
| 6              | 0.38                     | 0.79             |
| 7              | 0.36                     | 0.78             |
| 8              | 0.34                     | 0.77             |
| 9              | 0.32                     | 0.77             |
| 10             | 0.30                     | 0.76             |
| 11             | 0.28                     | 0.75             |
| 12             | 0.26                     | 0.74             |
| 13             | 0.24                     | 0.73             |
| 14             | 0.22                     | 0.72             |
| 15             | 0.20                     | 0.71             |

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                 | 0.43         |
| 0.70                 | 0.41         |
| 0.65                 | 0.38         |
| 0.60                 | 0.35         |
| 0.55                 | 0.33         |
| 0.50                 | 0.30         |
| 0.45                 | 0.28         |
| 0.40                 | 0.25         |
| 0.35                 | 0.22         |
| 0.30                 | 0.20         |
| 0.25                 | 0.17         |
| 0.20                 | 0.15         |
| 0.15                 | 0.12         |
| 0.10                 | 0.10         |
| 0.05                 | 0.07         |

**Size Specific VT Matrix\***

| Center of Glass VT | Overall VT |
|--------------------|------------|
| 0.75               | 0.39       |
| 0.70               | 0.36       |
| 0.65               | 0.34       |
| 0.60               | 0.31       |
| 0.55               | 0.28       |
| 0.50               | 0.26       |
| 0.45               | 0.23       |
| 0.40               | 0.21       |
| 0.35               | 0.18       |
| 0.30               | 0.16       |
| 0.25               | 0.13       |
| 0.20               | 0.10       |
| 0.15               | 0.08       |
| 0.10               | 0.05       |
| 0.05               | 0.03       |

\*Size Specific U-Factor, SHGC, and VT Matrices are based on the standard Swinging Door - Single specimen size of 960mm wide by 2090mm high (37-3/4" by 82-3/8"). This represents 51.7% 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 |                        |                         |
|------------|--------------|-----------------|---------------|--------------|----------------|---------------|------------------------|------------------------|-------------------------|
|            |              |                 |               |              |                |               | 45%<br>Vision Area     | NFRC<br>100-2010       | 70%<br>Vision Area      |
|            |              |                 |               |              |                |               | 32.42"<br>by<br>70.58" | 37.80"<br>by<br>82.28" | 64.36"<br>by<br>140.11" |
| 1          | 0.48         | 43.7            | Head          | 6.9645       | 1.2258         | 0.5752        | 0.8897                 | 0.8381                 | 0.6934                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2160         | 0.5773        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2160         | 0.5773        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1346         | 0.5812        |                        |                        |                         |
| 2          | 0.46         | 44.8            | Head          | 6.9645       | 1.2257         | 0.5616        | 0.8818                 | 0.8290                 | 0.6809                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2159         | 0.5638        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2159         | 0.5638        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1344         | 0.5675        |                        |                        |                         |
| 3          | 0.44         | 45.8            | Head          | 6.9645       | 1.2257         | 0.5481        | 0.8740                 | 0.8199                 | 0.6685                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2159         | 0.5503        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2159         | 0.5503        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1343         | 0.5539        |                        |                        |                         |
| 4          | 0.42         | 46.8            | Head          | 6.9645       | 1.2257         | 0.5347        | 0.8662                 | 0.8108                 | 0.6561                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2158         | 0.5369        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2158         | 0.5369        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1342         | 0.5404        |                        |                        |                         |
| 5          | 0.40         | 47.9            | Head          | 6.9645       | 1.2257         | 0.5214        | 0.8584                 | 0.8017                 | 0.6436                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2158         | 0.5236        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2158         | 0.5236        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1341         | 0.5270        |                        |                        |                         |
| 6          | 0.38         | 48.9            | Head          | 6.9645       | 1.2256         | 0.5082        | 0.8506                 | 0.7926                 | 0.6311                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2158         | 0.5104        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2158         | 0.5104        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1340         | 0.5136        |                        |                        |                         |
| 7          | 0.36         | 50.0            | Head          | 6.9645       | 1.2256         | 0.4950        | 0.8428                 | 0.7835                 | 0.6185                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2158         | 0.4972        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2158         | 0.4972        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1338         | 0.5002        |                        |                        |                         |
| 8          | 0.34         | 51.0            | Head          | 6.9645       | 1.2256         | 0.4820        | 0.8350                 | 0.7744                 | 0.6059                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2158         | 0.4842        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2158         | 0.4842        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1337         | 0.4872        |                        |                        |                         |
| 9          | 0.32         | 52.0            | Head          | 6.9645       | 1.2256         | 0.4688        | 0.8272                 | 0.7653                 | 0.5933                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2158         | 0.4710        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2158         | 0.4710        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1336         | 0.4740        |                        |                        |                         |
| 10         | 0.30         | 53.1            | Head          | 6.9645       | 1.2256         | 0.4559        | 0.8194                 | 0.7561                 | 0.5806                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2157         | 0.4581        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2157         | 0.4581        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1335         | 0.4610        |                        |                        |                         |

Vision Area Data

| Option No. | COG U-Factor | COG Temperature | Cross Section | Frame Height | Frame U-Factor | Edge U-Factor | Total Product U-Factor |                        |                         |
|------------|--------------|-----------------|---------------|--------------|----------------|---------------|------------------------|------------------------|-------------------------|
|            |              |                 |               |              |                |               | 45%<br>Vision Area     | NFRC<br>100-2010       | 70%<br>Vision Area      |
|            |              |                 |               |              |                |               | 32.42"<br>by<br>70.58" | 37.80"<br>by<br>82.28" | 64.36"<br>by<br>140.11" |
| 11         | 0.28         | 54.2            | Head          | 6.9645       | 1.2255         | 0.4429        | 0.8116                 | 0.7470                 | 0.5679                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2157         | 0.4451        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2157         | 0.4451        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1334         | 0.4479        |                        |                        |                         |
| 12         | 0.26         | 55.2            | Head          | 6.9645       | 1.2242         | 0.4298        | 0.8037                 | 0.7377                 | 0.5551                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2157         | 0.4323        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2157         | 0.4323        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1333         | 0.4349        |                        |                        |                         |
| 13         | 0.24         | 56.3            | Head          | 6.9645       | 1.2242         | 0.4170        | 0.7959                 | 0.7286                 | 0.5424                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2157         | 0.4194        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2157         | 0.4194        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1332         | 0.4220        |                        |                        |                         |
| 14         | 0.22         | 57.3            | Head          | 6.9645       | 1.2242         | 0.4043        | 0.7882                 | 0.7195                 | 0.5297                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2157         | 0.4067        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2157         | 0.4067        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1331         | 0.4092        |                        |                        |                         |
| 15         | 0.20         | 58.4            | Head          | 6.9645       | 1.2242         | 0.3914        | 0.7804                 | 0.7104                 | 0.5169                  |
|            |              |                 | L. Jamb       | 6.9056       | 1.2158         | 0.3939        |                        |                        |                         |
|            |              |                 | R. Jamb       | 6.9056       | 1.2158         | 0.3939        |                        |                        |                         |
|            |              |                 | Sill          | 8.2770       | 1.1331         | 0.3963        |                        |                        |                         |

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  
B3772.19-116-45

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.

## STANDARD SINGLE DOOR BOM -1.75 Frame

|                  |                            |
|------------------|----------------------------|
| <b>ATI</b>       |                            |
| <b>Report #</b>  | <u>B3772-116-45</u>        |
| <b>Date</b>      | <u>10/20/2011</u>          |
| <b>Simulator</b> | <u><i>Eric Barilac</i></u> |

### FRAME:

| Description               | QTY   | Length   | Part number | Material |
|---------------------------|-------|----------|-------------|----------|
| 4500 Jamb 1.3/4" x 4 1/2" | 2     | 82 3/8"  | E4544       |          |
| Header 1 3/4" x 4 1/2"    | 1     | 34 1/4"  | E45124      |          |
|                           | 1     | 34 7/23" |             |          |
| Header Door stops & Jambs | 2     | 80 5/8"  | E4531       |          |
| Weather pile              | 30 ft |          | P1098A      |          |
| closure open back plate   | 2     |          | E4543       |          |

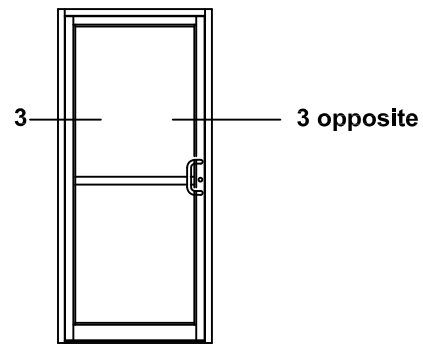
### DOOR:

| Description                     | QTY   | Length    | Narrow P/N     | Medium P/N    | Wide P/N      | Material      |
|---------------------------------|-------|-----------|----------------|---------------|---------------|---------------|
| Beveled Door Stiles             | 2     | 79 13/16" | E0055 - 2 1/8" | E0086- 4"     | E0416 - 5"    |               |
| Door Top Rail                   | 1     | 29 13/16" | E0255- 2 1/8"  | E0054- 4"     | E0318 - 5"    |               |
| Top Rail Lug                    | 2     |           | P168           | P031          | P339          | AL            |
| Door Botom Rail                 | 1     | 29 13/16" | E0054- 4"      | E0419- 6 1/2" | E0419- 6 1/2" |               |
| Bottom Rail Lug                 | 2     |           | P031           | P341          | P341          | AL            |
| Top Rail & Bottom Rail Tie Rods | 2     | 33 1/4"   | P020B          | P020          | P020          | Steel         |
| Washer for Tie Rods             | 4     |           | P852           | P853          | P853          | steel/AL      |
| Hex nuts for Tie rods           | 4     |           | S071A          | S071A         | S071A         | Steel         |
| Exterior Glass Stop 1" glass    | 4     |           | E0927          | E0927         | E0927         |               |
| Interior Glass Stop 1" glass    | 4     |           | E0928          | E0928         | E0928         |               |
| Gasket                          | 35.42 |           | P0017          | P0017         | P0017         |               |
| Adjutable Wedge Setting Bldk    | 2     |           | P1911          | P1911         | P1911         | Polypropylene |
| Self Adhesive Setting Bldk      | 3     |           | P1912          | P1912         | P1912         | EPDM          |
| Threshold                       | 1     |           | E0019          | E0019         | E0019         |               |
| Threshold clip                  | 2     |           | P679           | P679          | P679          | AL            |

