



uPVC WINDOWS AND DOORS

CLASS 1 PRODUCT


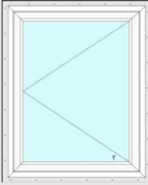


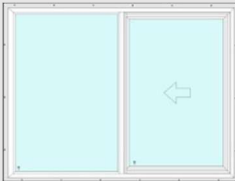
SPECIFICATION AND COMPLIANCE

QUICK REFERENCE




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MINIMUM STANDARD SPECIFICATION

ITEM	SPEC
NZ BUILDING ZONE SUITABILITY	ALL ZONES: 1 – 2 – 3 – 4 – 5 – 6
R VALUE	0.63
STANDARD EXTRUSION COLOUR	uPVC WHITE
- Exterior colours available on request	BLACK GREY
GLAZING	Double glazed 4mm/4mm Low Emissivity Coating 270 Argon Gas
- Safety Glazing - WINDOWS	Internal Pane (all units as standard Tempered)
- Safety Glazing – PATIO DOORS	Both Panes (Safety Tempered)
Standard Hardware	Manual Operation Cam lock
- Optional hardware	Roto Gear Winder
INSECT SCREENS	INCLUDED (Not included with Swing Doors)
FIXING METHOD	NAIL FIN FIX - Semi Recessed Window System
PATIO DOOR HARDWARE	SINGLE KEYED LEVER LOCK TOE LOCK
OPERATION TYPES AVAILABLE	
AWNING	
CASEMENT	
FIXED	
SLIDER VERTICAL	
SLIDER HORIZONTAL	

WINDOW PARTITION OPERATION & HARDWARE TYPES AVAILABLE

<p>CAM LOCK Handle Hardware</p> <p><u>STANDARD DEFAULT SPECIFICATION</u></p>		<p>Function:</p> <p>Manual operation required to open and close unit.</p> <p>Simple turn and physical manual push to open window.</p> <p>Simple turn and physical manual pull close window.</p>
<p>ROTO Winder Handle</p> <p><u>OPTIONAL UPGRADE SPECIFICATION</u></p> <p>locking striker latches</p>	 	<p>Winding mechanism connected to sizzor auger that opens and closes awning or Casement windows (not available for sliding windows).</p> <p>Lift out and rotate handle for mechanism to open window to desired distance.</p> <p>Reverse rotate handle to close window and then use locking striker latches to seal and secure.</p>

AVAILABLE SIZES

<p>SIZE PARAMETERS</p>	
<p>Minimum Width</p> <ul style="list-style-type: none"> - CAM LOCK unit window or Fixed Pane window - ROTO WINDER unit window 	<p>300mm 550mm</p>
<p>Minimum Height (all types)</p>	<p>300mm</p>
<p>Maximum Window Width – subject to any engineering, compliance, configuration, logistical, supplier decisional, and raw material limitations.</p>	<p>3000mm</p>
<p>SIZE NOTE: All measurements above and below the minimum and maximum size measurements above must end in 100mm increments only</p>	

COMMUNICATION REFERENCE STANDARDS

All communication specifications regarding visual, operational, and design of windows and doors, are pictured, explained and operationally determined by the observer veiwing the exterior of the window or door unit. This is true even when communicating details of any internal fitted component on that window or door units.

RELEVANT BUILDING CODE

The relevant building code clause applicable to this product are:

H1 THERMAL

COMPLIANCE - H1 NZBC			
THERMAL- H1	U-Value	R-Value	ZONES
Average U/R Value (All Window Configurations)	1.53	0.653	1-6
COMPONENT CALCULATION BASIS		W/m ² . K	
Glazing U Values (Double glazed, LoE270, Argon)		1.479	
FIXED WINDOW FRAME U VALUE		W/m ² . K	
Head		1.5569	
Jamb		1.5001	
Sill		1.5569	
AWNING/CASEMENT WINDOW FRAME U VALUE		W/m ² . K	
Head		1.3864	
Jamb		1.3693	
Sill		1.3856	
GLAZING EDGE SPACER Quanex - Super Spacer®		W/m ² . K	
Edge U Value (Fixed Window)		1.7931	
Edge U Value (Awning Casement)		1.7528	
All Units Individually Thermally Modelled: THERM WINDOW 7.4			

