

Parks, Recreation, & Culture

## Invitation to Tender No. 2023-PRC-06

#### **Arts and Heritage Hub**

#### **ADDENDUM #7**

For further information: Contact: Chris Barfoot <u>cbarfoot@ladysmith.ca</u> 250.245.6421 **Tender Issue Date:** Thursday, June 29, 2023 Addendum #1: Thursday, July 6, 2023 Addendum #2 Thursday, July 31, 2023 Addendum #3 Thursday, August 10, 2023 Addendum #4 Monday, August 14, 2023 Addendum #5 Wednesday, August 16, 2023 Addendum #6 Tuesday, August 22, 2023 Addendum #7 Wednesday, August 23, 2023 Site Visit: 10:00 a.m., Friday, August 11, 2023 **Tender Closing:** 2:00 p.m., Thursday, September 7, 2023 **Tender Opening:** 2:15 p.m., Thursday, September 7, 2023 Ladysmith City Hall







## Addendum #7: Invitation to Tender (ITT) No. 2023-PRC-06 Arts and Heritage Hub

This Addendum includes glazing alternative.

**Issued:** August 23, 2023

This Addendum shall be read in conjunction with and considered as an integral part of the Invitation to Tender (ITT). Revisions supersede the information contained in the original ITT or previously issued Addendum. No consideration will be allowed for any extras due to any Proponents not being familiar with the contents of this Addendum. All other terms and conditions remain the same.

#### **ADDENDUM**

INCLUDE attached 'Glazing Alternative - TA0008' document.

End of Addendum #7



#### **Tender Addendum TA008**

Contractor Reference: None

Client Town of Ladysmith

The following addendum supersedes information contained in drawings, specifications and any previous addenda for the project to the extent referenced. This Addendum forms part of the tender documents and is subject to all of the conditions set out in the contract conditions.

#### **Curtain wall Alternatives**

- 1. MB-SR50N Aluprof window system is an acceptable alternative to Kawneer 1620UT/1602UT.
- 2. Alumicor ThermaWall TW2200 window system is an acceptable alternative to Kawneer 1620UT/1602UT.