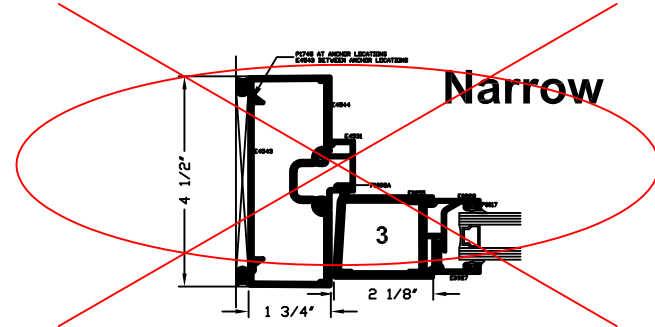
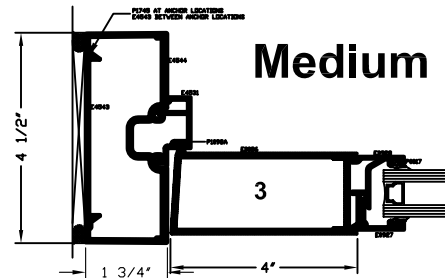
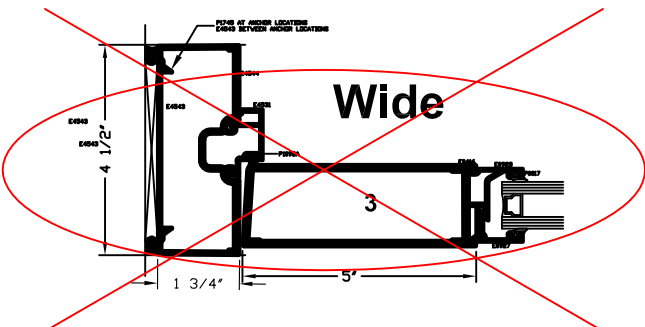
### MATERIAL:

E - All E part numbers are AL extrusions

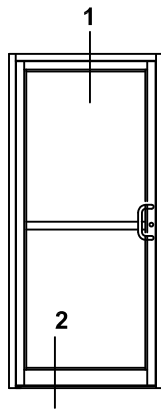
# Standard Doors - Single 1.75" Jamb detail Elevations & 1/4 Size Details



|           |                            |
|-----------|----------------------------|
|           | <b>ATI</b>                 |
| Report #  | <u>B3772-116-45</u>        |
| Date      | <u>10/20/2011</u>          |
| Simulator | <u><i>Eric Borillo</i></u> |



\*SEALANT, ROD, & ANCHORS NOT BY TUBELITE



# Standard Doors - Single 1.75 frame Elevations & 1/4 Size Details

**ATI**

**Report #** B3772-116-45

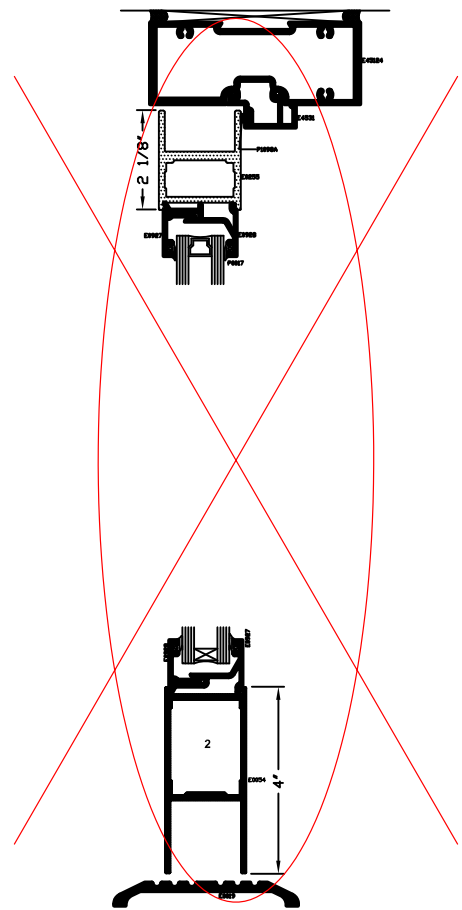
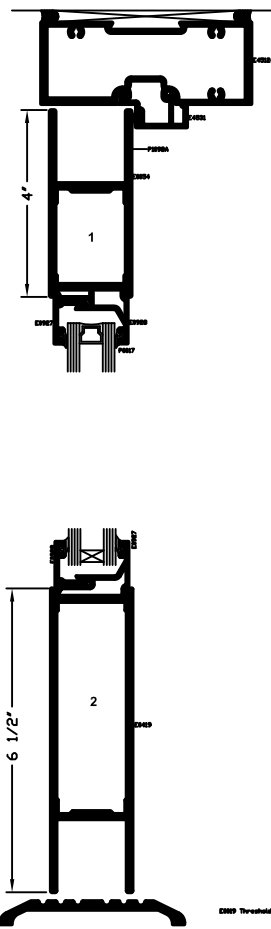
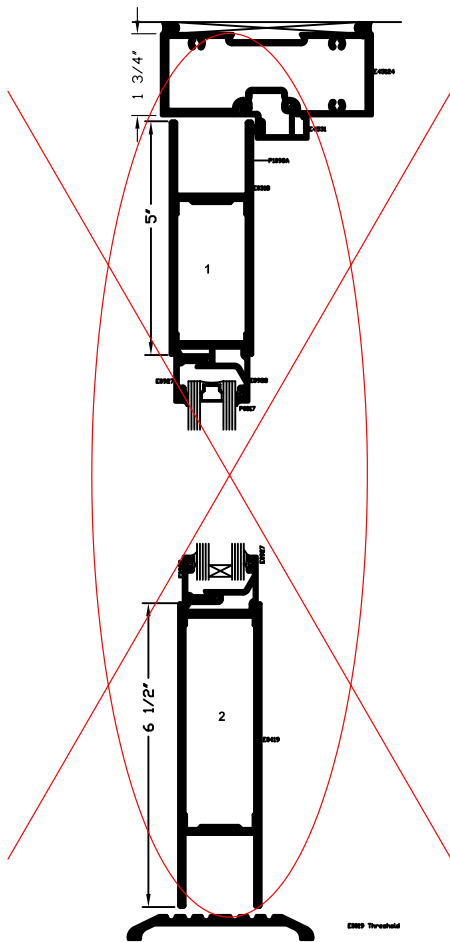
**Date** 10/20/2011

**Simulator** Eric Barilko

**Wide**

**Medium**

**Narrow**

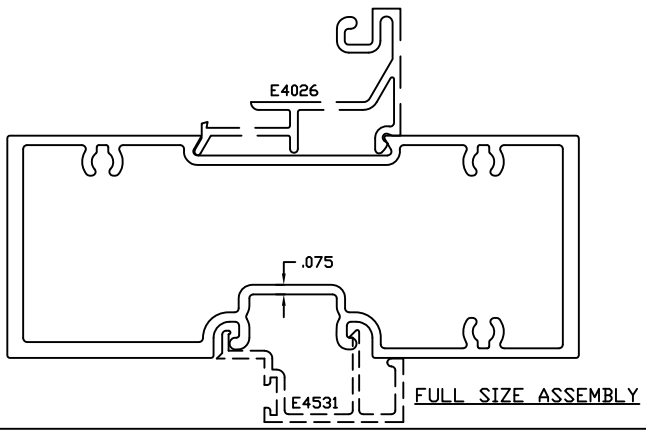
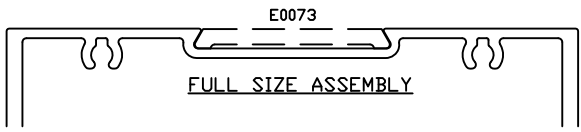
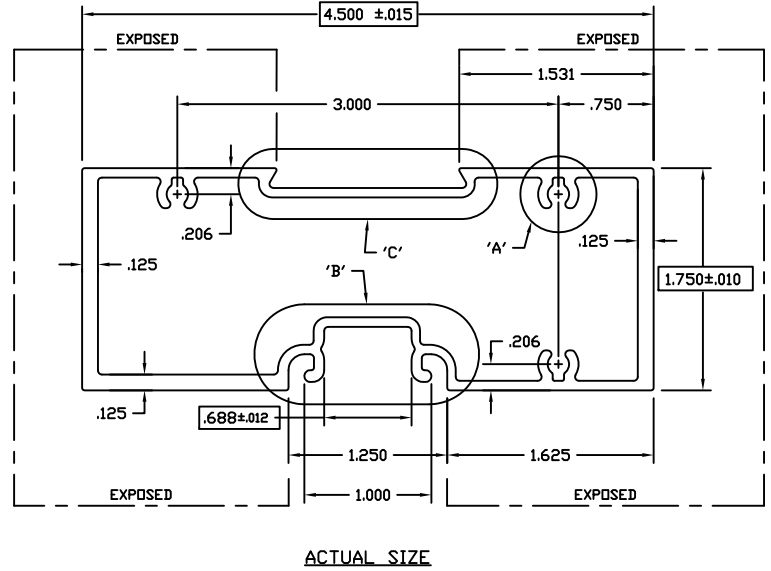
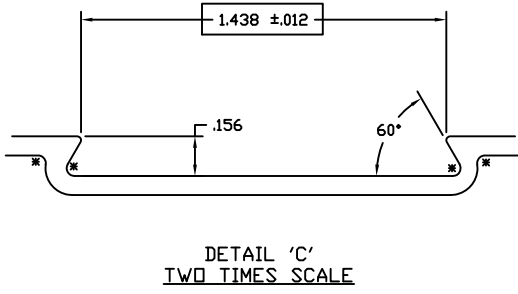
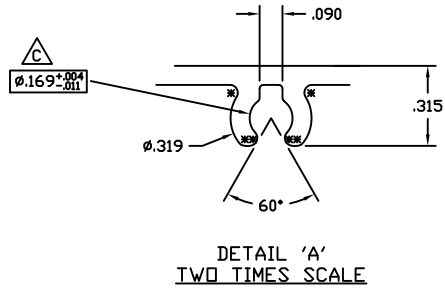
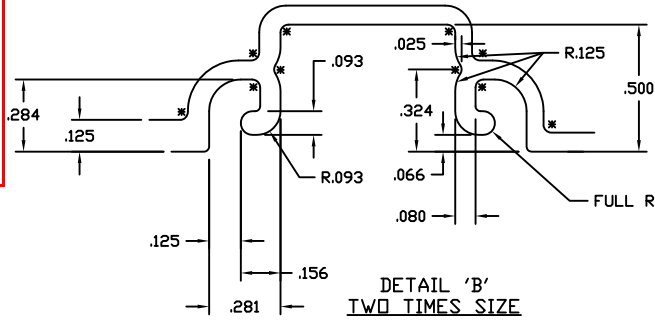


