

**NFRC 102-2010 THERMAL PERFORMANCE
TEST REPORT**

Rendered to:

CRAWFORD TRACEY CORPORATION

SERIES/MODEL: Pro-Tech 45 SG IG

TYPE: Glazed Wall System

Summary of Results	
Standardized Thermal Transmittance (U-Factor)	0.33
Unit Size	78-3/4" x 78-3/4" (2000mm x 2000mm)
Layer 1	1/4" Viracon VE1-2M (e=0.040*, #2) Tempered
Gap 1	0.50" Gap, Aluminum Spacer (A1-D), Air-Filled*
Layer 2	1/2" (1/4" Clear / 0.060 PVB / 1/4" Clear) Laminated

Reference must be made to Report No. 99722.01-116-46, dated 04/23/10 for complete test specimen description and data.

NFRC 102-2010 THERMAL PERFORMANCE TEST REPORT

Rendered to:

CRAWFORD TRACEY CORPORATION
3301 SW 13th Drive
Deerfield Beach, Florida 33442

Report Number: 99722.01-116-46
Test Date: 04/16/10
Report Date: 04/23/10
Expiration Date: 04/16/14

Test Sample Identification:

Series/Model: Pro-Tech 45 SG IG

Type: Glazed Wall System

Overall Size: 78-3/4" x 78-3/4" (2000mm x 2000mm)

NFRC Standard Size: 78.7" x 78.7" (2000 mm wide x 2000 mm high)

Test Sample Submitted by: Client

Test Sample Submitted for:

Test Procedure: U-factor tests were performed in a Guarded Hot Box in accordance with NFRC 102-2010, *Test Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems*.

Test Results Summary:

Standardized U-factor (U_{st}): 0.33 Btu/hr·ft²·F CTS Method

Test Sample Description:

CONSTRUCTION	Frame
Size (in.)	78-3/4" x 78-3/4"
Daylight Opening (in.)	35-5/8" x 74-3/4" (x2)
CORNERS	Butt
Fasteners	Screws
Sealant	No
MATERIAL	AT (0.25")
Color Exterior	Gray
Finish Exterior	Anodized
Color Interior	Gray
Finish Interior	Anodized
GLAZING METHOD	Exterior Structurally Glazed

Glazing Information:

Layer 1	1/4" Viracon VE1-2M (e=0.040*, #2) Tempered
Gap 1	0.50" Gap, Aluminum Spacer (A1-D), Air-Filled*
Layer 2	1/2" (1/4" Clear / 0.060 PVB / 1/4" Clear) Laminated
Gas Fill Method	N/A*

**Stated per Client/Manufacturer*

N/A Non-Applicable

See Description Table Abbreviations

Test Sample Description: (Continued)

COMPONENTS		
Type	Quantity	Location
WEATHERSTRIP		
Foam gasket	2 rows	Exterior glazing perimeter
EPDM gasket	1 row	Interior glazing perimeter
HARDWARE		
End caps	6	Two per head and sill, one per jambs at exterior frame perimeter
Interior trim/insert	6	Two per interior head and sill, one per jambs
3-1/2" Applied trim	1	Exterior center mullion
1-5/8" Applied trim	6	Two per exterior head and sill, one per jambs
DRAINAGE		
No visible weeps		

Thermal Transmittance (U-factor)

Measured Test Data

Heat Flows

1. Total Measured Input into Metering Box (Q_{total})	1116.71 Btu/hr
2. Surround Panel Heat Flow (Q_{sp})	47.53 Btu/hr
3. Surround Panel Thickness	8.00 inches
4. Surround Panel Conductance	0.0261 Btu/hr-ft ² -F
5. Metering Box Wall Heat Flow (Q_{mb})	39.88 Btu/hr
6. EMF vs Heat Flow Equation (equivalent information)	0.0196*EMF + 0.020
7. Flanking Loss Heat Flow (Q_{fl})	17.90 Btu/hr
8. Net Specimen Heat Loss (Q_s)	1011.40 Btu/hr

Areas

1. Test Specimen Projected Area (A_s)	42.66 ft ²
2. Test Specimen Interior Total (3-D) Surface Area (A_h)	59.88 ft ²
3. Test Specimen Exterior Total (3-D) Surface Area (A_c)	49.27 ft ²
4. Metering Box Opening Area (A_{mb})	69.44 ft ²
5. Metering Box Baffle Area (A_{b1})	60.74 ft ²
6. Surround Panel Interior Exposed Area (A_{sp})	26.78 ft ²

Test Conditions

1. Average Metering Room Air Temperature (t_h)	69.80 F
2. Average Cold Side Air Temperature (t_c)	-0.40 F
3. Average Guard/Environmental Air Temperature	71.26 F
4. Metering Room Average Relative Humidity	11.29 %
5. Measured Cold Side Wind Velocity (Perpendicular Flow)	17.07 mph
6. Measured Static Pressure Difference Across Test Specimen	0.00" \pm 0.04"H ₂ O

Results

1. Thermal Transmittance of Test Specimen (U_s)	0.34 Btu/hr-ft ² -F
2. Standardized Thermal Transmittance of Test Specimen (U_{st})	0.33 Btu/hr-ft ² -F

Thermal Transmittance (U-factor)

Calculated Test Data

CTS Method

1. Emittance of Glass (e_1)	0.84
2. Warm Side Baffle Emittance (e_{b1})	0.92
3. Equivalent Warm Side Surface Temperature	51.95 F
4. Equivalent Cold Side Surface Temperature	3.99 F
5. Warm Side Baffle Surface Temperature	68.64 F
6. Measured Warm Side Surface Conductance (h_h)	1.33 Btu/hr·ft ² ·F
7. Measured Cold Side Surface Conductance (h_c)	5.40 Btu/hr·ft ² ·F
8. Test Specimen Thermal Conductance (C_s)	0.49 Btu/hr·ft ² ·F
9. Convection Coefficient (K_c)	0.31 Btu/(hr·ft ² ·F ^{1.25})
10. Radiative Test Specimen Heat Flow (Q_{r1})	536.75 Btu/hr
11. Conductive Test Specimen Heat Flow (Q_{c1})	474.65 Btu/hr
12. Radiative Heat Flux of Test Specimen (q_{r1})	12.58 Btu/hr·ft ² ·F
13. Convective Heat Flux of Test Specimen (q_{c1})	11.13 Btu/hr·ft ² ·F
14. Standardized Warm Side Surface Conductance (h_{sth})	1.20 Btu/hr·ft ² ·F
15. Standardized Cold Side Surface Conductance (h_{stc})	5.28 Btu/hr·ft ² ·F
16. Standardized Thermal Transmittance (U_{st})	0.33 Btu/hr·ft ² ·F

Test Duration

1. The environmental systems were started at 14:37 hours, 04/15/10.
2. The test parameters were considered stable for two consecutive four hour test periods from 23:51 hours, 04/15/10 to 07:51 hours, 04/16/10.
3. The thermal performance test results were derived from 03:51 hours, 04/16/10 to 07:51 hours, 04/16/10.

