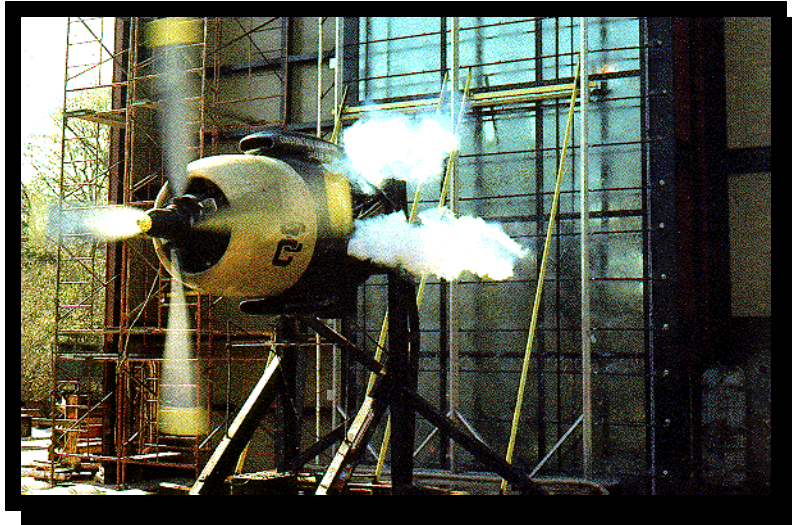




CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*



TEST REPORT:

AAMA/WDMA/CSA 101/I.S.2/A440-08

Ram Industries

**SERIES 840 HPW ALUMINUM FIXED WINDOW
REPORT #CCLI-13-218**

November 15, 2013

Prepared for:

Ram Industries
13119 Mula Court
Stafford, TX 77477

Office: (281) 495-9056
Fax: (281) 495-6778

1601 Luna Road
Carrollton, Texas 75006

S-UNITED, INC.
A Quality Control Company

Office: 972-242-0556
FAX: 972-245-6047



TABLE OF CONTENTS

1. PROJECT DATA.....1

2. SUMMARY.....1

3. TEST SPECIMEN1

4. PERFORMANCE RESULTS.....2

5. DISCLAIMER2

APPENDIX:

APPENDIX A: RAM INDUSTRIES SERIES 840 HPW ALUMINUM FIXED WINDOW DRAWINGS

Refer to drawings in **Appendix A**. This report is not complete unless these drawings are stamped and initialed by **CCLI** as illustrated below.

Die/Series	Detail	Date	Stamped as Illustrated
	Elevation / BOM	June 2013	
46272	Replacement Fin	8/26/11	
46734	Frame Member	8/23/11	
46730	Glazing Stop	8/22/11	



1. PROJECT DATA

Project: Series 840 HPW Aluminum Fixed Window

Date of Testing: July 25, 2013

Witnessed By:	(All or Partial Viewing)	
CCLI	Brandon Newman	Jeffrey Crump

2. SUMMARY

Series	Product Type	Test Size	Positive DP	Negative DP
840 HPW	Fixed Window	6'-0" x 5'-0"	2880 Pa (60 psf)	2880 Pa (60 psf)

3. TEST SPECIMEN

Product Type:	Aluminum Fixed Window, Product Drawing, Appendix A
Series/Model:	Series 840 HPW Aluminum Fixed Window
Specification:	AAMA/WDMA/CSA 101/I.S.2/A440-08 CW-PG60-FW 1829 x 1524 (72" x 60")
Frame Size:	1829 x 1524 (6'-0" x 5'-0")
DLO:	1753 x 1448 (69" x 57")
Configuration:	O

Weather Stripping: None.

Hardware: None.

Glass: Sealed insulating glass: 2 pcs. 6.35mm (1/4") annealed glass, 12.7mm (1/2") air space with an overall thickness of 25.4mm (1"). Spacer is comprised of aluminum.

Glazing: Interior glazed with Schnee Morehead 5555 at exterior of glass with aluminum glazing bead with vinyl bulb at interior of glass.

Weep Arrangement: None.

Narrow Joint Sealant: Schnee Morehead 5504 sealant at all frame corners.

Reinforcement: None.

Installation Features: Test specimen was installed in a #2 50.8mm x 203.2mm (2" x 8") yellow pine wood test buck with #8 x 38.1mm (1 1/2") hex head screws 50.8mm (2") from each corner and on 304.8mm (12") centers.

Other Features: Frame corners are coped, butted, and attached with two (2) #8 x 25.4mm (1") HX WSHR HDSMS type A 410 Stainless Steel per connection. Frame members and replacement fin members are thermally broken with polyurethane. 50.8mm (2") x 1.57mm (.062") corner bracket located at frame members



4. PERFORMANCE RESULTS

<u>Paragraph No.</u>	<u>Title of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
5.3.2	Air Infiltration @ 75 Pa (1.57 psf)	ASTM E 283-04	.05 L/s•m ² (.01 cfm/sf)	1.5 L/s•m ² (0.30 cfm/sf)
<p>(The tested specimen exceeds the performance levels in AAMA/WDMA/CSA 101/I.S.2/A440-08 for air infiltration. Air values were reported at the request of the manufacturer.)</p>				
5.3.3	Water Resistance @ 580 Pa (12.0 psf)	ASTM E 547	No Leakage	No Leakage
5.3.4.2	Uniform Load Deflection between anchors -Positive @ 2880 Pa (60.0 psf) -Negative @ 2880 Pa (60.0 psf)	ASTM E 330-02	.25mm (.01") .51mm (.02")	1.8mm (.07") 1.8mm (.07")
5.3.4.3	Uniform Structural -Positive @ 4320 Pa (90.0 psf) -Negative @ 4320 Pa (90.0 psf) -Permanent Set	ASTM E 330-02	No Damage No Damage Negligible	No Damage No Damage 1.02mm (.04")
5.3.5	Forced Entry Resistance ASTM F 588-07 Grade 10		No Entry	No Entry

Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and were compared to the test sample submitted. These records will be retained at **CCLI** for a period of four years.

5. DISCLAIMER

The above results were obtained by using the designated test methods indicating compliance with the above specification. This report does not constitute certification of this product, which may only be granted by the program administrator.

Respectfully submitted,

CONSTRUCTION CONSULTING LABORATORY, INTERNATIONAL

 BRANDON NEWMAN
 ASSISTANT TESTING MANAGER

 WESLEY WILSON
 LABORATORY MANAGER



AAMA/WDMA/CSA 101/I.S.2/A440-08
SERIES 840 HPW ALUMINUM FIXED WINDOW
REPORT #CCLI-13-218

November 15, 2013
Expires: July 16, 2017

APPENDIX A

PRODUCT DRAWINGS

Die/Series	Detail	Date	Stamped as Illustrated
	Elevation / BOM	June 2013	
46272	Replacement Fin	8/26/11	
46734	Frame Member	8/23/11	
46730	Glazing Stop	8/22/11	

END OF REPORT