Reason for Change: alternative product

#### **Distribution List**

Chris Barfoot, Town of Ladysmith, cbarfoot@ladysmith.ca



# Arts and Heritage Hub

## SUBMITTAL 2

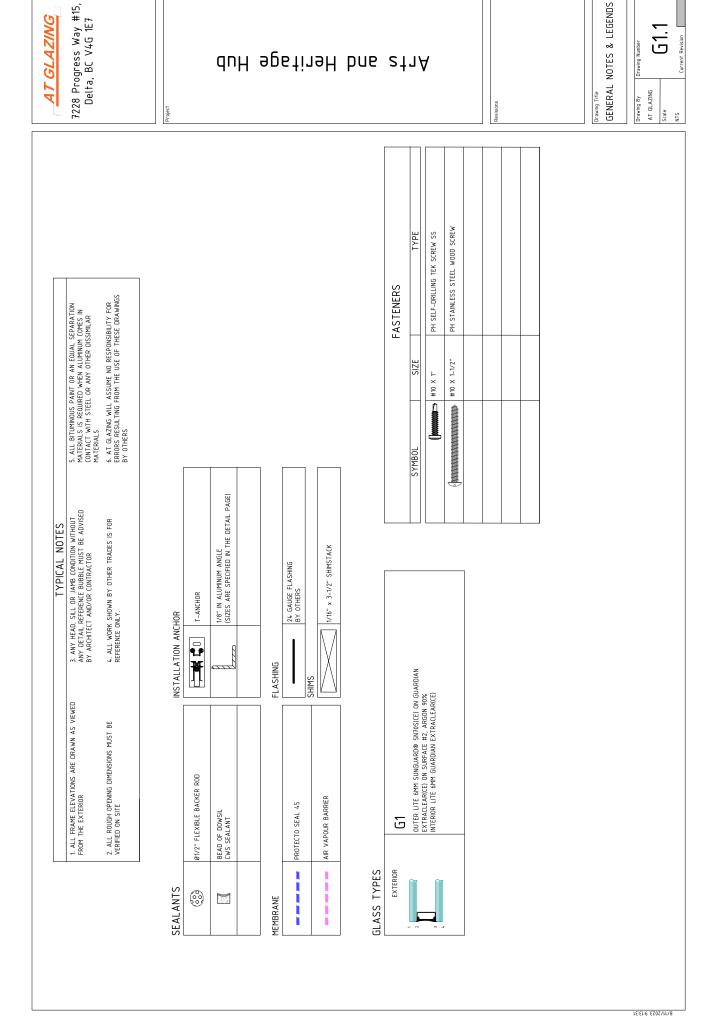
08/11/2023

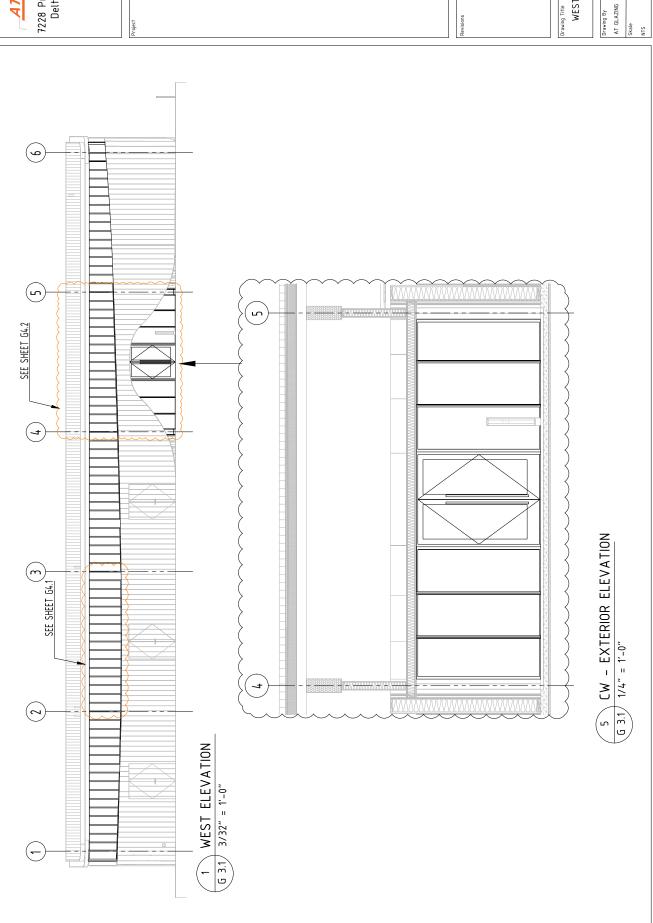
SUBMITTAL 1
- JULY 28, 2023
SUBMITTAL 2
- AUG 11, 2023