The reported Standardized Thermal Transmittance (U_{st}) was determined using CTS Method, per Section 8.2(A) of NFRC 102.

Glazing Deflection (in):

	Left Glazing	Right Glazing
Edge Gap Width	0.50	0.50
Estimated center gap width upon receipt of specimen in laboratory (after stabilization)	0.50	0.50
Center gap width at laboratory ambient conditions on day of testing	0.50	0.50
Center gap width at test conditions	0.47	0.44

The sample was inspected for the formation of frost or condensation, which may influence the surface temperature measurements. The sample showed no evidence of condensation/frost at the conclusion of the test.

A calibration of the Architectural Testing Inc. 'thermal test chamber' (ICN 000001) in York, Pennsylvania was conducted in April 2009 in accordance with Architectural Testing Inc. calibration procedure.

"This test method does not include procedures to determine the heat flow due to either air movement through the specimen or solar radiation effects. As a consequence, the thermal transmittance results obtained do not reflect performances which may be expected from field installations due to not accounting for solar radiation, air leakage effects, and the thermal bridge effects that may occur due to the specific design and construction of the fenestration system opening. Therefore, it should be recognized that the thermal transmittance results obtained from this test method are for ideal laboratory conditions and should only be used for fenestration product comparisons and as input to thermal performance analyses which also include solar, air leakage and thermal bridge effects."

"Ratings included in this report are for submittal to an NFRC-licensed IA for certification purposes and are not meant to be used for labeling purposes. Only those values identified on a valid Certification Authorization Report (CAR) are to be used for labeling purposes."

The test sample was installed in a vertical orientation, the exterior of the specimen was exposed to the cold side. The direction of heat transfer was from the interior (warm side) to the exterior (cold side) of the specimen.

ANSI/NCSL Z540-2-1997 type B uncertainty for this test was 1.64%.

Detailed drawings, data sheets, representative samples of the test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. until 4/16/2014. At the end of this retention period such materials shall be discarded without notice and the service life of this report by Architectural Testing, Inc. will expire.

Results obtained are tested values and were secured by using the designated test methods. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Ratings included in this report are for submittal to an NFRC licensed IA for certification purposes and are not meant to be used for labeling purposes. Only those values identified on a valid Certification Authorization Report (CAR) are to be used for labeling purposes. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.

Tested By:

Reviewed By:

Ryan P. Moser
Technician

Shon W. Einsig
Senior Technician
Individual-In-Responsible-Charge

RPM:kmm
99722.01-116-46

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

Appendix-A: Description Table Abbreviations (1)

Appendix-B: Submittal Form and Drawings (11)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.01R0	04/23/10	All	Original Report Issue. Work requested by Kevin Hansen of Crawford Tracey Corporation

Appendix A: Description Table Abbreviations

CODE	Frame / Sash Types
AI	Aluminum w/ Vinyl Inserts (Caps)
AL	Aluminum
AP	Aluminum w/ Thermal Breaks - Partial
AS	Aluminum w/ Steel Reinforcement
AT	Aluminum w/ Thermal Breaks - All Members ($\geq 0.21"$)
AU	Aluminum Thermally Improved - All Members (0.062" - 0.209")
AV	Aluminum / Vinyl Composite
AW	Aluminum-clad Wood
FG	Fiberglass
PA	ABS Plastic w/ All Members Reinforced
PC	ABS Plastic-clad Aluminum
PF	ABS Plastic w/ Foam-filled Insulation
PH	ABS Plastic w/ Horizontal Members Reinforced
PI	ABS Plastic w/ Reinforcement - Interlock
PL	ABS Plastic
PP	ABS Plastic w/ Reinforcement - Partial
PV	ABS Plastic w/ Vertical Members Reinforced
PW	ABS Plastic-clad Wood
ST	Steel
VA	Vinyl w/ All Members Reinforced
VC	Vinyl-clad Aluminum
VF	Vinyl w/ Foam-filled Insulation
VH	Vinyl w/ Horizontal Members Reinforced
VI	Vinyl w/ Reinforcement - Interlock
VP	Vinyl w/ Reinforcement - Partial
VV	Vinyl w/ Vertical Members Reinforced
VW	Vinyl-clad Wood
VY	Vinyl
WA	Aluminum / Wood composite
WD	Wood
WV	Vinyl / Wood composite
WF	Fiberglass/Wood Combination
WC	Composite/Wood Composite (Shaped vinyl/wood composite members)
CW	Copper Clad Wood
CO	Vinyl/Wood Composite Material

DOOR DETAILS	
N	Not Applicable
CODE	Door Type
EM	Embossed
FL	Flush
LF	Full Lite
LH	1/2 - Lite
LQ	1/4 - Lite
LT	3/4 - Lite
RP	Raised Panel
CODE	Skin
AL	Aluminum
FG	Fiberglass
GS	Galvanized Steel
ST	Steel
WD	Wood
VY	Vinyl
CODE	Panel
FG	Fiberglass
PL	Plastic
WP	Wood - Plywood
WS	Wood - Solid
CODE	Sub-Structure
GS	Galvanized Steel
ST	Steel
WD	Wood
VY	Vinyl
CODE	Core Fill
CH	Cellular - Honeycomb
EP	Expanded Polystyrene
PI	Polyisocyanurate
PU	Polyurethane
WP	Wood - Plywood
WS	Wood - Solid
XP	Extruded Polystyrene