B2 DURABILITY- UV

COMPLIANCE- B2- NZBC		
CONSTRUCTION	UV PROTECTANT	FORMULA
Fully Constructed uPVC ASSEMBLIES	TiO2	TROPICAL MIX

E2 WEATHER TIGHTNESS NZBC

PRODUCT TARGET STANDARD - NZS4211.2008

COMPLIANCE TARGET COMPARISON- NZS4211:2008			
TESTED QAI RESULTS - AAMA/WDMA/CSA 101/I.S.2/A440-17 NAFS - CSA A440S1-19			
TARGET STANDARD	Wind Zone	Tested Pressure	mm/200
Serviceability Deflection	Extra High	1920pa	12mm
OPERATING FORCE	Initiate	Maintain	Resultant
Awning/Casement	<=90N	<=90N	ACHIEVED
Sliding Horizontal	<=110N	<=90N	ACHIEVED
Sliding Vertical	<=200N	<=160N	ACHIEVED
Sliding Doors	<=180N	<=110N	ACHIEVED
AIR INFILTRATION	WINDOW AREA m ²	Joint Length	Resultant
AIR CONDITION REQUIREMENT NZS4211:2008	<=1.6L/s	<=0.6 L/s	ACHIEVED
WATER PENETRATION		Pressure	Resultant
EXTRA HIGH		360pa	(Zero Leakage) ACHIEVED
ULTIMATE STRENGTH		Pressure	Resultant
EXTRA HIGH		1800pa	ACHIEVED

- refer QAI test certificate page 9-13

GLAZING SAFETY STANDARD

COMPLIANCE TARGET COMPARISON- NZS4233.3:1999			
TARGET STANDARD	Glass	Safety	Compliance
GLAZING SAFETY	Double Glazed	All Internal Panes Tempered	YES
MARKING	Double Glazed	Product Labelled	YES

PRODUCT MANUFACTURE & IMPORTATION DETAILS

Importer	VINYL CLADDING NEW ZEALAND LIMITED
Address	1 FACTORY ROAD, ROLLESTON, SELWYN DISTRICT, CANTERBURY
NZBN	9429031999250
Email	martin@vinylcladding.co.nz
Phone	0800 648 836
Website	www.vinylcladding.co.nz
Contact Technical	Martin Hartley – Managing Director
Supplier/Manufacturer Relationship	Long Term Exclusive New Zealand / Australia Import/Exportation
Product Manufacturing Contractor	A1 WINDOW MANUFACTURING LIMITED
Website	www.a1windows.ca
Email:	info@a1windows.ca
Country Of Manufacture	CANADA
Address	8083 Glenwood Dr #1, Burnaby, BC V3N 5E9, Canada
Phone	+1 604-777-8000

WARRANTY

DEFECT WARRANTY PERIOD	20 Years
WARRANTY UNDERWRITER	A1 WINDOW MANUFACTURING LIMITED
WARRANTY ASSESSOR	VINYL CLADDING NEW ZEALAND LIMITED
SERVICE AGENT	VINYL CLADDING NEW ZEALAND LIMITED