SAMPLE SD SET #1

SAMPLE SD SET #2

7228 Progress Way #15, Delta, BC V4G 1E7 www.atglazing.ca





## AT GLAZING

7228 Progress Way #15, Delta, BC V4G 1E7

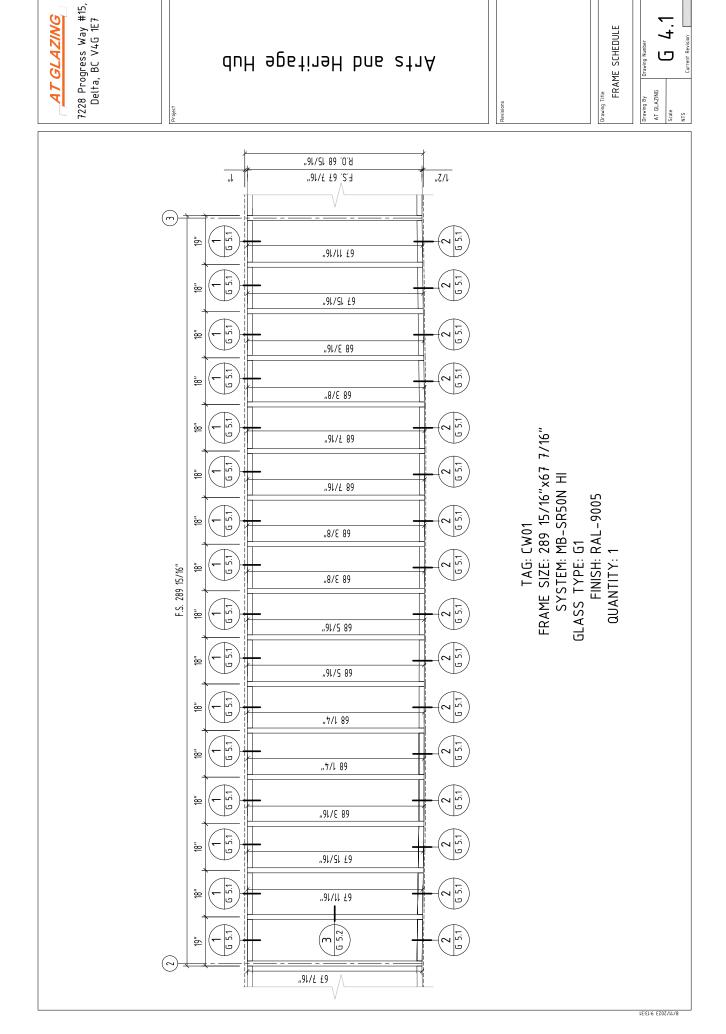
Arts and Heritage Hub

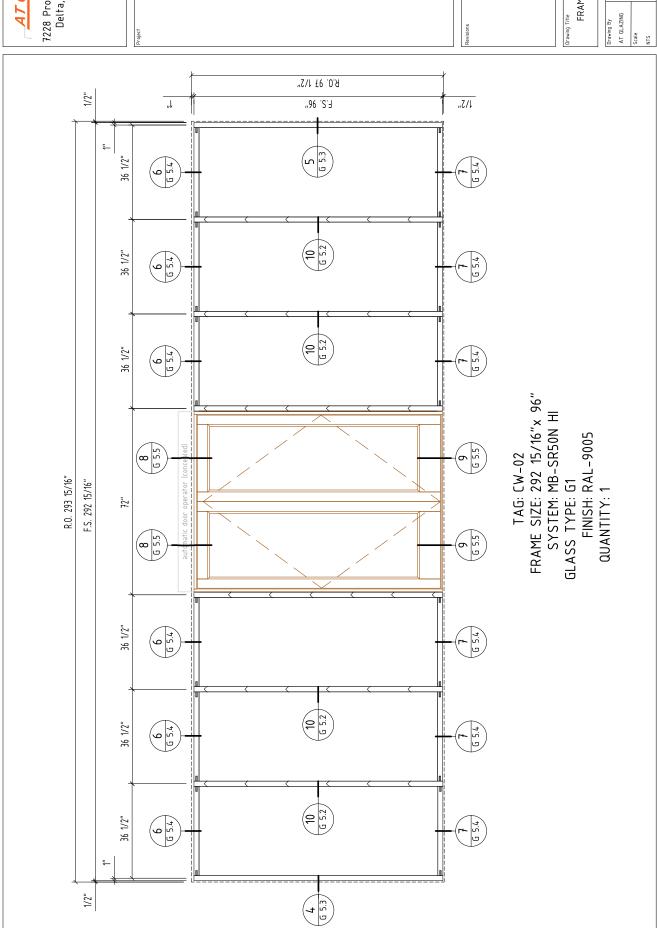
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ng Title WEST&CW ELEVATION LAZING Drawing Number