CODE	Spacer Types (See sealant)
A1	Aluminum
A2	Aluminum (Thermally-broken)
A3	Aluminum-reinforced Polymer
A4	Aluminum / Wood
A5	Aluminum-reinforced Butyl (Swiggle)
A6	Aluminum / Foam / Aluminum
A7	Aluminum U-shaped
A8	Aluminum-Butyl (Corrugated) (Duraseal)
ER	EPDM Reinforced Butyl
FG	Fiberglass
GL	Glass
OF	Organic Foam
P1	Duralite
PU	Polyurethane Foam
SU	Stainless Steel, U-shaped
CU	Coated Steel, U-shaped (Intercept)
S2	Steel (Thermally-broken)
S3	Steel / Foam / Steel
S5	Steel-reinforced Butyl
S6	Steel U-channel w/ Thermal Cap
SS	Stainless Steel
CS	Coated Steel
TP	Thermo-plastic
WD	Wood
ZE	Elastomeric Silicone Foam
ZF	Silicone Foam
ZS	Silicone / Steel
N	Not Applicable
TS	Thermo-plastic w/ stainless steel substrate

CODE	Tint Codes
AZ	Azurlite
BL	Blue
BZ	Bronze
CL	Clear
EV	Evergreen
GD	Gold
GR	Green
GY	Gray
LE	Low 'e' Coating
OT	Other (use comment field)
RC	Solar or Reflective Coating
RG	Roller Shades between glazing
RS	Silver (reflective coating)
SF	Suspended Polyester Film
SR	Silver
BG	Blinds between the Glazing
DV	Dynamic Glazing-Variable
DY	Dynamic Glazing-NonVariable

CODE	Gap Fill Codes
AIR	Air
AR2	Argon/Krypton Mixture
AR3	Argon / Krypton / Air
ARG	Argon/Air
CO2	Carbon Dioxide
KRY	Krypton/Air
SF6	Sulfur Hexafluoride
XE2	Xenon/Krypton/Air
XE3	Xenon/Argon/Air
XEN	Xenon/Air
N	Not Applicable

CODE	Spacer Sealant
D	Dual Seal Spacer System
S	Single Seal Spacer System

CODE	Grid Description
N	No Muntins
G	Grids between glass
S	Simulated Divided Lites
T	True Muntins

CODE	Grid Size Codes
	Blank for no grids
0.75	Grids $< 1"$
1.5	Grids $\geq 1"$

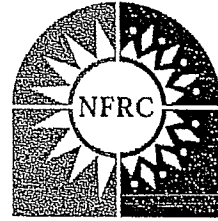
CODE	Thermal Breaks
F	Foam
U	Urethane
V	Vinyl
FB	Fiberglass
O	Other
AB	ABS
NE	Neoprene
AI	Air
N	Not Applicable
P	Polyamide

Appendix B: Submittal Form and Drawings

NFRC PRODUCT CERTIFICATION PROGRAM

Submittal Form for Test Samples

For use by manufacturers, lineal suppliers and fabricators



National Fenestration
Rating Council®

1. Information on Production of the Test Sample (complete ALL fields):

Manufacturer: CRAWFORD-TRACEY CORP. Date of sample manufacture: 3/29/10

Plant Address where manufactured: 3301 SW 13 DRIVE

City: DEERFIELD BEACH State: FLORIDA Zip Code: 33442

Name of IA: KEVIN HANSEN Phone: 954-698-6888 Fax: 954-698-6889

2. Product Information (complete ALL fields):

Product Line ID (CPD) No.: NEW Product/Operator Type (Table 4-3 of NFRC 100): CURTAINWALL

Series/Model: PRO-TECH 45 SG I.G.

3. Test sample is being submitted for (select ONE):

- a. Validation for Initial Certification (prototype only) no plant qualification
- b. Validation for Initial Certification (production line unit) & plant qualification
- c. Validation for Recertification (production line unit) & plant qualification
- d. Plant Qualification Only (production line unit)

I, KEVIN HANSEN, as the designated agent for CRAWFORD TRACEY CORP

do hereby attest that the foregoing information is true to the best of my information, knowledge, and belief. Further, if the unit is identified in Section 3 as a production line unit, I hereby authorize the NFRC-accredited testing laboratory to send a copy of the test report to the IA identified above for plant qualification purposes pursuant to the NFRC Product Certification Program..