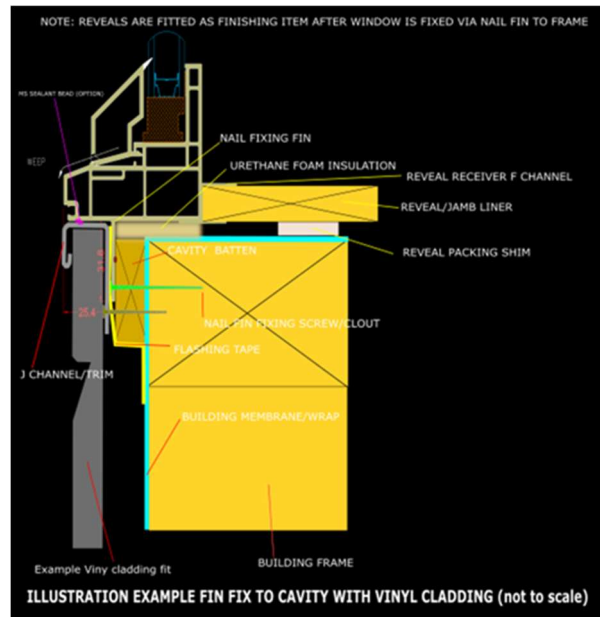
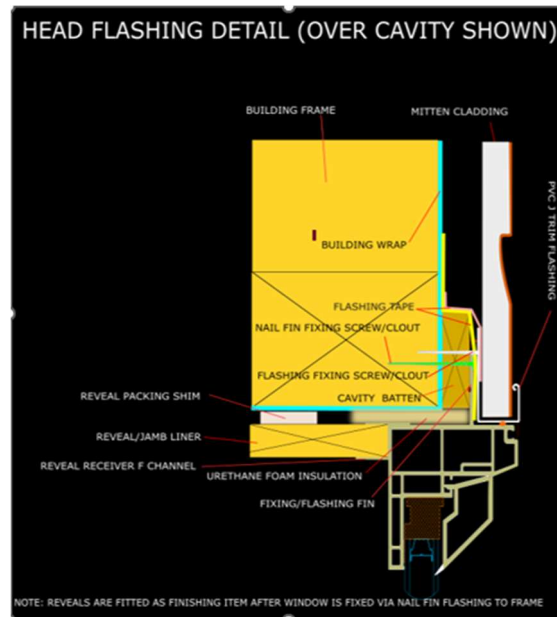
PRODUCT LIMITATIONS

BUILDING LEVELS	Installation up to 3 Floors/Levels only
SIZES	All sizes above maximum single glazing size range are subject to special engineering design certification as per NZS4211:2008