\*SEALANT, ROD, & ANCHORS NOT BY TUBELITE



E45124  
C

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



INDICATES CRITICAL DIMENSION

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 ALUMINUM ASSOCIATION STANDARD TOLERANCES APPLY UNLESS NOTED  
 ALL UNSPECIFIED RADII .015  
 \* INDICATES .031 RADIUS  
 □ DENOTES CRITICAL DIMENSION  
 ALL DIES PROPERTY OF TUBELITE

**TUBELITE**  
 LEADING IN ECO-FRIENDLY OPERATIONAL CURTAINWALL AND ENTRANCE SYSTEMS

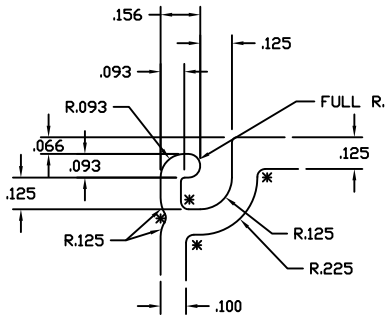
3056 WALKER RIDGE NW, SUITE G  
 WALKER, MICHIGAN 49544

|                       |                |               |       |              |         |       |       |
|-----------------------|----------------|---------------|-------|--------------|---------|-------|-------|
| WALL THK              | .075           | SECTION CLASS | H     | MAT'L        | 6063-T5 | RATIO | 40:1  |
| PERIMETER DUT (TOTAL) | 14.791(29.991) | AREA          | 1.392 | WGT/FT       | 1.637   |       |       |
| FACTOR                | 19             | CIRCLE SIZE   | 4.828 | INT'L VOLUME | N/A     |       |       |
| RXX                   | 1.589          | SXX           | 1.539 | IXX          | 3.516   | CXX   | 2.285 |
| RYY                   | .678           | SYY           | .701  | IYY          | .639    | CYY   | .913  |

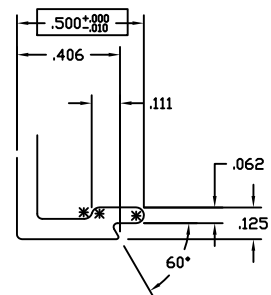
DOOR HEADER 1 3/4" X 4 1/2"  
 E4500 STOREFRONT

|           |       |              |          |          |        |            |   |
|-----------|-------|--------------|----------|----------|--------|------------|---|
| DRAWN BY  | SRD   | DRWG DATE    | 12/08/02 | APP'D BY |        | DATE APP'D |   |
| DWG SCALE | NOTED | PRODUCT CODE | 160      |          | E45124 | REV        | C |

| REV    | DATE     | DESCRIPTION                                    | INTL |
|--------|----------|--|------|
| EDI729 | 5-17-93  | RELEASE TO TOOLING                             | KMH  |
| EDI764 | 7-7-93   | REVISE EXTR. # WAS E-45007                     | KMH  |
| EDI772 | 7-28-93  | RELEASE TO PRODUCTION                          | KMH  |
| A      | 11-8-95  | REVISED SCREW BOSS                             | SRK  |
| EDI231 | 11-8-95  | RELEASE TO TOOLING                             | SRK  |
| B      | 03/07/03 | REVISED GL. POCKET AND REGLET - REDUCED WEIGHT | SRD  |
|        | 03/07/03 | RENAMED ES12C15 - RELEASE FOR PRODUCTION       | SRD  |
| C      | 09/15/10 | .169 +.004/-011, WAS .162±.004                 | CRH  |



DETAIL 'A'  
TWO TIMES SIZE



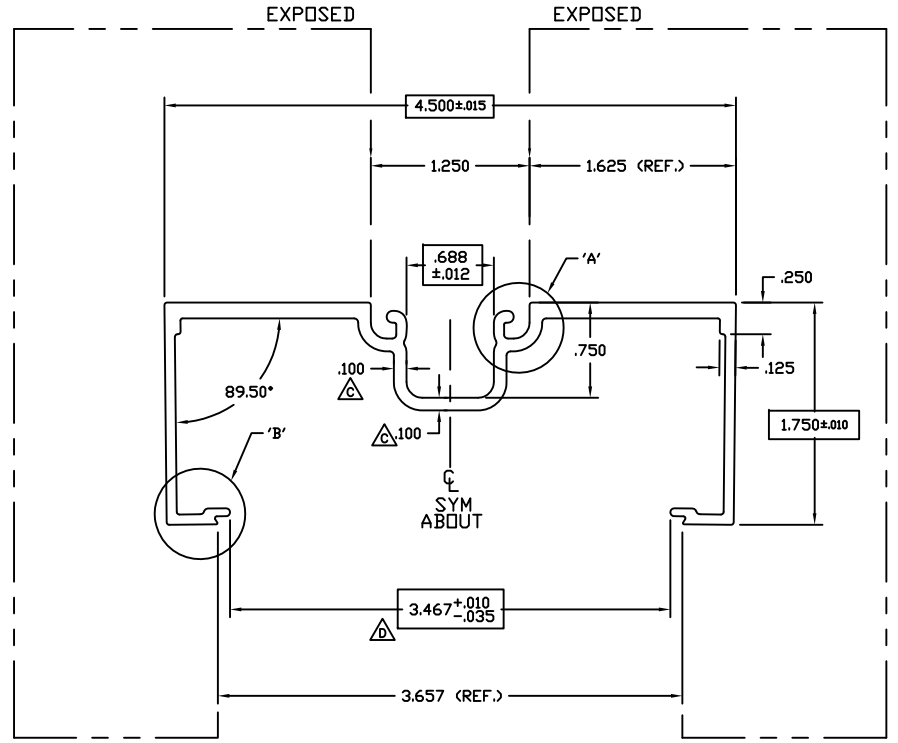
DETAIL 'B'  
TWO TIMES SIZE

**ATI**

Report # B3772-116-45

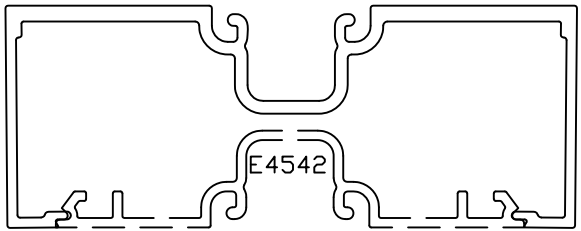
Date 10/20/2011

Simulator Eric Bakula



FULL SIZE

INDICATES CRITICAL DIMENSION



ASSEMBLY

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ALL UNSPECIFIED RADII .015  
\* INDICATES .031 RADIUS  
□ DENOTES CRITICAL DIMENSION  
ALL DIES PROPERTY OF TUBELITE

**TUBELITE**  
LEADING IN HIGH-IMPACT EXTRUSION  
CROWN WALL AND ENTRANCE SYSTEMS

3056 WALKER RIDGE NW, SUITE G  
WALKER, MICHIGAN 49544

|                              |                   |                   |            |
|------------------------------|-------------------|-------------------|------------|
| WALL THK. .080               | SECTION CLASS S   | MAT'L 6063-T5     | RATIO 53:1 |
| PERIMETER OUT (TOTAL) 20.704 | AREA 1.030        | WGT/FT 1.211      |            |
| FACTOR 17                    | CIRCLE SIZE 4.802 | INFTLL VOLUME N/A |            |
| RXX 1.577                    | SXX 1.139         | IXX 2.562         | CXX 2.250  |
| RYY .543                     | SYY .245          | IYY .304          | CYY 1.241  |