Signature: Kevin M. Hansen Date: April 2, 2010

FOR LABORATORY USE ONLY

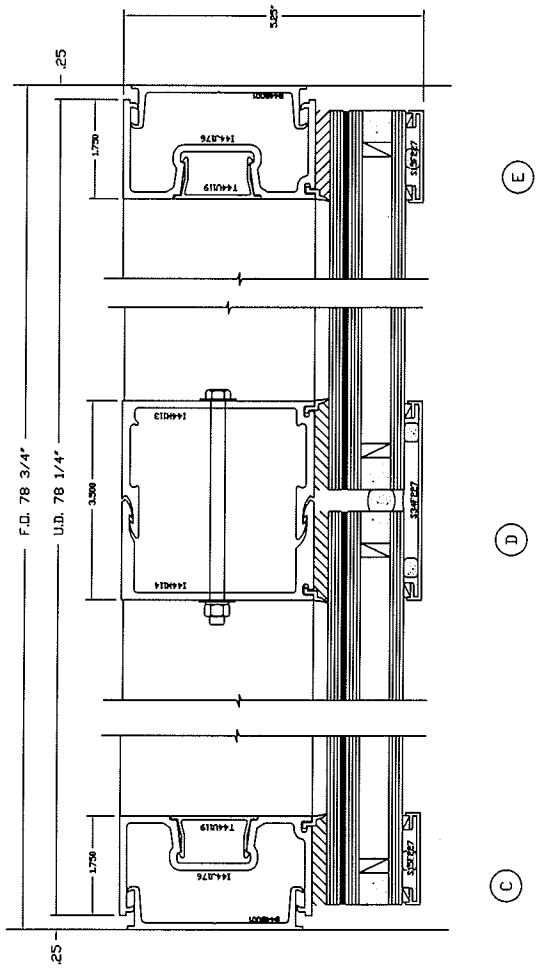
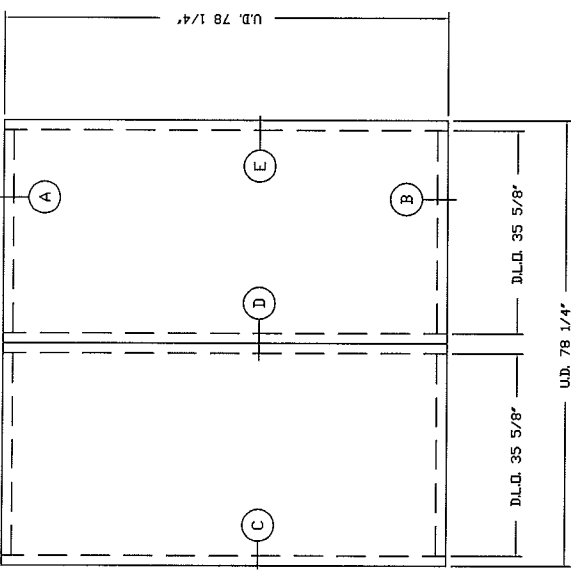
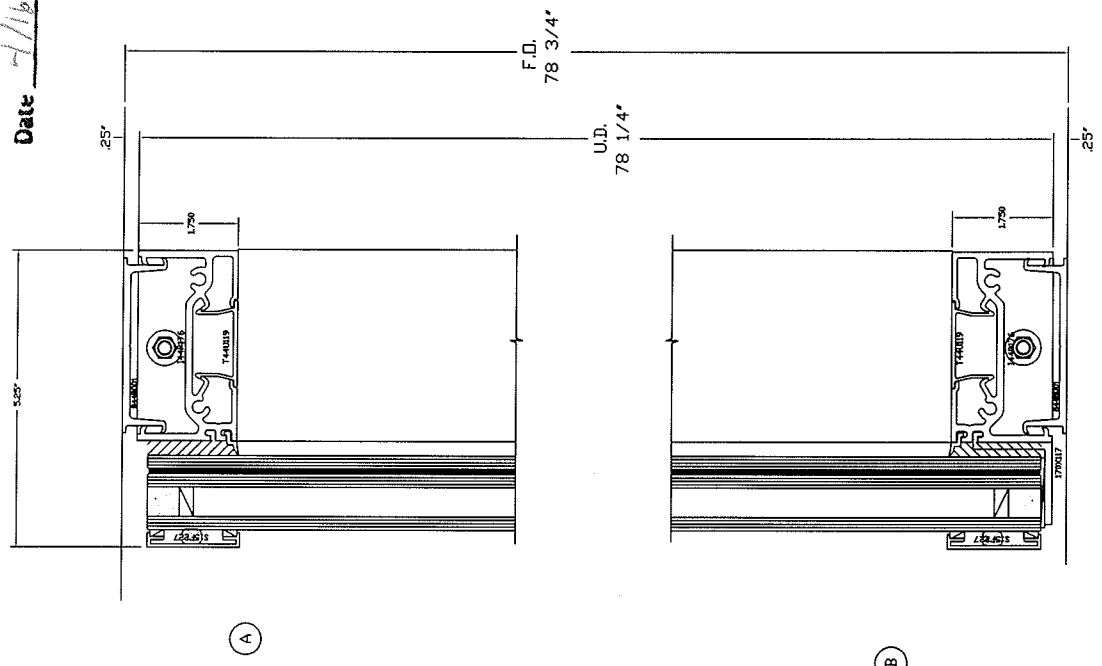
- 1. Laboratory: Architectural testing
- 2. Date Sample Received: 4/7/10 File number ID: 99722
- 3. Date Sample Tested: 4/16/10 By: ppm
- 4. Modifications made: _____

5. Reason for non-testing of sample unit: _____

[Note: If the sample submitted can not be tested due to damage prior to testing, a new sample and new form shall be submitted to the testing laboratory. Both forms shall be submitted to the IA when the testing is completed.]

Test sample complies with these details.
 Deviations are noted

Report# 9777
 Date 7/16/10 Tech Rfm



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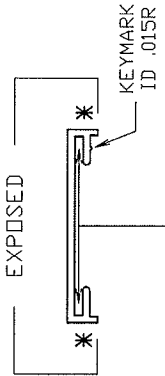
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 File Number
 Design Number



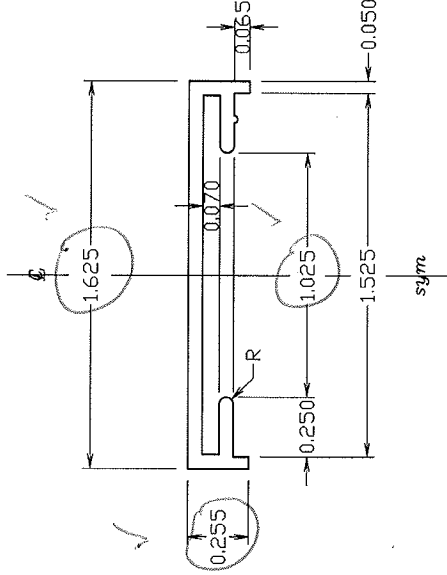
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 Deviations are noted.

Report# 99723 Tech Rjm
 Date 4/16/10

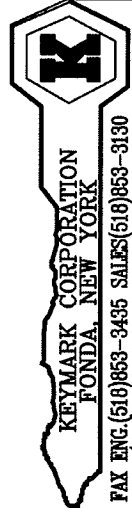
ACTUAL SIZE



S/H RATIO: 2.983 MAX ALLOWED: 3.000



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KEYMARK CORPORATION
 FONDA, NEW YORK
 FAX ENG (518) 853-3435 SALES (518) 853-3130
 TEL. (518) 853-3421 E-MAIL engny@keymarkcorp.com

Unspecified Wall Thickness .060 Break Ext. Corners Radius or as Noted .015

Customer: CRAWFORD TRACEY CORP.
 Job Name: FLORIDA HOSPITAL APOPKA
 Part Number: S15P227

SY/M	PRINT CORRECTION	Date	Revisions	Part Title	Scale
				Alloy 6063	2:1
				Est. Area 0.148 In ²	Date 10-14-05
				Est. Vt./Ft. 0.178 Lbs	Drum
				Temp T-5	JR
				Cavity Size	Checked
				Circle Size 1.6 In	5.077 In
				Extruder Perimeter	
				5.077 In	
				Finish Perimeter	
				3.500 In	
				Est. Perimeter	
				5.077 In	
				Extruder Perimeter	
				5.077 In	

Estimated Reference Only	I _x =	I _y =	Alodine	Type: 00
	S _x =	S _y =	Crimp	Factor 29

Mill Ano. Inm. Incn.