G 3.1

Current Revision





AT GLAZING

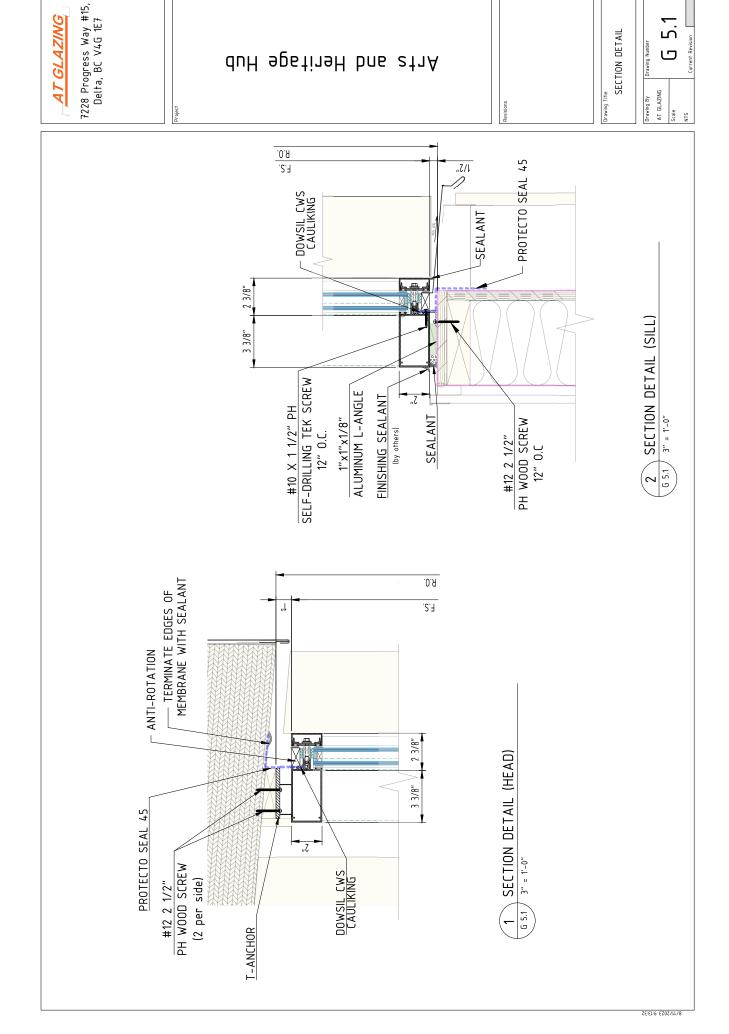
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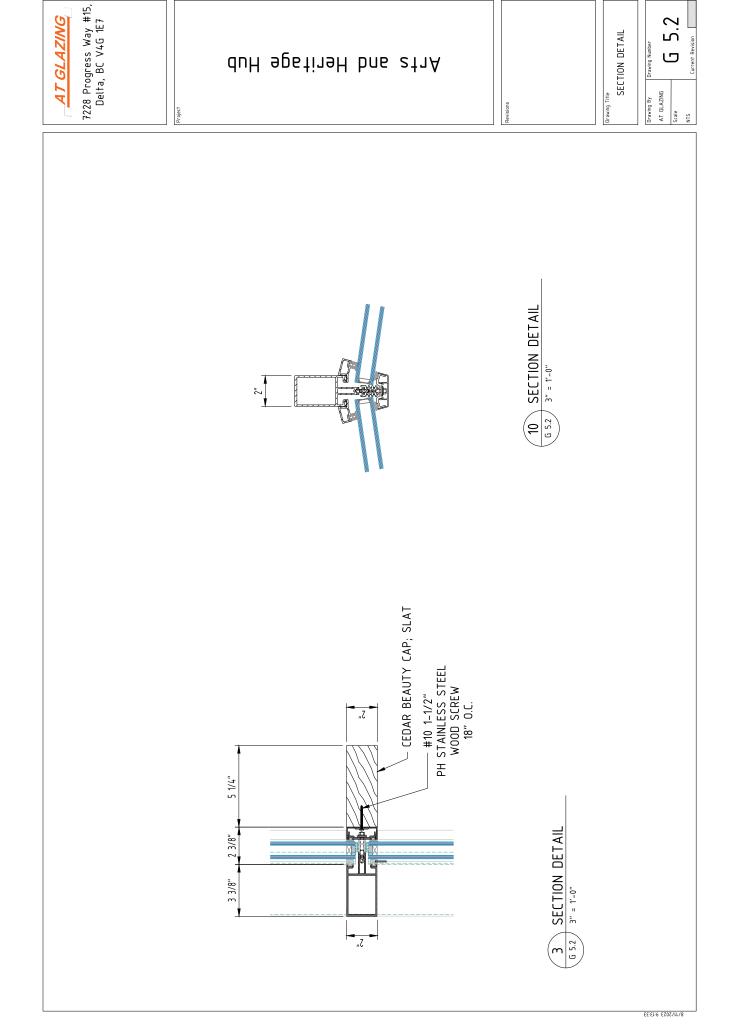