**OPEN BACK FRAME 1 3/4" X 4 1/2"  
E4500 STOREFRONT**

|                 |                    |           |             |
|-----------------|--------------------|-----------|-------------|
| DRAWN BY SRD    | DRWG DATE 12/08/02 | APPV'D BY | DATE APPV'D |
| BWG SCALE NOTED | PRODUCT CODE 160   | E4544     | REV C       |

| REV    | DATE     | DESCRIPTION                                    | INTL |
|--------|----------|--|------|
| ED2933 | 6-26-97  | REV. .125 WALL CONTINUOUS                      | SRK  |
| A      | 03/07/03 | REVISED GL. POCKET AND REGLET - REDUCED WEIGHT | SRD  |
|        | 03/07/03 | RENAMED E912C14 - RELEASE FOR PRODUCTION       | SRD  |
| B      | 03/17/04 | REVISED WALL THICKNESS IN POCKET AREA AND LEGS | CRH  |
| C      | 04/08/04 | REVISED WALL THICKNESS IN POCKET AREA          | CRH  |
| D      | 03/28-07 | REDUCED OPENING FOR BETTER FIT                 | NIK  |







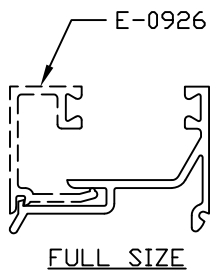
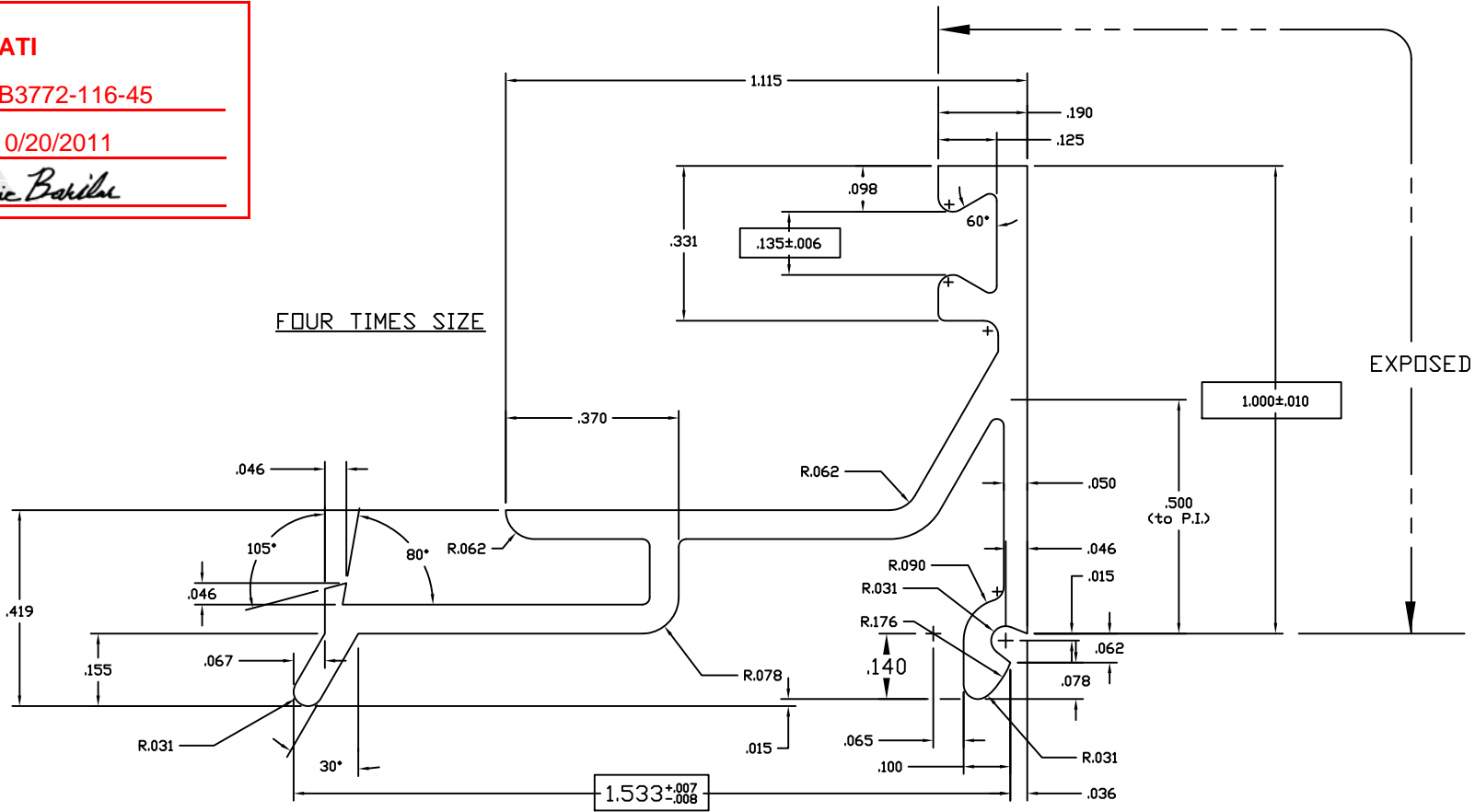
E0928

ATI

Report # B3772-116-45

Date 10/20/2011

Simulator Eric Barilka



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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TOLERANCES APPLY UNLESS NOTED

ALL UNSPECIFIED RADII .015

\* INDICATES .031 RADIUS

□ DENOTES CRITICAL DIMENSION

ALL DIES PROPERTY OF TUBELITE



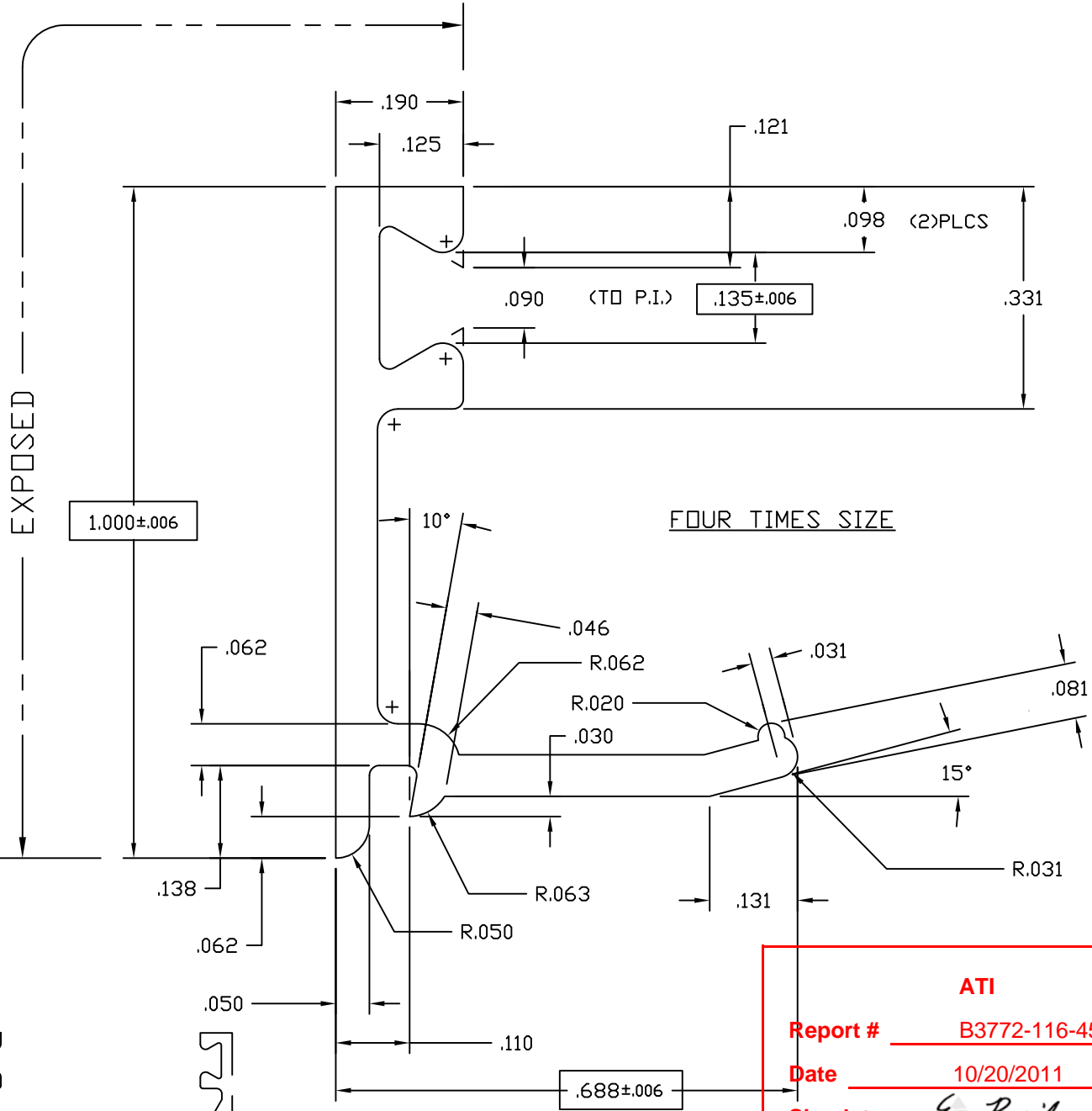
3056 WALKER RIDGE NW, SUITE G  
WALKER, MICHIGAN 49544

|                             |                   |                   |            |
|-----------------------------|-------------------|-------------------|------------|
| WALL THK .062               | SECTION CLASS S   | MAT'L 6063-T5     | RATIO 59:1 |
| PERIMETER DUT (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 | SYY .113 | IYY .059 | CYY 1.049 |

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

|                  |                    |           |             |     |
|------------------|--------------------|-----------|-------------|-----|
| DRAWN BY DH      | DRWG DATE 07/03/84 | APPV'D BY | DATE APPV'D | REV |
| DRWG SCALE NOTED | PRODUCT CODE 100   | E0928     |             |     |



**ATI**

Report # B3772-116-45

Date 10/20/2011

Simulator Eric Barilko

- 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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 \* INDICATES .031 RADIUS



