

CLIENT: Falbo Aluminum Systems Ltd.
66 Rivalda Rd.
North York, ON
M9M 2M3
Canada

PROJECT:

Test Report No: T1282-1A

Issue Date: July 3, 2018

SAMPLE ID: Falbo Aluminum 500RS Series Fixed over Slider Composite Window (Type C)

SAMPLING DETAIL: Falbo Aluminum Systems Ltd. provided the drawings and glazing options for the aforementioned window. Thermal modeling of this window was performed by QAI.

DATE OF RECEIPT: Documentation was received on June 27, 2018 from Falbo Aluminum Systems Ltd.

TESTING PERIOD: Evaluation was conducted June 27, 2018 through June 30, 2018.

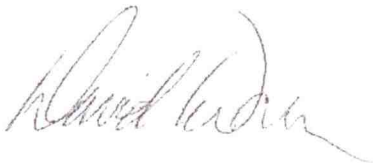
AUTHORIZATION: Signed Work Order by Issac Walter, dated June 27, 2018.

TEST PROCEDURE: Thermal simulation evaluation was performed following the methods outlined in the following standard:

CSA A440.2-14 Fenestration Energy Performance.

TEST RESULTS: The evaluation conducted by QAI. Energy performance values for Falbo Aluminum Systems Ltd. 500RS Series Composite Fixed over Slider thermally broken aluminum window are as found in the Test Results section of this report for glazing options evaluated.

Prepared By



David Wren
Senior Technician

Reviewed By



Alex Pankov
Thermal Simulations Reviewer

Signed for and on behalf of QAI Laboratories Ltd.

THIS REPORT IS THE CONFIDENTIAL PROPERTY OF THE CLIENT ADDRESSED. THE REPORT MAY ONLY BE REPRODUCED IN FULL. PUBLICATION OF EXTRACTS FROM THIS REPORT IS NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM QAI. ANY LIABILITY ATTACHED THERETO IS LIMITED TO THE FEE CHARGED FOR THE INDIVIDUAL PROJECT FILE REFERENCED. THE RESULTS OF THIS REPORT PERTAIN ONLY TO THE SPECIFIC SAMPLE(S) EVALUATED.

TEST METHODS:

CSA A440.2-14

QAI Laboratories Ltd. has performed energy performance thermal modeling in accordance with ANSI/NFRC 100-2017, ANSI/NFRC 200-2017, ANSI/NFRC 500-2017 and CSA A440.2-14. This thermal modeling was performed using software THERM 7.4 and WINDOW 7.4, with inputs outlined below for the noted 500RS Series Composite Fixed over Slider Window evaluated. The thermal modeling files are kept on file at QAI.

Table 1. Falbo Aluminum Systems Ltd. 500 RS Series Composite Fixed over Slider thermally broken aluminum window evaluated to CSA A440.2-14. The window was simulated using a site-specific size.

PRODUCT	WIDTH (mm)	HEIGHT (mm)
500RS Series Composite Fixed over Horizontal Slider Window	1343	1937
500RS Series Composite Window - Fixed Portion	1343	1225
500RS Series Composite Window - Horizontal Slider Portion	1343	712

For the above noted products, the U-value was determined for the glazing options outlined in the Test Results section below, in accordance with CSA A440.2-14 with the software noted.

The above product was not evaluated for Air Leakage therefore the Energy Rating (ER) calculation was not performed.

Cross-section drawings and Die drawings used in the modeling of the above noted fenestration product can be found in appendix A of this report.

TEST RESULTS SUMMARY:

500RS Series Composite Fixed over Horizontal Slider Window

Product Type	Simulated Product Width x Height (mm)	Number of Layers	Exterior Layer (mm)	Interior Layer (mm)	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Cavity (mm) and Gas Fill Type and %	Spacer Bar Type	Grille Bar	Visual Transmittance Total Window	Window U-Value (W/m2K)	Window SHGC	
Fixed over Horizontal Slider	1343 x 1937				See individual portion details below								0.56	1.91	0.44
Fixed Portion	1343 x 1225	2	4 Clear	6 Cardinal LoE 272	-	-	0.042	-	15.0 97% Argon 3% Air	TG	-	0.60	1.73	0.42	
Horizontal Slider Portion	1343 x 712	2	4 Clear	4 Pilkington LOF Energy Advantage	-	-	0.164	-	76.2 100% Air	N/A	-	0.54	2.43	0.52	

Notes: Surfaces are numbered from Exterior (1) to Interior.
 Overall Insulated Glass Unit thickness is 25.4 mm.
 The Insulated Glass Unit gas fill method is automotive chamber with 97% Argon fill.
 Slider employs single sheets of 4mm glass spaced 76.2 mm apart, not Insulated Glass Unit.
 All glazing surface emissivities are assumed to be 0.840 unless otherwise stated.
 Spacer Type: TG = Technoform TGI Spacer M Glass Insulation Spacer Bar