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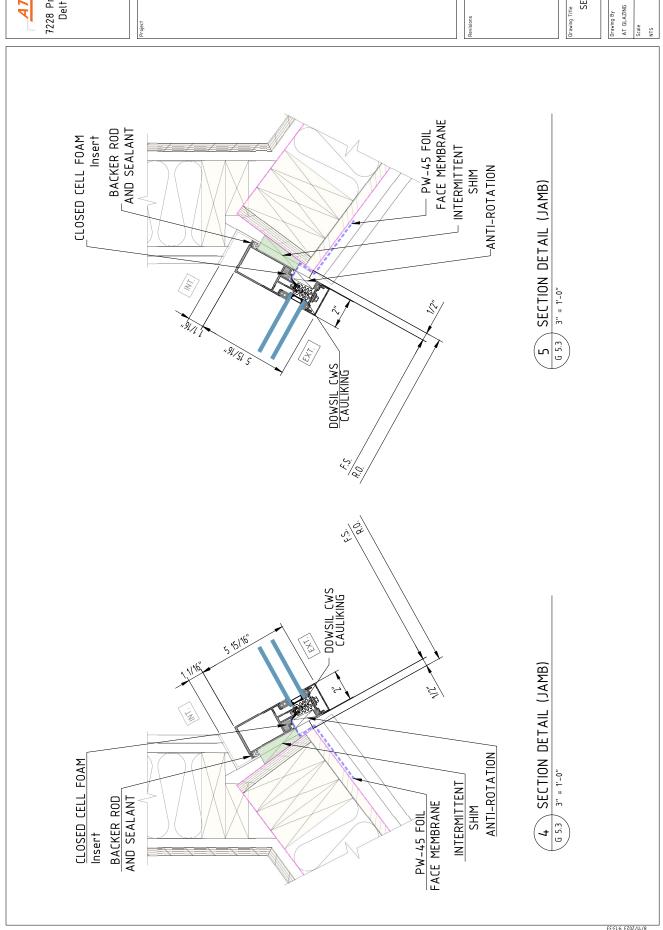
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Title FRAME SCHEDULE Drawing Number