3056 WALKER RIDGE NW, SUITE G  
 WALKER, MICHIGAN 49544

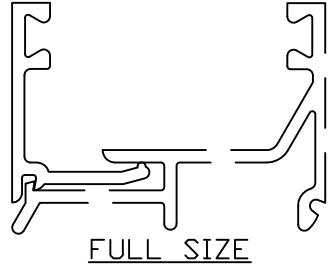
|                       |       |               |       |        |         |               |      |
|-----------------------|-------|---------------|-------|--------|---------|---------------|------|
| WALL THK.             | .062  | SECTION CLASS | S     | MAT'L  | 6063-T5 | RATIO         | 74:1 |
| 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 |

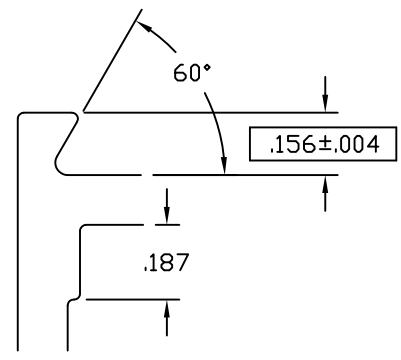
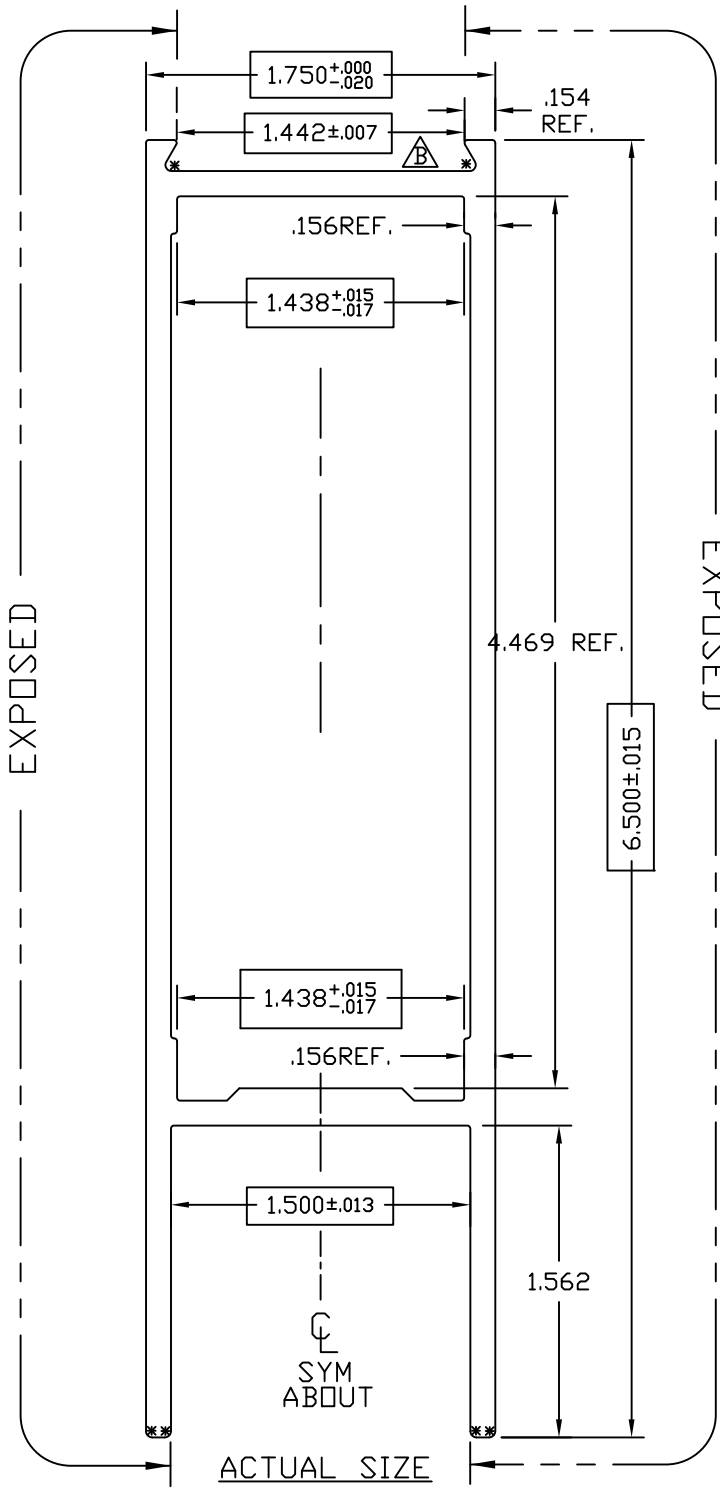
GLASS STOP, 1" HIGH FOR 1" GLASS STOCK DOORS

|           |       |              |          |           |  |             |  |
|-----------|-------|--------------|----------|-----------|--|-------------|--|
| 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  |
|     |          |                  |      |
|     |          |                  |      |
|     |          |                  |      |
|     |          |                  |      |
|     |          |                  |      |



E0419  
B



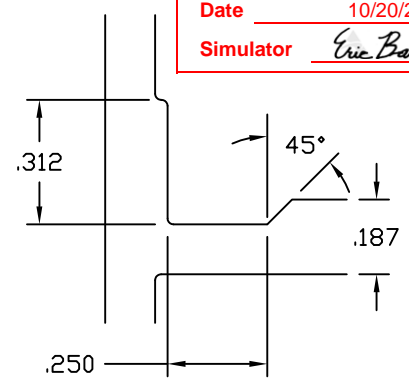
TWO TIMES SCALE

**ATI**

Report # B3772-116-45

Date 10/20/2011

Simulator Eric Barilko



TWO TIMES SCALE

$.125^{+.003}_{-.011}$  TYP WALL UNLESS NOTED

SNAP FIT W/E-0437

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LEADERS IN ECO-EFFICIENT STOREFRONT,  
CURTAINWALL AND ENTRANCE SYSTEMS

3056 WALKER RIDGE NW, SUITE G  
WALKER, MICHIGAN 49544

|                       |                |               |       |               |         |       |      |
|-----------------------|----------------|---------------|-------|---------------|---------|-------|------|
| WALL THK.             | NOTED          | SECTION CLASS | H     | MAT'L         | 6063-T5 | RATIO | 26:1 |
| PERIMETER OUT (TOTAL) | 19.959(26.440) |               | AREA  | 2.084         | WGT/FT  | 2.451 |      |
| FACTOR                | 11             | CIRCLE SIZE   | 6.720 | INFILL VOLUME | N/A     |       |      |

|     |       |     |       |     |       |     |       |
|-----|-------|-----|-------|-----|-------|-----|-------|
| RXX | .747  | SXX | 1.330 | IXX | 1.164 | CXX | .875  |
| RYY | 1.980 | SYX | 2.447 | IYY | 8.175 | CYY | 3.340 |