THIS REPORT IS THE CONFIDENTIAL PROPERTY OF THE CLIENT ADDRESSED. THE REPORT MAY ONLY BE REPRODUCED IN FULL. PUBLICATION OF EXTRACTS FROM THIS REPORT IS NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM QAI. ANY LIABILITY ATTACHED THERETO IS LIMITED TO THE FEE CHARGED FOR THE INDIVIDUAL PROJECT FILE REFERENCED. THE RESULTS OF THIS REPORT PERTAIN ONLY TO THE SPECIFIC SAMPLE(S) EVALUATED.

APPENDIX A

Page	Title
5	Elevation Drawing
6-8	Assembly Drawings
9-26	Die Drawings

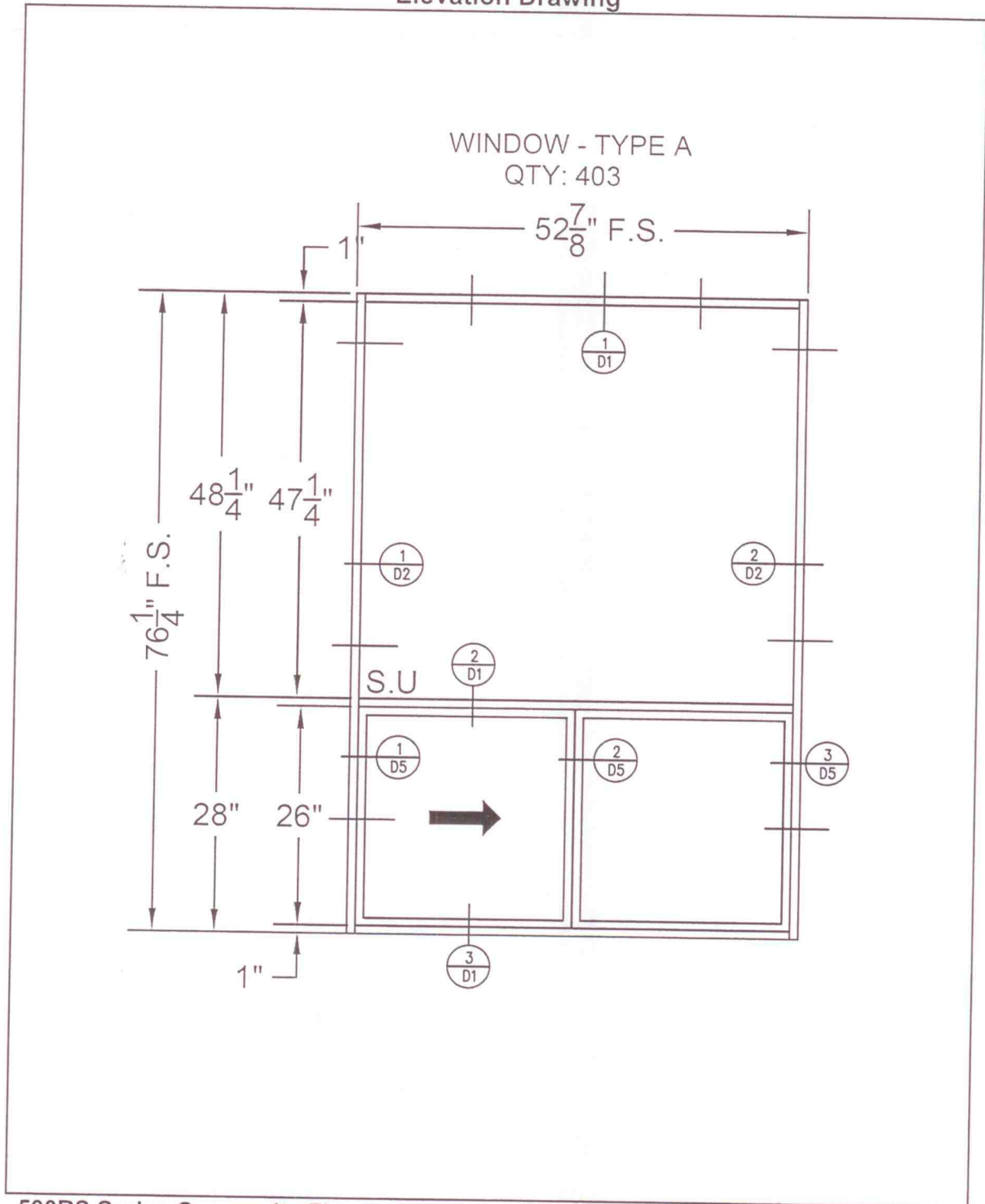
APPENDIX B

Page	Title
27	Spacer Bar Specifications

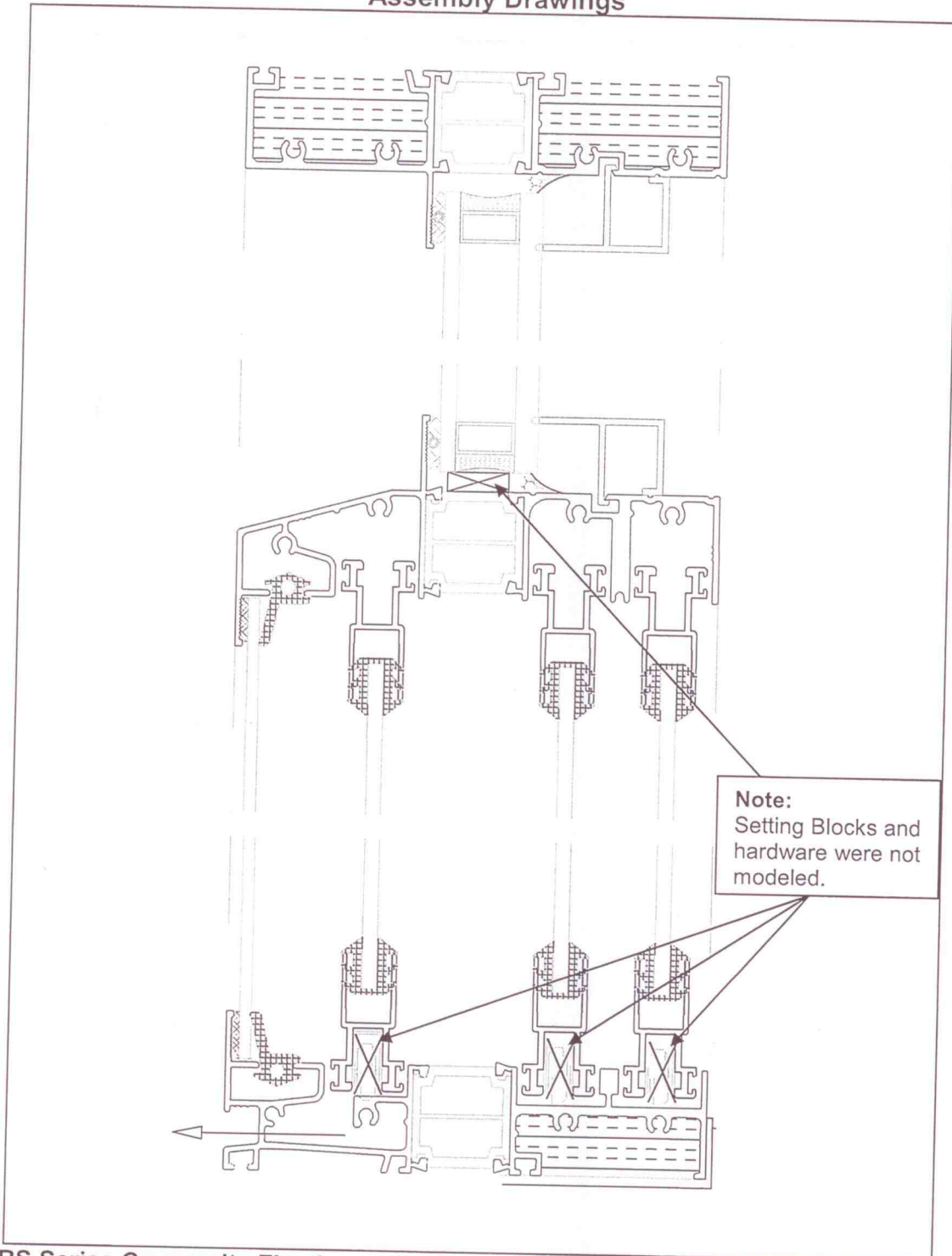
APPENDIX C

Page	Title
28	Report Revision History

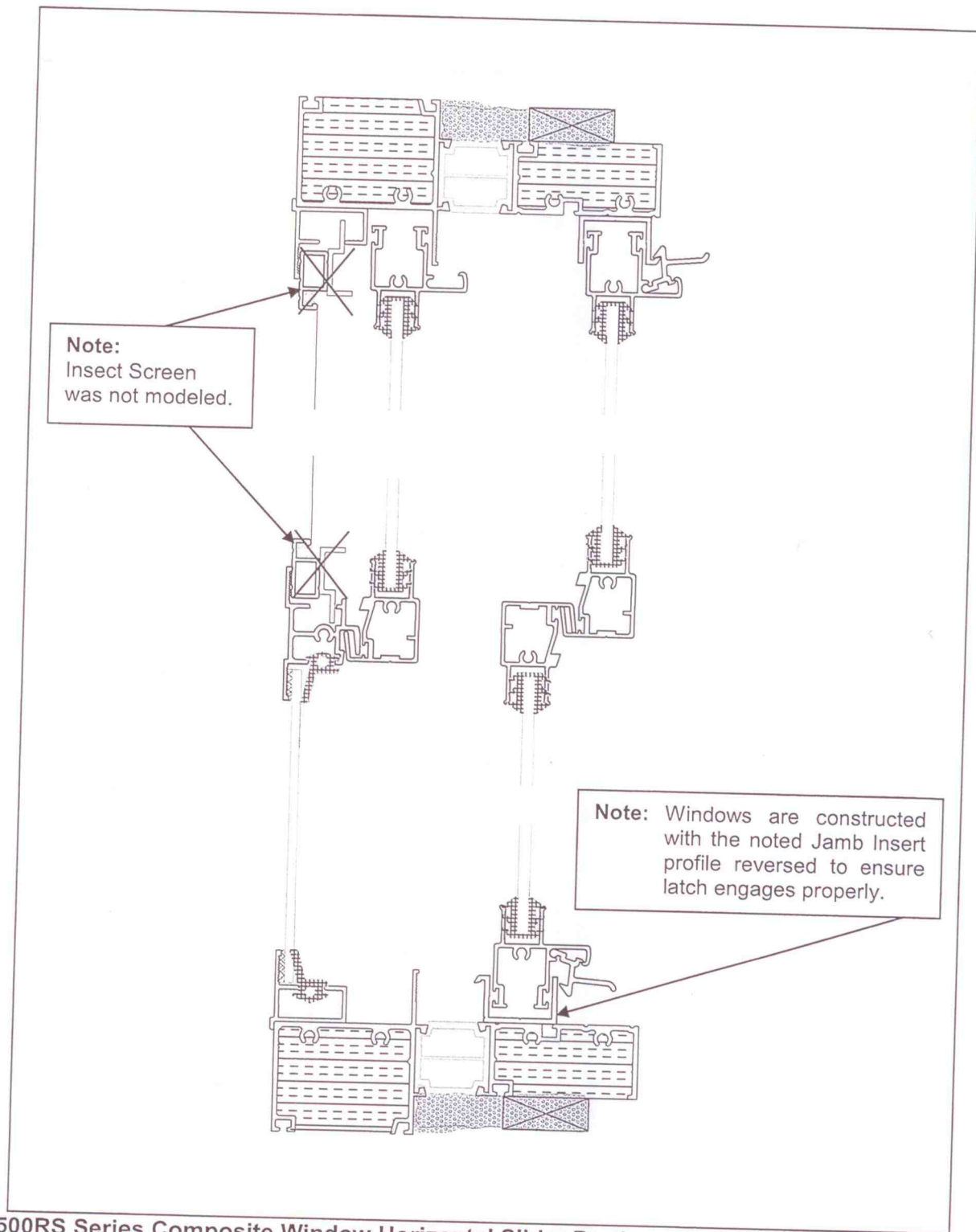
APPENDIX A