G 4.2







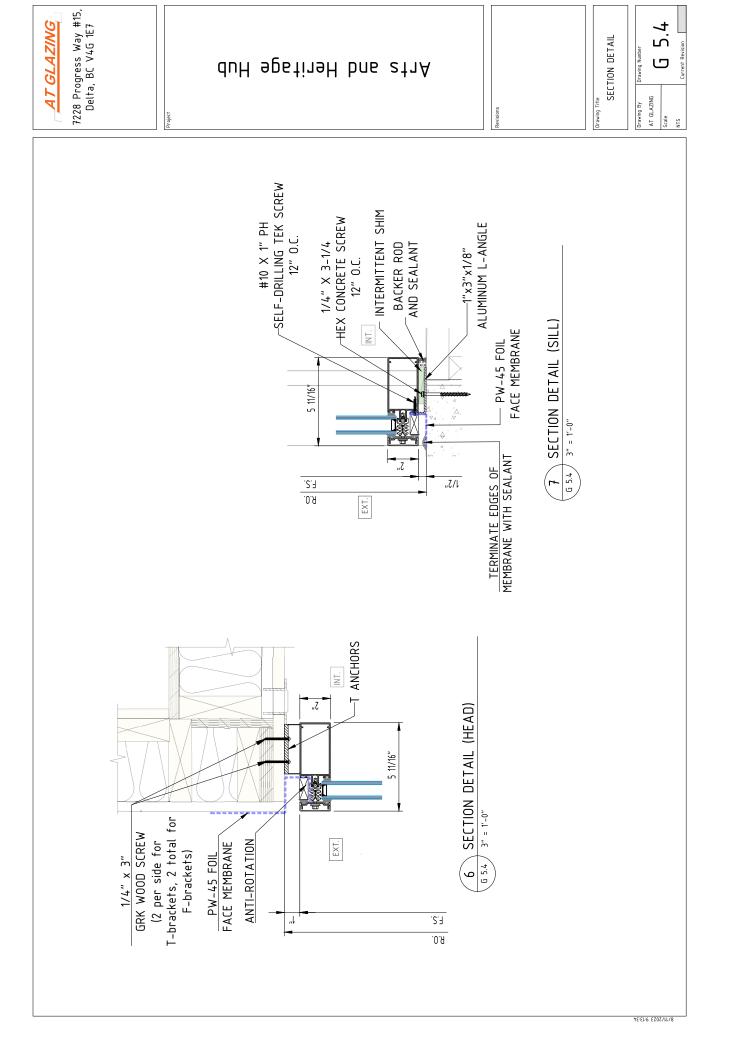
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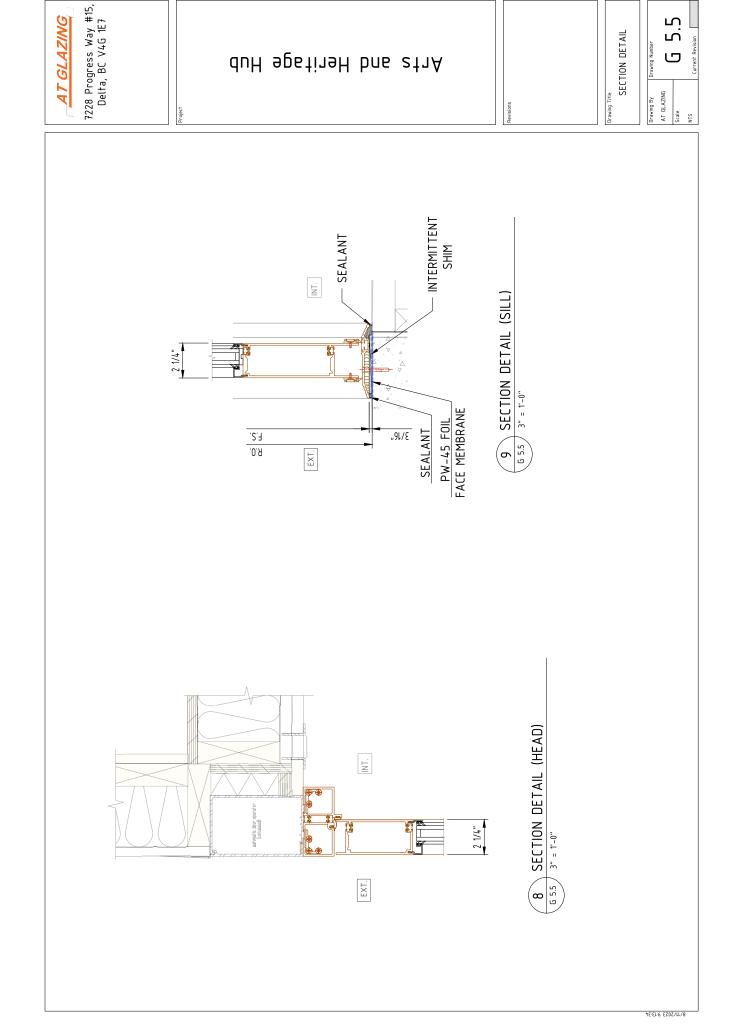
7228 Progress Way #15, Delta, BC V4G 1E7

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SECTION DETAIL

5.3 0







#### NATIONAL CERTIFIED TESTING LABORATORIES

FIVE LEIGH DRIVE • YORK, PENNSYLVANIA 17406 • TELEPHONE (717) 846-1200 FAX (717) 767-4100 www.nctlinc.com

ASTM E283-04(12) ASTM E330-14 ASTM E331-00(16) ASTM E547-00(16) AAMA 501.1 - 17

#### STRUCTURAL PERFORMANCE TEST REPORT SUMMARY

#### **RENDERED TO:**

Aluprof SA Warszawska 153 Street Bielsko-Biala, 43-300

PRODUCT TYPE: Stick Façade SERIES/ MODEL: "MB SR50N"

TITLE	SUMMARY OF RESULTS
Air Infiltration 299 Pa (6.24 psf)	0.05 L/s/m² (0.01 cfm/ft² measured) - Prior to and After Design Load
Water Penetration Resistance	718 Pa (15 psf) - Prior to and After Design Load
Design Pressure	± 2873 Pa (± 60.0 psf)
Uniform Load Structural Test	± 4309 Pa (± 90.0 psf)

Test Completion Date: 08/13/19

Reference must be made to Report Number NCTL-110-22233-2 dated 08/22/19 for complete test sample description and data.