HORIZONTAL RAIL 6 1/2" X 1 3/4"  
CUSTOM DOORS/FRAMES

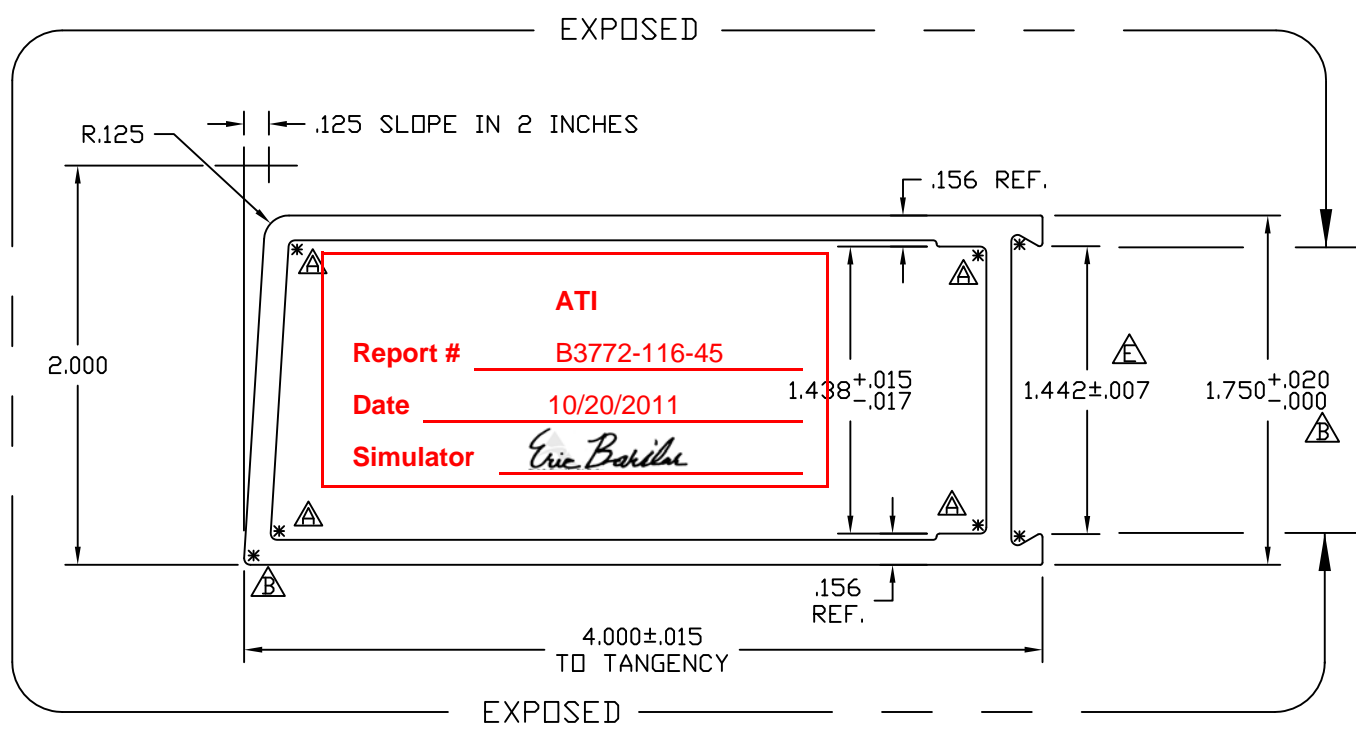
DRAWN BY DH DRWG DATE 04/19/84 APPV'D BY CRH DATE APPV'D 12/08/00

DWG SCALE NOTED PRODUCT CODE 110 **E0419** REV **B**

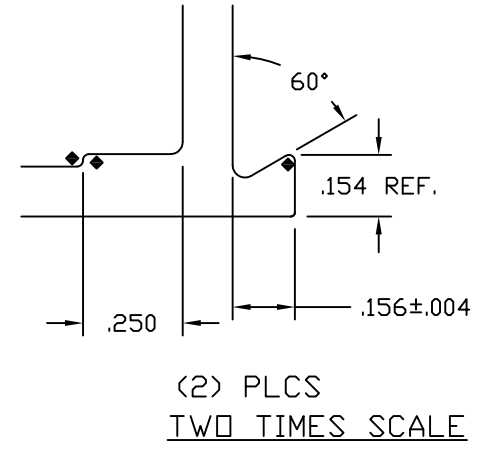
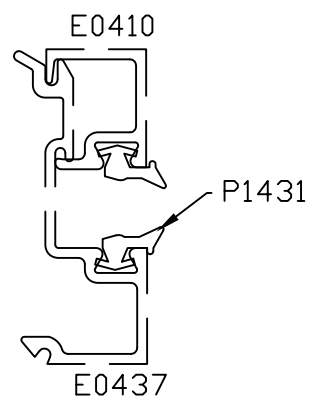
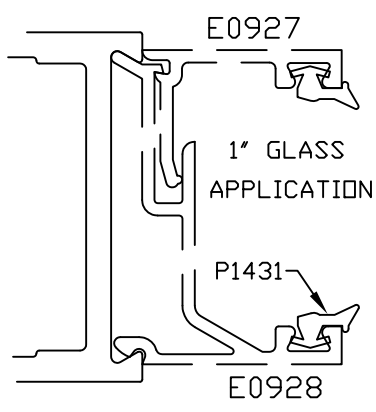
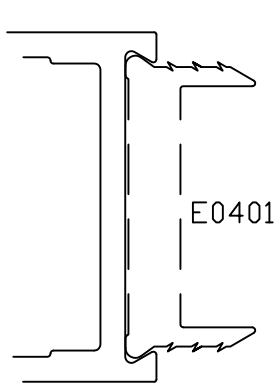
| REV | DATE     | DESCRIPTION                          | INTL |
|-----|----------|--------------------------------------|------|
| A   | 11/16/00 | 1.449 WAS 1.438                      | CRH  |
| B   | 07/08/03 | 1.449 +/--.007 WAS 1.449 +.000/-.010 | CRH  |
|     |          |                                      |      |
|     |          |                                      |      |
|     |          |                                      |      |
|     |          |                                      |      |

E0086

E



FULL SCALE



SNAP FIT W/E0437(1/4"GLASS) AND E0928(1"GLASS)  
.125 (+.003/-0.11) TYP WALL

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3056 WALKER RIDGE NW, SUITE G  
WALKER, MICHIGAN 49544

|                       |                |               |       |               |         |       |      |
|-----------------------|----------------|---------------|-------|---------------|---------|-------|------|
| WALL THK.             | NOTED          | SECTION CLASS | H     | MAT'L         | 6063-T5 | RATIO | 40:1 |
| PERIMETER OUT (TOTAL) | 11.757(21.761) |               | AREA  | 1.374         | WGT/FT  | 1.615 |      |
| FACTOR                | 13             | CIRCLE SIZE   | 4.360 | INFILL VOLUME | N/A     |       |      |

|     |       |     |       |     |       |     |       |
|-----|-------|-----|-------|-----|-------|-----|-------|
| RXX | .728  | SXX | .824  | IXX | .728  | CXX | .884  |
| RYY | 1.368 | SYX | 1.270 | IYY | 2.571 | CYY | 2.024 |

BEVELED VERTICAL STILE 1 3/4" X 4"  
CUSTOM DOORS/FRAMES

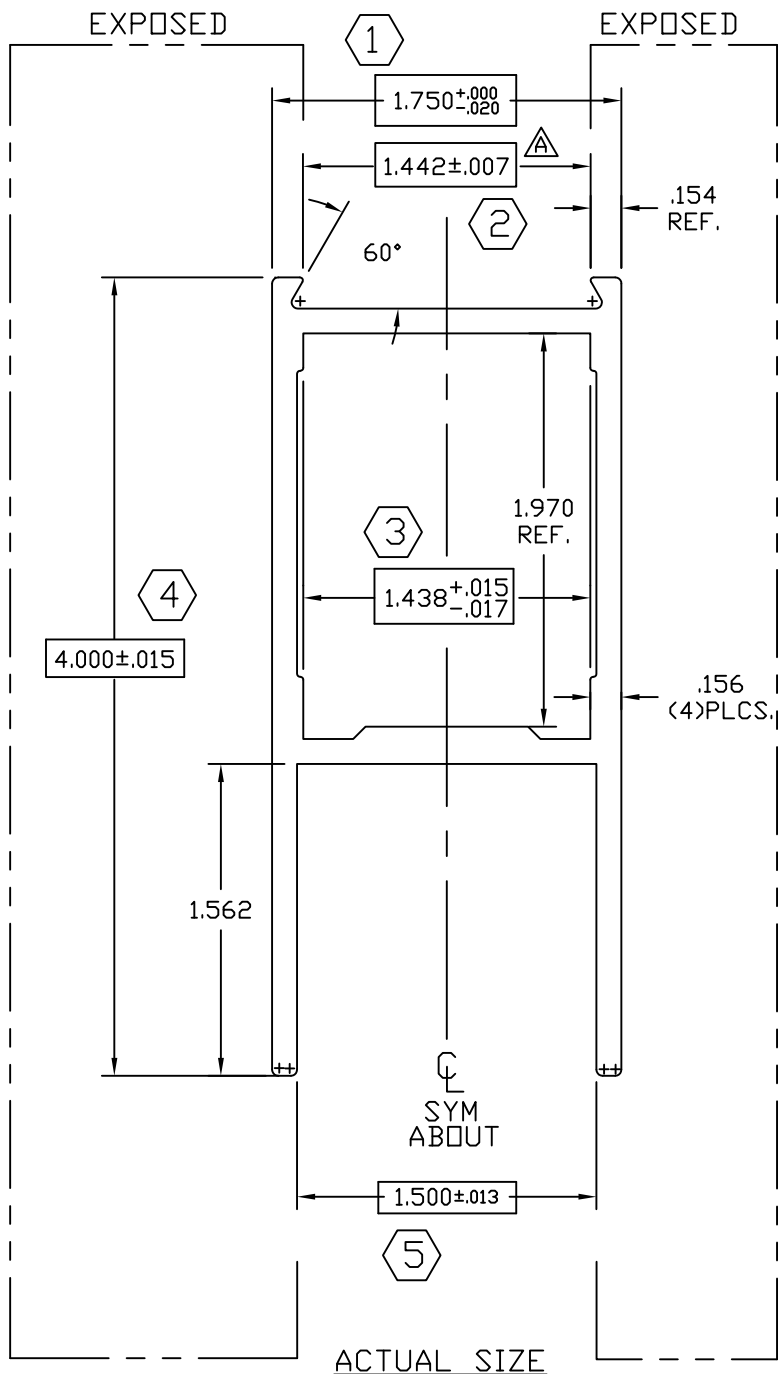
□ DENOTES CRITICAL DIMENSION  
ALL DIES PROPERTY OF TUBELITE

| REV | DATE     | DESCRIPTION                                       | INTL |
|-----|----------|---|------|
| A   | 7/7/00   | 1.449 WAS 1.438, REV. TOL ON 1.750                | CRH  |
|     |          | REMOVED .156 X .250 PAD AREA AND ADDED .031 RADII |      |
| B   | 08/23/00 | 1.750 +.020/-0.000 WAS +.000/-0.020, ADDED .031 R | CRH  |
| C   | 09/29/00 | +0.005/-0.010 WAS +.015/-0.000                    | CRH  |
| D   | 12/1/00  | +0.000/-0.010 WAS +.005/-0.010                    | CRH  |
| E   | 01/22/02 | 1.442+/-0.007 WAS 1.449+0.000/-0.010              | CRH  |

|           |       |              |          |           |  |             |   |
|-----------|-------|--------------|----------|-----------|--|-------------|---|
| DRAWN BY  | DLH   | DRWG DATE    | 04/04/84 | APPV'D BY |  | DATE APPV'D |   |
| DWG SCALE | NOTED | PRODUCT CODE | 110      | E0086     |  | REV         | E |

E0054

C

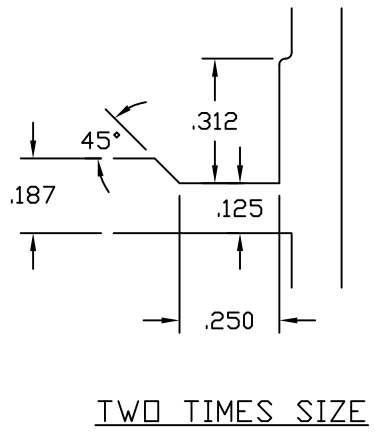
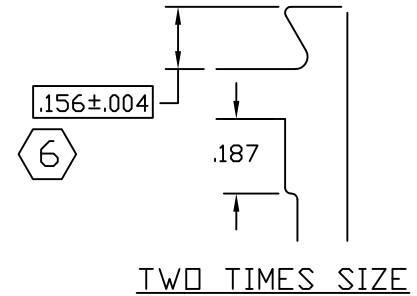