Solid Semi-hollow Class Hollow Class

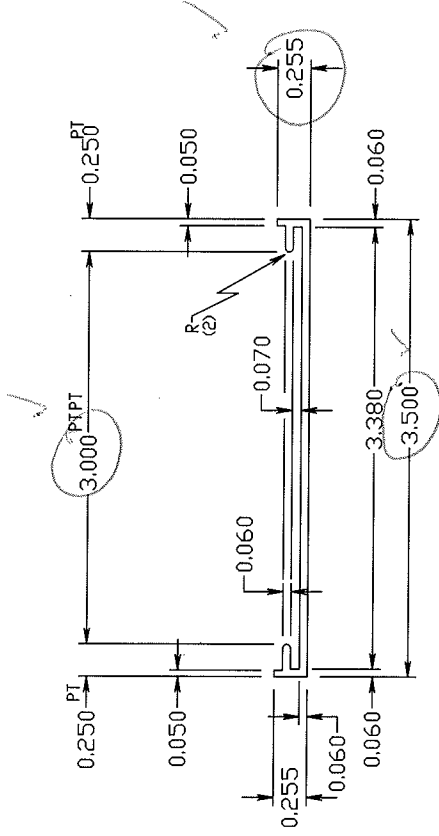
STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-31587
Die Number

ACTUAL SIZE

ANODIZED FOR ADHESION ONLY

EXPOSED



Test sample complies with these details. Deviations are noted.

Report# 99700
Date 4/16/10 Tech Rgm

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

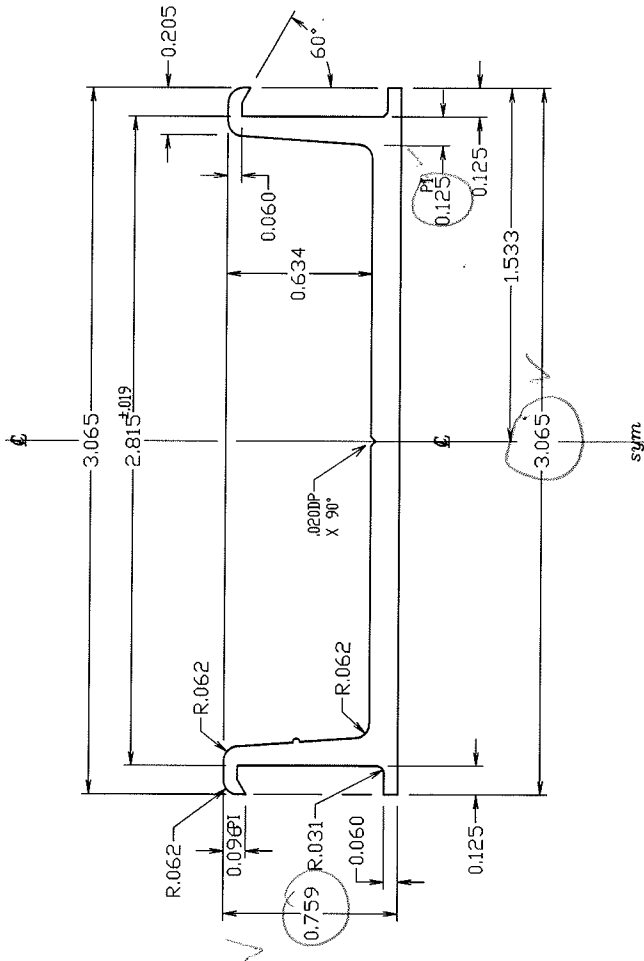
Sym.	Revisions	Date
	PRINT CORRECTION	

Unspecified Wall Thickness: .060	Break All Corners .015 Radius or as Noted
Customer: CRAWFORD TRACY CORP.	Customer's Part Number: S34F227
Job Name: VARIOUS	Scale: 1:1
Part Title: 3 1/2" APPLIED TRIM	Date: 06-08-01
Alloy: 6063	Finish Perimeter: 7.876 In
Temper: T-6	Est. Area: 0.254 In ²
Cavity Size	Est. Wt./Ft.: 0.305 Lbs
Circle Size	Est. Perimeter: 8.610 In
Class	Exterior Perimeter: 8.610 In
Hollow	Circle Size: 3-4 In
Solid	Exterior Perimeter: 8.610 In

Estimated For Reference Only	I _x =	I _y =	Factor	28	Mill	Ano.	Drcn.	Drcn.
	S _x =	S _y =						

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-34533
Die Number
Design Number



ACTUAL SIZE
NO EXPOSED SURFACES



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 99777

Date 7/16/10 Tech RPM

KEYMARK CORPORATION
FONDA, NEW YORK
FAX ENG. (518) 863-3435 SALES (518) 863-3130
TEL. (518) 863-3421 E-MAIL: engny@keymarkcorp.com

Unspecified Vail Thickness	.125	Break Ext. Corners Radius or as Noted	.015
Customer	CRAWFORD TRACEY CORP.	Customer's Part Number	B44B001
Job Name	PRO TECH 45	Scale	2:1
Part Title		Date	03-10-08
Alloy	6105	Est. Area	0.513 In ²
Temper	T-5	Est. Wt./Ft.	0.000 In
Cavity Size	3-4	Est. Perimeter	9.284 In
		Circle Size	9-4 In
		Exterior Perimeter	9.284 In
		Checked	S.J.S.

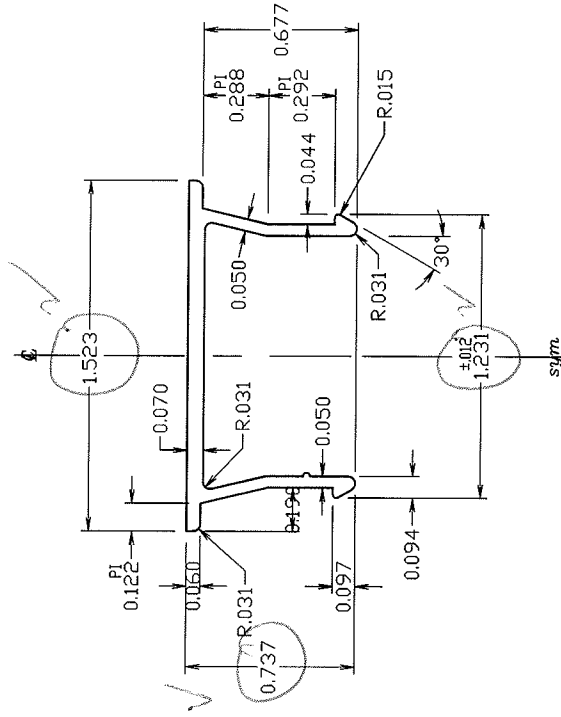
Rev.	2	PRINT CORRECTION	Date	03-23-08
		Revisions		
		Class		
		Hollow		
		Solid		