INSTALLATION SYSTEM- NAIL FIN FIXED

INSTALLATION METHOD

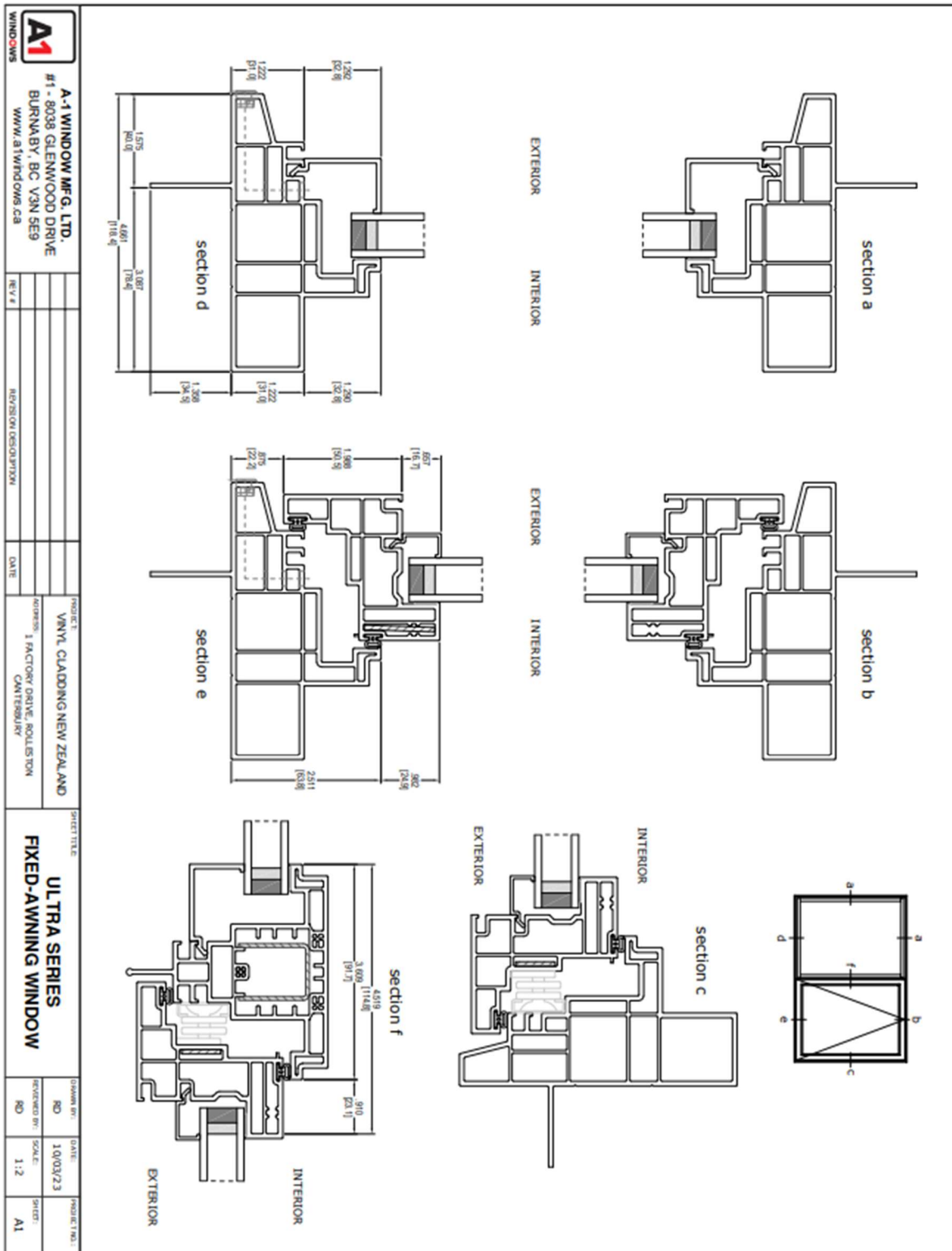
NAIL FIN FIXED






INSTALLATION – This is carried out by fixing to building frame externally, via the fully sealed nail fin, using clouts or screws, rivets, tek screws, at not more than 200mm fixing intervals over no less than 3 consecutive sides of the unit. Reveals are fitted as a finishing item and are not needed to fix window to building frame. Once fixed, all sides are tape sealed back to building wrap.

SILL SUPPORT NOT REQUIRED- No sill support bars are required as glazing is permanent bonded to frame. All cladding is installed leading side of fin, no moisture can penetrate past this nail fin under normal atmospheric conditions.

EXTRUSION DETAIL



TESTING CERTIFICATE

		3980 North Fraser Way Burnaby, BC V5J 5K5 (604) 527-8378 ph. (604) 527-8368 fx. www.qai.org		
CLIENT: A-1 Windows Manufacturing Ltd 1 – 8038 Glenwood Drive Burnaby, BC V3N 5E9 Canada				
Test Report No: T623-42a		Issue Date: August 18, 2020		
SAMPLE ID:	A-1 Windows Manufacturing Ltd 4500 Ultra Series O/C.O.A/O Casement, Awning & Picture Combination Window.			
SAMPLE DESCRIPTION:	Width: 4089 mm; Height: 2426 mm. See pages 6-11 for full descriptions.			
SAMPLING DETAIL:	Test sample from A-1 Windows Manufacturing Ltd was submitted directly to QAI.			
DATE OF RECEIPT:	Test sample was received on June 29, 2020.			
TESTING PERIOD:	Testing was conducted on June 30, 2020 through August 14, 2020.			
TESTING LOCATION:	QAI Laboratories Ltd., Burnaby, BC, Canada.			
AUTHORIZATION:	Proposal #20MA061101R1, signed by Sarb Kaler, dated July 18, 2020.			
TEST PROCEDURE:	Testing was performed following the methods and requirements outlined in the following standards: AAMA/WDMA/CSA 101/I.S.2/A440-17 NAFS – North American Fenestration Standard/Specification for windows, doors, and skylights. CSA A440S1-19 – Canadian Supplement to NAFS.			
TEST RESULTS:	<table border="1"> <tr> <td> 4500 Ultra Series O/C.O.A/O Casement, Awning & Picture Combination Window: Class LC – PG25: Size tested 4089 x 2426 mm (~161.0 x 95.5 in) </td> </tr> </table> Detailed test results and product ratings are available on pages 3-5.			4500 Ultra Series O/C.O.A/O Casement, Awning & Picture Combination Window: Class LC – PG25: Size tested 4089 x 2426 mm (~161.0 x 95.5 in)
4500 Ultra Series O/C.O.A/O Casement, Awning & Picture Combination Window: Class LC – PG25: Size tested 4089 x 2426 mm (~161.0 x 95.5 in)				
CONTENTS:	Test Report pages 1 through 32.			
Prepared By	Signed for and on behalf of			
				