**ATI**

**Report #** B3772-116-45

**Date** 10/20/2011

**Simulator** Eric Barilak



7 SNAP FIT WITH E-0437

$.125 \begin{smallmatrix} +.003 \\ -.011 \end{smallmatrix}$  TYP WALL UNLESS NOTED

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3056 WALKER RIDGE NW, SUITE G  
 WALKER, MICHIGAN 49544

|                       |        |               |       |               |         |       |      |
|-----------------------|--------|---------------|-------|---------------|---------|-------|------|
| WALL THK.             | NOTED  | SECTION CLASS | H     | MAT'L         | 6063-T5 | RATIO | 38:1 |
| PERIMETER OUT (TOTAL) | 14.972 | (22.036)      | AREA  | 1.460         | WGT/FT  | 1.715 |      |
| FACTOR                | 13     | CIRCLE SIZE   | 4.352 | INFILL VOLUME | N/A     |       |      |

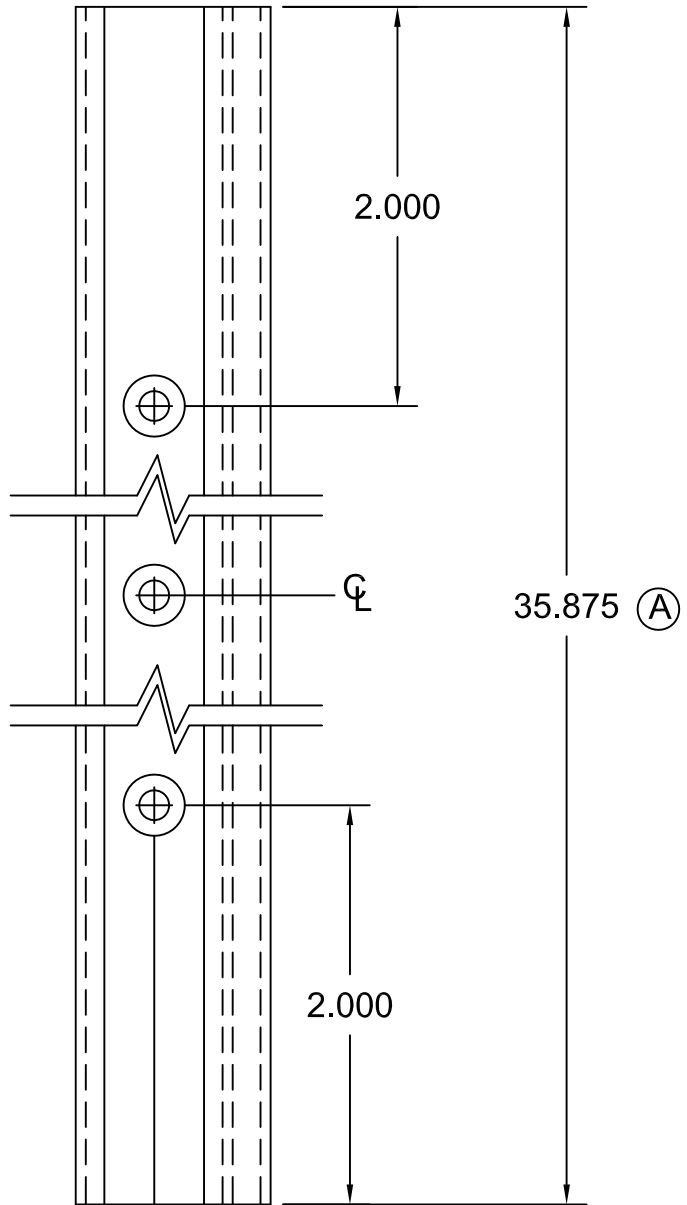
|     |       |     |      |     |       |     |       |
|-----|-------|-----|------|-----|-------|-----|-------|
| RXX | 1.153 | SXX | .890 | IXX | 1.941 | CXX | 2.182 |
| RYY | .717  | SYX | .858 | IYY | .751  | CYY | .875  |

HORIZONTAL RAIL 4" X 1 3/4"  
 STOCK DOORS

| REV | DATE     | DESCRIPTION           | INTL |
|-----|----------|-----------------------|------|
| A   | 11/22/91 | REVISED CALCULATIONS  | KMH  |
| B   | 12/10/91 | REVISED CALCULATIONS  | KMH  |
| C   | 4/2/02   | WAS 1.438 +.01/-0.013 | CRH  |
|     |          |                       |      |
|     |          |                       |      |
|     |          |                       |      |
|     |          |                       |      |

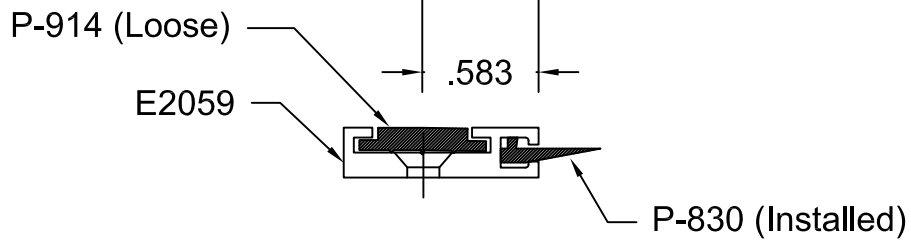
|           |       |              |          |           |             |     |   |
|-----------|-------|--------------|----------|-----------|-------------|-----|---|
| DRAWN BY  | DAT   | DRWG DATE    | 03/31/84 | APPV'D BY | DATE APPV'D | REV | C |
| DWG SCALE | NOTED | PRODUCT CODE | 100      | E0054     |             |     |   |

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



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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 □ DENOTES CRITICAL DIMENSION

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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 | REV |
| DRWG SCALE Full | PRODUCT CODE 380   | P1275     |             | C   |



P1098A

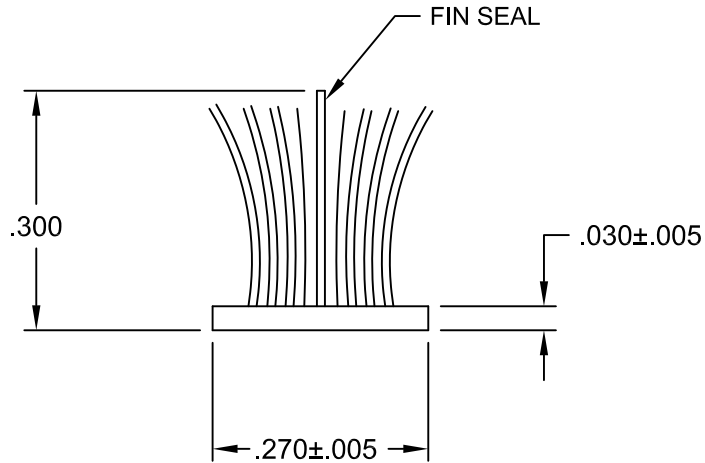
B

ATI

Report # B3772-116-45

Date 10/20/2011

Simulator Eric Bahille



Actual Size

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ALL UNSPECIFIED RADII .015

\* INDICATES .031 RADIUS

□ DENOTES CRITICAL DIMENSION

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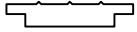
3056 WALKER RIDGE NW, SUITE G  
WALKER, MICHIGAN 49544

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

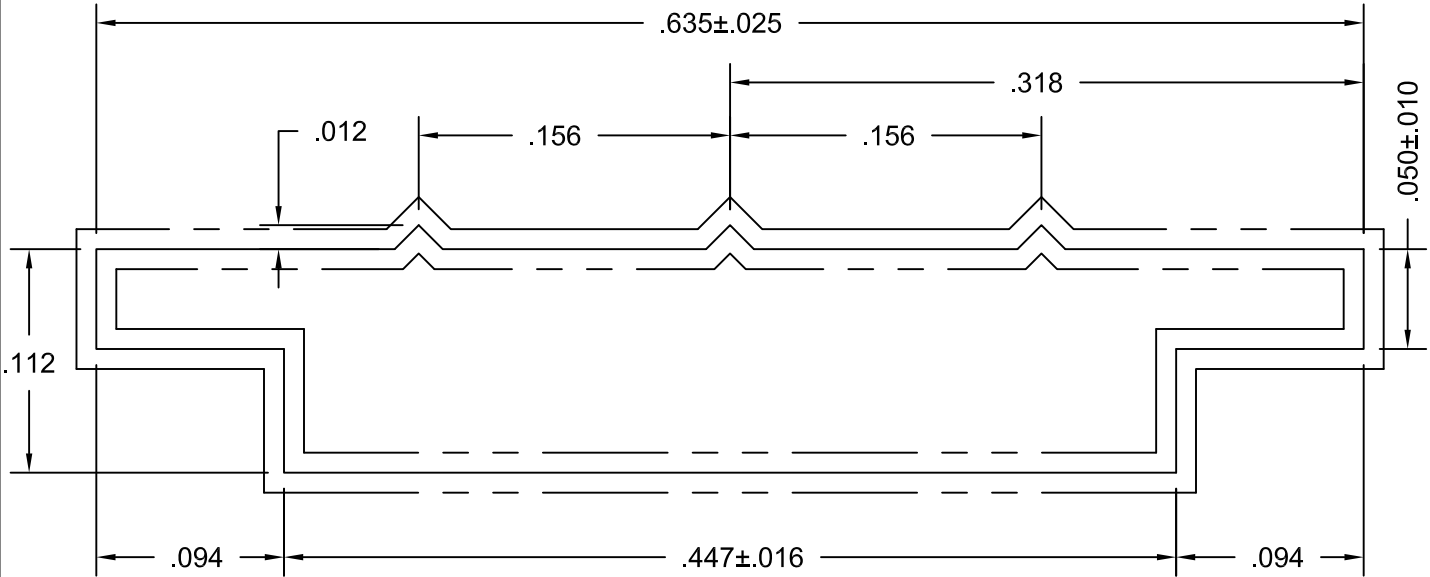
Poly Bond Fin-Seal Weathering  
 use with Door Stop E1377

|                  |                    |           |             |
|------------------|--------------------|-----------|-------------|
| DRAWN BY Don H   | DRWG DATE 06/03/83 | APPV,D BY | DATE APPV'D |
| DRWG SCALE Noted | PRODUCT CODE 380   | P1098A    |             |
|                  |                    |           | REV B       |