Estimated For Reference Only	I _x = 0.022	I _y = 0.539	Type	00
	S _x = 0.037	S _y = 0.351	Factor	15
			Crmp	

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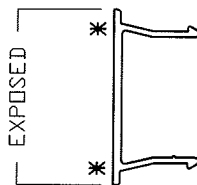
S-34536
File Number
Design Number



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 99702
Date 4/16/16 Tech Rpm



ACTUAL SIZE

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Unspecified Wall Thickness .050		Break Ext. Corners Radius or as Noted .015	
KEYMARK CORPORATION FONDA, NEW YORK FAX ENG (518) 863-3435 SALES (518) 863-3130 TEL (518) 863-3421 E-MAIL eng@keymarkcorp.com			
Customer	CRAWFORD TRACEY CORP.	Part Number	7440119
Job Name	PRO TECH 45	Scale	2:1
Part Title		Date	08-10-03
Alloy	6063	Est. Area	0.177 In ²
Finish	T-6	Est. Vt./Ft.	0.212 Lbs
Estimate		Circle Size	1-2 In
Finish Perimeter	3.500 In	Exterior Perimeter	5.885 In
Est. Perimeter	3.885 In	Checked	

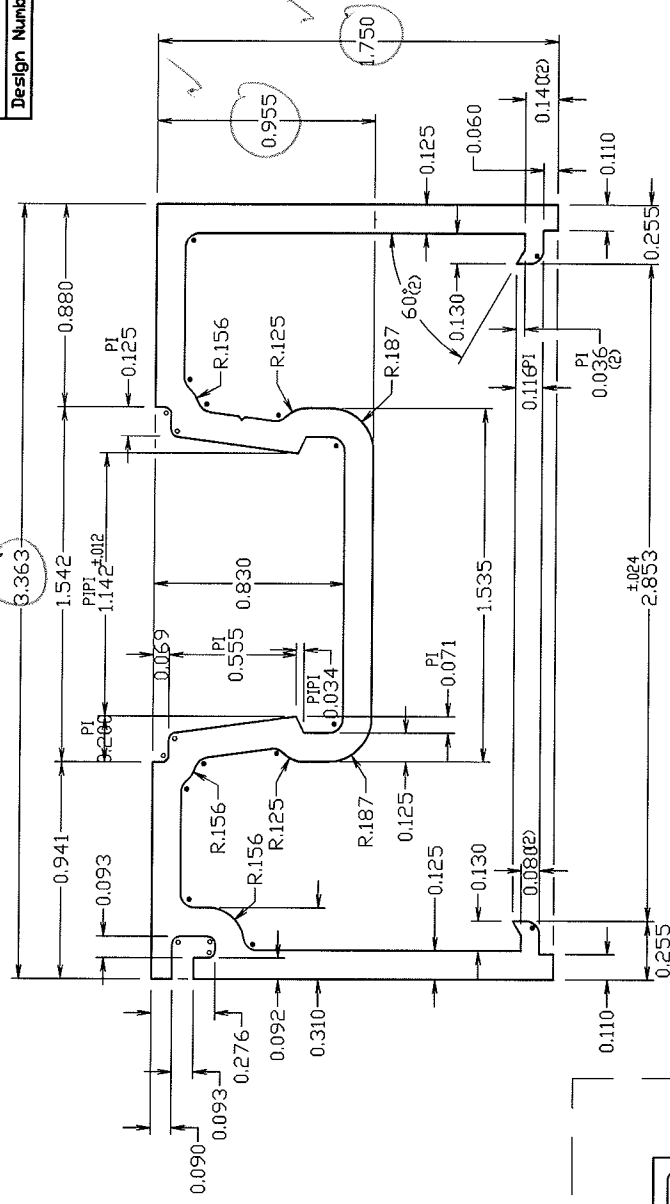
Syn.	Revisions	Date
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Solid	Semi-hollow	Hollow	Class	Class	Class	Class	Class

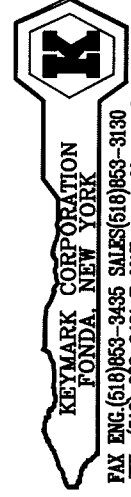
Estimated For Reference Only	Ix =	Iy =	Factor	Type
	Sx =	Sy =	28	00

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-36643
 File Number
 Design Number



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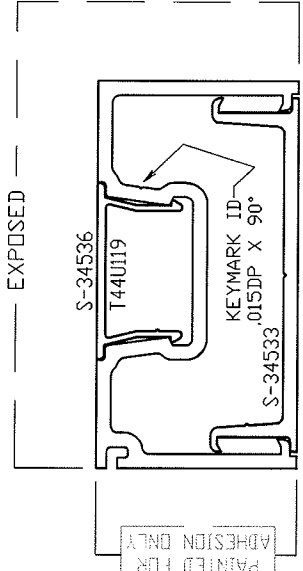
Unspecified Wall Thickness	.125	Break Ext. Corners Radius or as Noted	.015
Customer	CRAWFORD TRACEY CORP.	Customer's Part Number	144U176
Job Name	PRO TECH 45	Scale	2:1
Part Title		Alloy	6063
		Est. Area	1.066 In ²
		Est. Vt./Ft.	5.837 In
		Est. Perimeter	17.513 In
		Drain D.S.S.	Checked
		Cavity Size	3.8 In
		Circle Size	17.513 In

Sym.	PRINT CORRECTION	Revisions	Date

<input type="checkbox"/> Solid	<input checked="" type="checkbox"/> Semi-hollow	<input type="checkbox"/> Class	<input type="checkbox"/> Hollow	<input type="checkbox"/> Class
<input type="checkbox"/> Inrr.	<input checked="" type="checkbox"/> Inrr.	<input type="checkbox"/> Inrr.	<input checked="" type="checkbox"/> Inrr.	<input checked="" type="checkbox"/> Inrr.