Francis Serafina, ASCT (Provisional) Fenestration Technician	Neil Dumont Fenestration Reviewer			
<small>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.</small>				
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Client: A-1 Windows Manufacturing Ltd
 Project No.: T623-42a
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TEST CONDITIONS:

AAMA/WDMA/CSA 101/I.S.2/A440-17 NAFS and CSA A440S1-19

QAI Laboratories Ltd. (QAI) was retained by A-1 Windows Manufacturing Ltd to perform testing in accordance with the mandatory test requirements of AAMA/WDMA/CSA 101/I.S.2/A440-17 NAFS and CSA A440S1-19 on a representative sample of a 4089 mm x 2426 mm 4500 Ultra Series O/C.O.A/O Casement, Awning & Picture Combination Window.

This report includes tests performed on a specimen of specific dimensions. Actual product performance may be affected by variations in the windows dimensions, assembly details and installation method. The drawings supplied by A-1 Windows Manufacturing Ltd were verified by QAI for the window unit tested and are shown in Appendix A.

Installed by: **A-1 Windows Manufacturing Ltd.**

Installation details:

- Bead of sealant between nailing flange and wooden test buck.
- Flange mechanically fastened to wooden test buck using #8 x 1-1/2" pan-head screws spaced approximately every 4".

Wooden test buck details:

- Inner frame: nominal 2" x 6" stud framing.
- Outer frame: nominal 2" x 12" stud framing.
- Rough opening: 3/16" larger than test specimen in height and 3/16" larger in width.
- Shims: Eight pairs of PVC U-shape shims installed at the vertical mullion location only. Four on head and four on sill, each pair consist of one 1/8" thick x 1-1/2" x 2" PVC shims and one 1/16" thick x 1-1/2" x 2" PVC shims.

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PRODUCT RATINGS:

Table 1: Summary of test results

Test Name	AAMA/WDMA/CSA 101/I.S.2/A440-17 NAFS and CSA A440S1-19 Results:
Operating Force Test (ASTM E2068)	Pass
Air Leakage Resistance Test (ASTM E283)	<p><u>Whole Assembly:</u> Pressure differential = 75 Pa Infiltration result = 0.038 L/s/m² (0.008 cfm/ft²) – A3 Level Exfiltration result = 0.038 L/s/m² (0.008 cfm/ft²) – A3 Level Overall result – A3 Level</p> <p><u>Casement Window:</u> Pressure differential = 75 Pa Infiltration result = 0.231 L/s/m² (0.046 cfm/ft²) – A3 Level Exfiltration result = 0.232 L/s/m² (0.046 cfm/ft²) – A3 Level Overall result – A3 Level</p> <p><u>Awning Window:</u> Pressure differential = 75 Pa Infiltration result = 0.309 L/s/m² (0.061 cfm/ft²) – A3 Level Exfiltration result = 0.311 L/s/m² (0.061 cfm/ft²) – A3 Level Overall result – A3 Level</p> <p><u>Picture Window (71.5" x 95.5"):</u> Pressure differential = 75 Pa Infiltration result = 0.085 L/s/m² (0.017 cfm/ft²) – Fixed Level Exfiltration result = 0.086 L/s/m² (0.017 cfm/ft²) – Fixed Level Overall result – Fixed Level</p>
Water Penetration Resistance Test (ASTM E547)	Maximum pressure differential = 360 Pa (DP 50 – 7.50 psf)
Uniform Load Deflection Test (ASTM E330 – Procedure A)	<p><u>Deflection at Mullion:</u> Design pressure = 1920 Pa (DP 40) Maximum pressure differential = 1920 Pa (40.10 psf) Maximum deflection at design pressure = 16.3 mm (0.642")</p> <p><u>Deflection at Locking Stile of Casement Window:</u> Design pressure = 1920 Pa (DP 40) Maximum pressure differential = 1440 Pa (40.10 psf) Maximum deflection at design pressure = 6.2 mm (0.244")</p> <p><u>Deflection at Bottom Rail of Awning Window:</u> Design pressure = 1920 Pa (DP 40) Maximum pressure differential = 1440 Pa (40.10 psf) Maximum deflection at design pressure = 7.2 mm (0.283")</p>
Uniform Load Structural Test (ASTM E330 – Procedure A)	Design pressure = 1200 Pa (DP 25) Maximum pressure differential = 1800 Pa (37.59 psf)

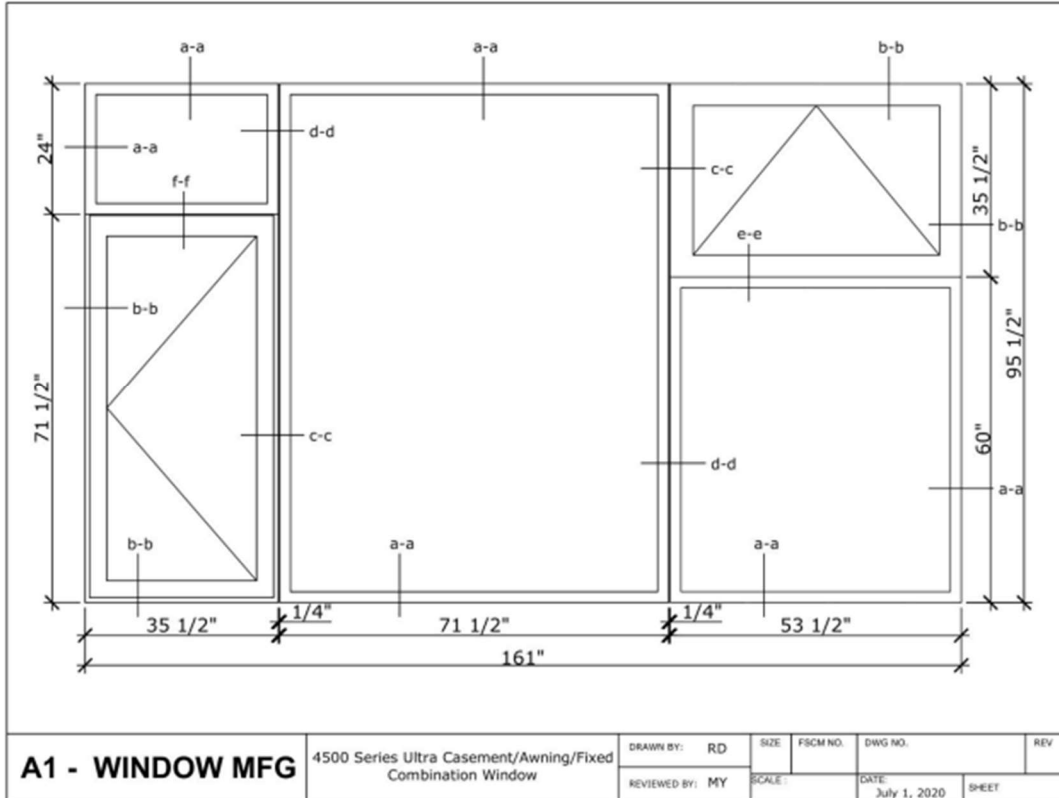
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ELEVATION AND ASSEMBLY DRAWINGS