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



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

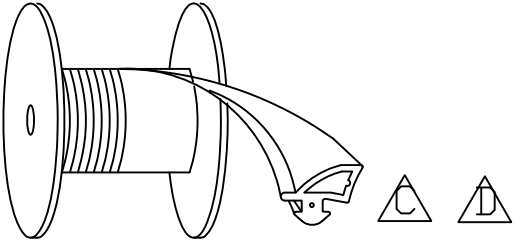
□ DENOTES CRITICAL DIMENSION

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3056 WALKER RIDGE NW, SUITE G  
 WALKER, MICHIGAN 49544

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

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



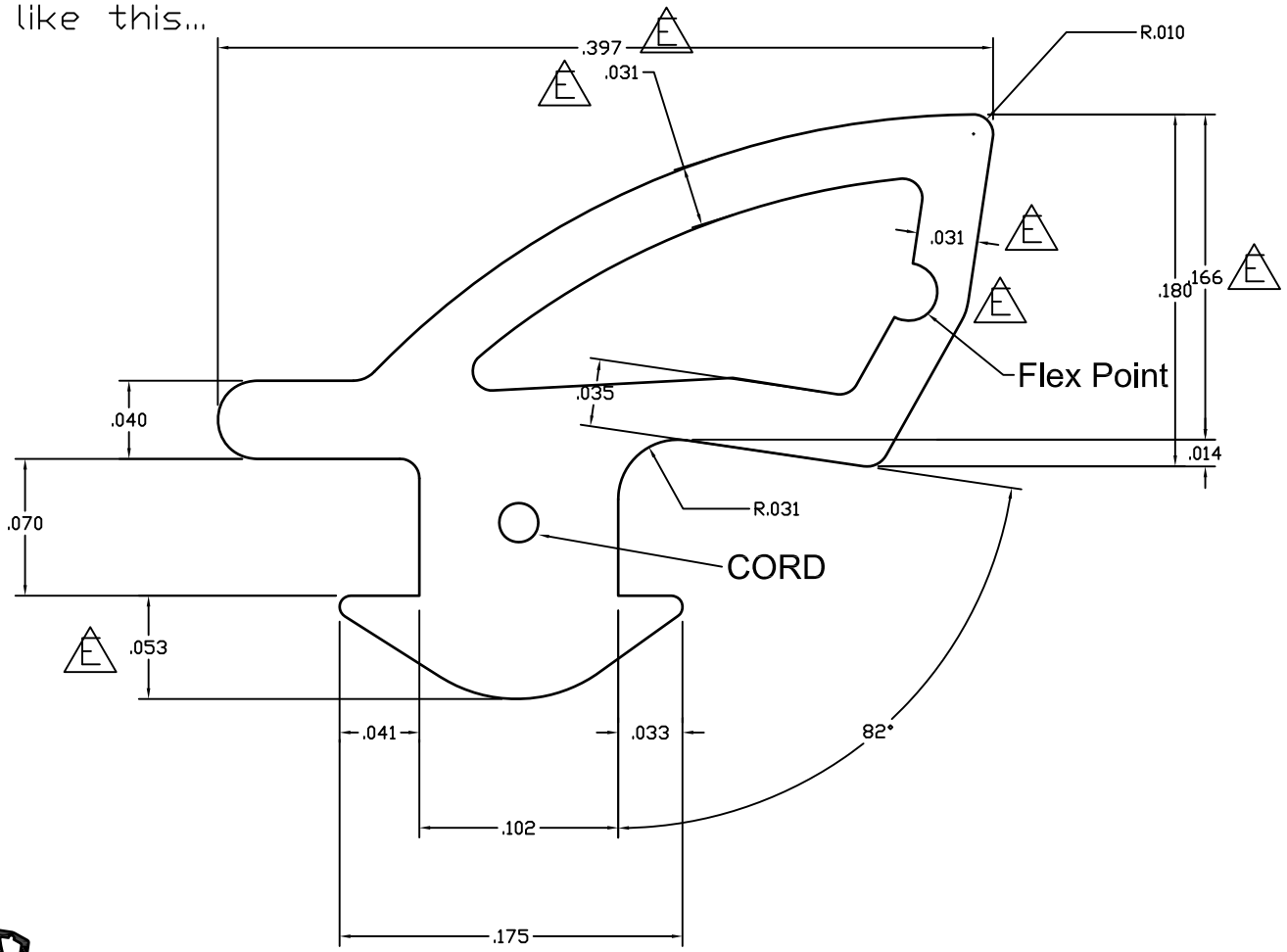
**ATI**

**Report #** B3772-116-45

**Date** 10/20/2011

**Simulator** Eric Baribe

Material must UNREEL like this...



ACTUAL SIZE

MATERIAL: EPDM 60 DUROMETER WITH CORD

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 \* INDICATES .031 RADIUS  
 □ DENOTES CRITICAL DIMENSION

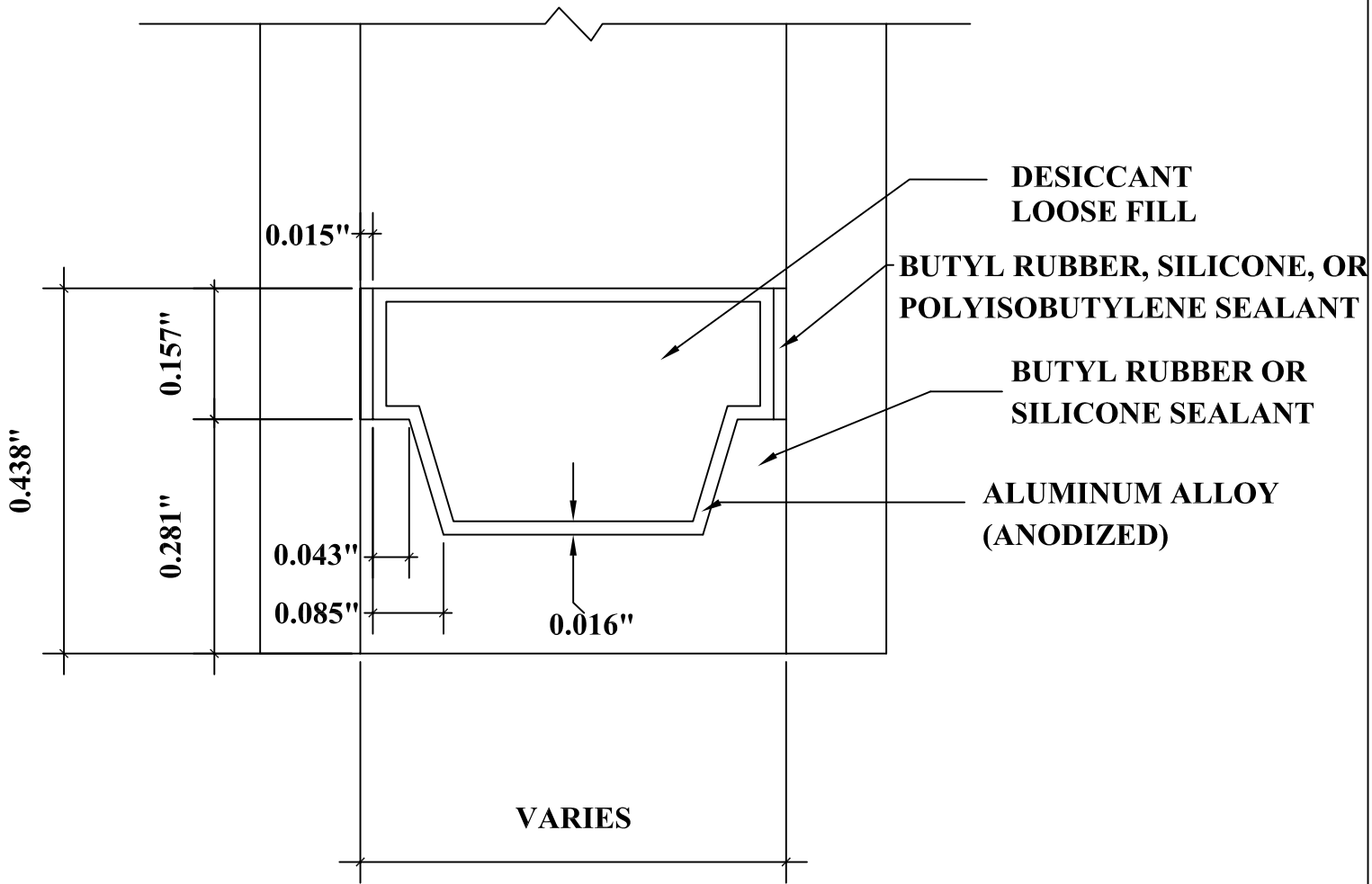


3056 WALKER RIDGE NW, SUITE G  
 WALKER, MICHIGAN 49544

| 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<br>NIK   | DRWG DATE<br>4-17-07 | APPV.D BY | DATE APPV'D | REV<br>E |
| DRWG SCALE<br>10X | PRODUCT CODE<br>100  | P0017     |             |          |



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