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

Report# 99722
 Date 4/16/10 Tech RPM



ACTUAL SIZE ASSEMBLY

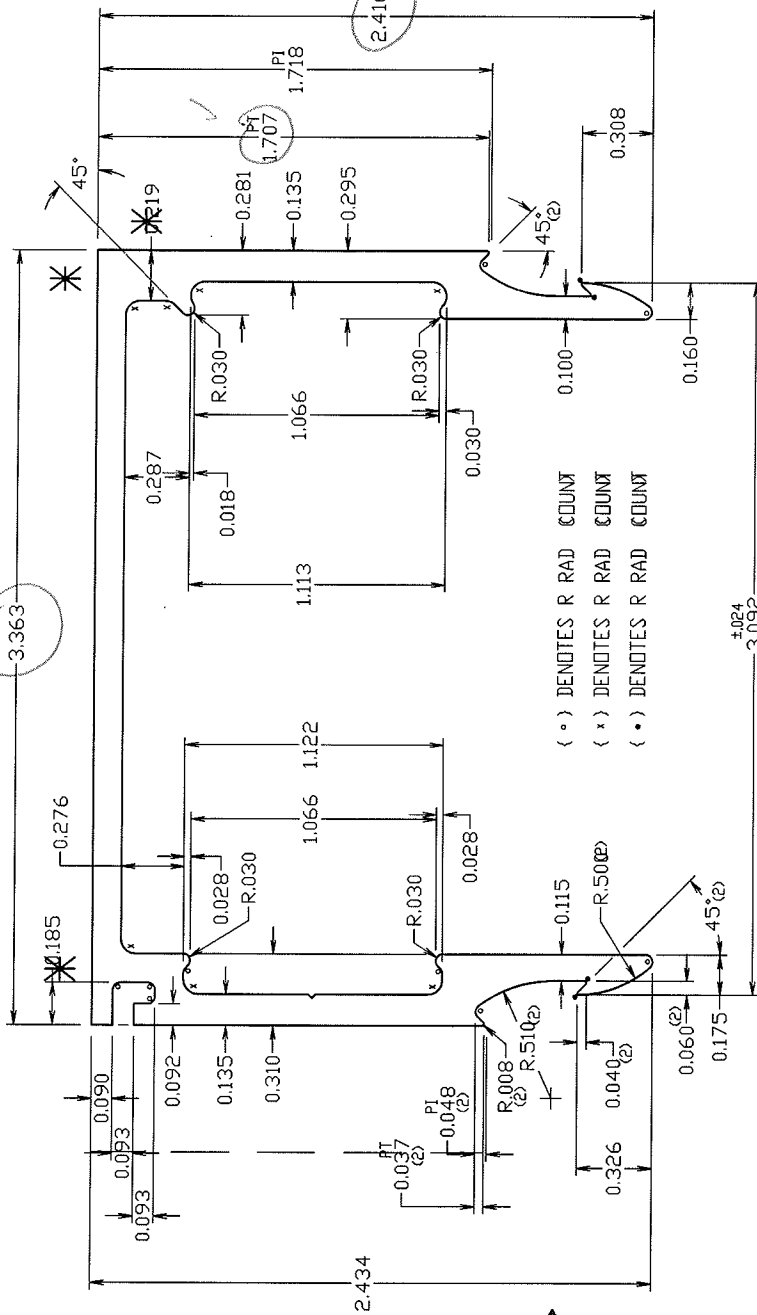
Estimated For Reference Only	Ix =	Iy =	Area	Type	Factor
	Sx =	Sy =		00	1.4

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

STRUCTURAL STREAKING IS EXPECTED

STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-36644
 Job Number
 Design Number



S-36644 MATES WITH S-36645 144M114



Architectural Testing

Test sample complies with these details. Deviations are noted.

Report# 99702
 Date 4/16/10

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ANGULARITY TOLERANCE = 1/2 COMMERCIAL

Unspecified Break Ext. Corners	Val Thickness: .125	Radius or as Noted	.015
Customer's	CRAWFORD TRACY CORP.		
Part Number	144M113		
Job Name	PRO TECH 45	Part Title	
Scale	2:1	Finish Perimeter	7.302 In
Alloy	6063	Est. Area	1.146 In ²
Temp	T-6	Est. Wt./Ft	1.375 Lbs
Drum	D.S.S.	Est. Perimeter	17.417 In
Checked		Circle Size	3.9 In
		Exterior Perimeter	17.417 In

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 TEL (516) 853-3421 E-MAIL: engny@keymarkcorp.com