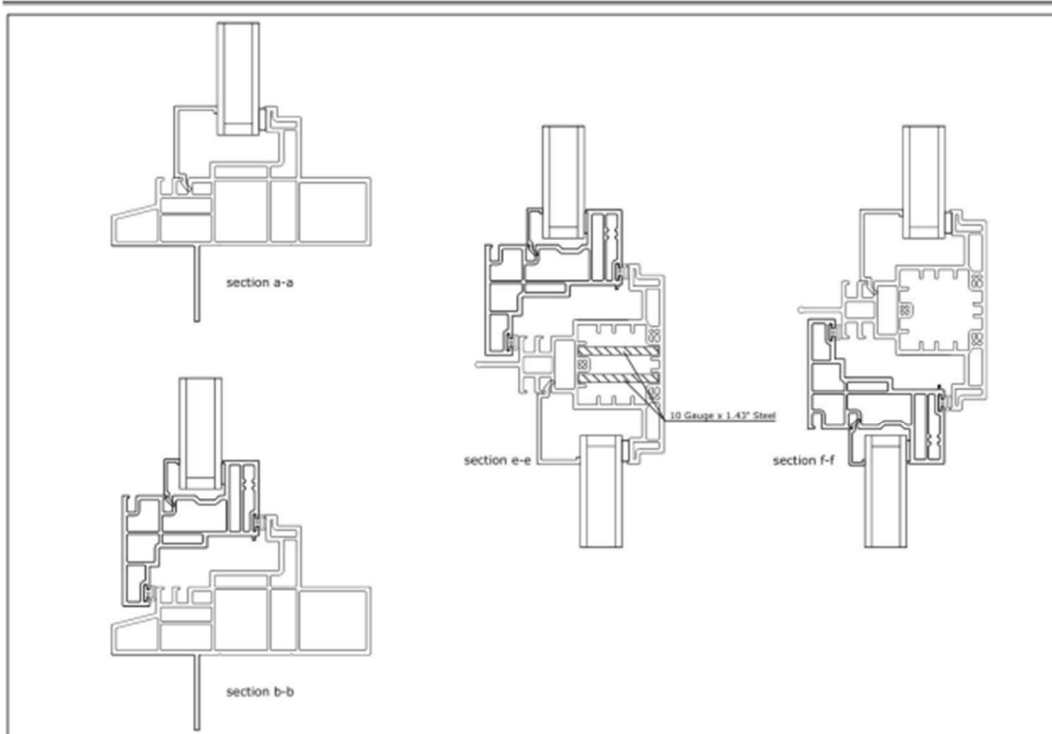
Elevation Drawing

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A1 - WINDOW MFG	4500 Series Ultra Casement/Awning/Fixed Section Details	DRAWN BY: RD	SIZE	FSCM NO.	DWG NO.	REV
		REVIEWED BY: MY	SCALE:	DATE: July 1, 2020	SHEET	

Cross Section Detail 1 (Assembly)

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DECLARATION OF COMPLIANCE

1. We hereby declare the Eclipse Ultra Windows and Doors products are not subject to a ban of goods as per section 26 of the Building Act 2004.
2. The Director/s of Vinyl Cladding New Zealand hereby verify and declare the information contained herein has been qualified via research, which has included manufacturer assessment for quality practices and certifications for product testing. Therefore, the product has been reasonably assessed by us as achieving the relevant product standards and minimum requirements of the New Zealand 2023 Building Code. It is with confidence, derived from the information available to us, the product achieves the requirements for use within New Zealand.

On behalf of Vinyl Cladding New Zealand Limited

M S HARTLEY - **v11123-3564-06**

Martin S Hartley Grad dip Bus Stud, MBA, Cert P2PM
MANAGING DIRECTOR