Elevation Drawing



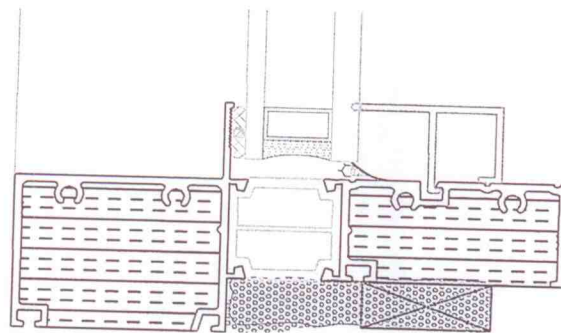
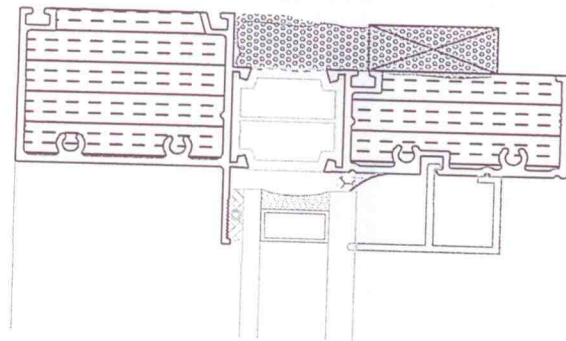
Assembly Drawings



500RS Series Composite Fixed over Horizontal Slider Window – Vertical Cross-section



500RS Series Composite Window Horizontal Slider Portion – Horizontal Cross-section



500RS Series Composite Window Fixed Portion – Horizontal Cross-section