Sym	PRINT CORRECTION	Revisions	Date

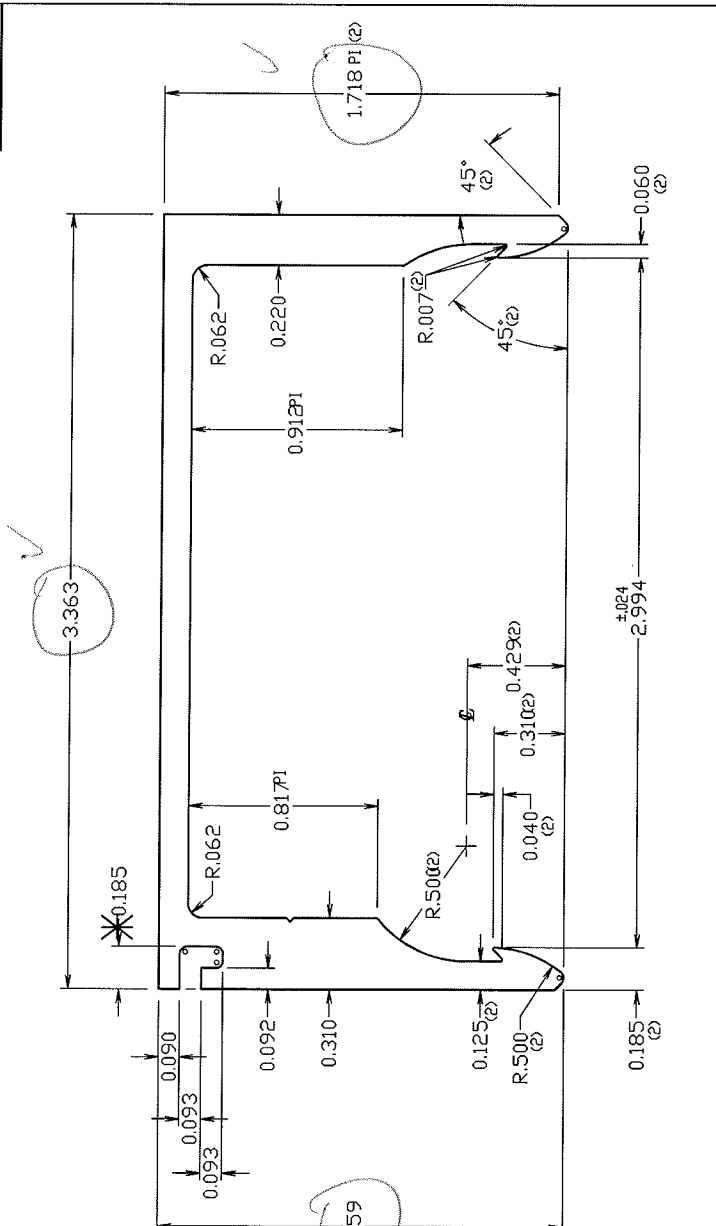
INITIAL HERE FOR ID TYPE/LOCATION APPROVAL

Estimated For Reference Only	Ix =	Iy =	Sx =	Sy =
	Modine	Chipp	Factor 13	Type: 00

Solid	<input type="checkbox"/>	Semi-hollow	<input type="checkbox"/>	Class	<input type="checkbox"/>	Hollow	<input type="checkbox"/>
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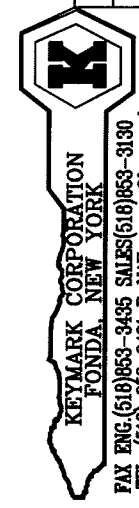
STANDARD COMMERCIAL TOLERANCES FOR EXTRUDED PRODUCTS APPLY UNLESS SPECIFIED OTHERWISE

S-36645
 File Number
 Design Number



ANGULARITY TOLERANCE = 1/2 COMMERCIAL

Unspecified Wall Thickness	.125	Break Ext. Corners Radius or as Noted	.015
Customer	CRAWFORD TRACEY CORP.	Customer's Part Number	144M114
Job Name	PRO TECH 45	Part Title	Scale 2:1
Alloy	6063	Finish Perimeter	Date 08-30-04
Temper	T-6	Est. Area	1.083 In ²
Cavity Size	3.8	Est. Vt/Ft	1.300 Lbs
		Est. Perimeter	13.892 In
		Exterior Perimeter	13.892 In



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Sym.	PRINT CORRECTION	Revisions	Date

INITIAL HERE FOR ID TYPE/LOCATION APPROVAL

Solid Semi-hollow Class Hollow Class



Architectural Testing

Test sample complies with these details.
 Deviations are noted.

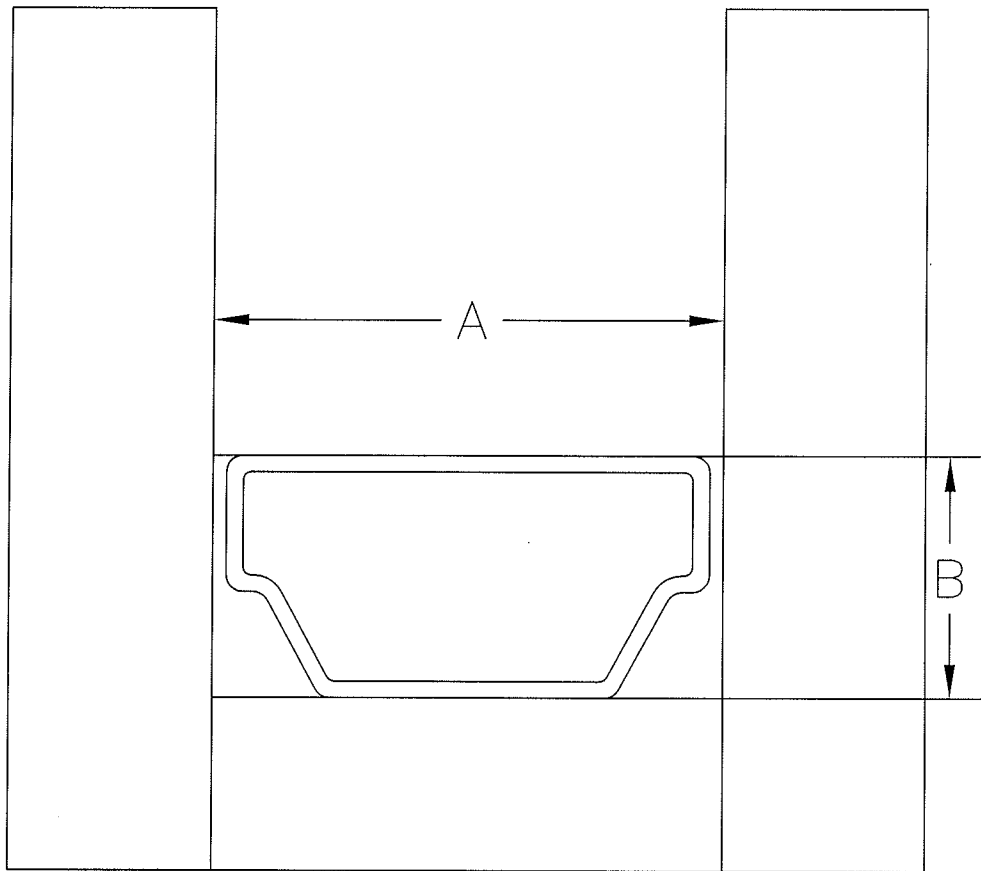
Report# 99722
 Date 4/16/10 Tech rpm

S-36645 MATES WITH S-36644 144M113

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Estimated For Reference Only	Ix =	Iy =	Modline	Type	Factor	II
	Sx =	Sy =	Chmp	00	00	

Aluminum Spacer



Architectural Testing

Test sample complies with these details.
Deviations are noted.

Report# 99722
Date 4/16/10 Tech R/m

Offset: None
Primary Sealant: Butyl Rubber
Secondary Sealant: Silicone
Material: Aluminum
Width (A): 0.500
Height (B): 0.315
Wall Thickness: 0.016