**National Certified Testing Laboratories** 

Drew Klinedinst Technician

Professionals in The Science of Testing

Page 1 of 19

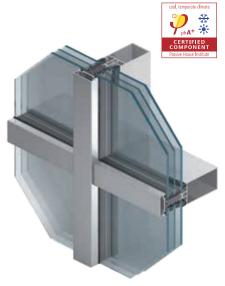




## Façade systems MB-SR50N

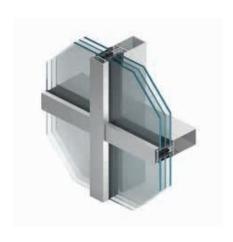
### MB-SR50N HI+

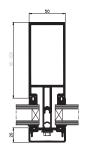
The MB-SR50N mullion-transom system has been designed to fabricate lightweight curtain walling, roofs, skylights and other spatial structures. On current trends in architecture, it allows aligning of mullion and transom profiles on the inner side of the façade, so obtaining variants of different appearance. This system forms the basis of a variant with enhanced thermal insulation: MB-SR50N HI+, and other fire protection solutions, and is also linked to the structures of different types of windows such as tilt-and-pull windows, roof windows and façade-integrated windows. When it comes to glass and aluminium structures, with this rich variety of solutions based on the MB-SR50N façade, architects and designers can now make their most audacious visions come true.



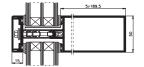
#### FAÇADE SYSTEMS / MB-SR50N / MB-SR50N HI+

#### MB-SR50N / MB-SR50N HI





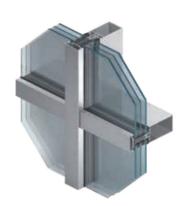
mullion - cross section MB-SR50N

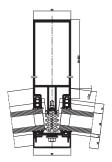


transom - cross section MB-SR50N HI

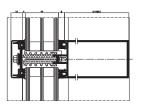
The MB-SR50N and the version with enhanced thermal insulation, the MB-SR50N HI+, is intended for the design and construction of lightweight curtain and infill walls, roofs, skylights and other spatial structures. In line with current architectural trends, this means that the mullion and transom profiles can be flush on the inside of the façade and makes it possible to obtain a host of different looks for the exterior. The system also constitutes a basis for fire-resistant solutions.

#### MB-SR50N HI+





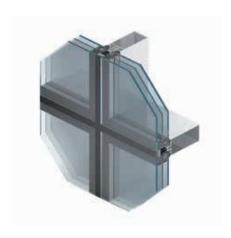
mullion - cross section - 7.5 %

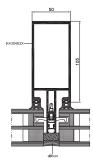


transom – cross section

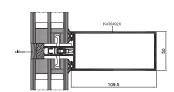
This version, with the best thermal and acoustic insulation performance, uses a modified insulator made of PE material. The adequate shape of the insulator, in addition to high protection against heat transfer, ensures the proper conduct of screws that fix the clamping strips. This is important during the installation of the façade. For their part, new accessories give more freedom in selection of glazing.

#### MB-SR50N EFEKT





mullion – cross section

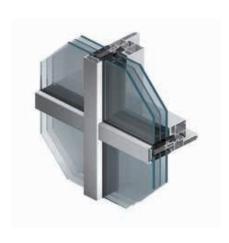


transom - cross section

A curtain wall which uses toggles and channels to fix the glazing to provide a uniform appearance of a smooth glass wall divided by a structure of vertical and horizontal lines of a width of 20 mm. It is possible to use within it large and heavy one- or twochamber glass in-fills, including laminated pane sets and non-transparent panels based on insulated glass.

#### FAÇADE SYSTEMS / MB-SR50N / MB-SR50N HI+

#### MB-SR50N IW





mullion with window, section view MB-SR50N IW – standard variant

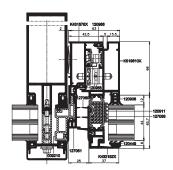


mullion with window, section view MB-SR50N IW – EFEKT variant

MB-SR50N IW enables the use of inward openable windows integrated with mullion-transom profiles. The area of the façade with tilt-andturn function does not differ, as seen from the outside, from the neighbouring areas with fixed glazing. This systems comes in 3 varieties: standard, with flat strip and EFEKT.

#### MB-SR50N OW





façade with window MB-SR50N OW – variant with strips

Ones of the most important advantages of this solution are the unusually economical shapes, which add lightness to the entire structure. Thanks to application of the most modern technology of structural gluing, based on gluing the outer glass panel to the aluminium frame with structural silicon, we have avoided the necessity to use any aluminium elements from the outside or any mechanical joints for fitting the glass panel.

#### MB-RW

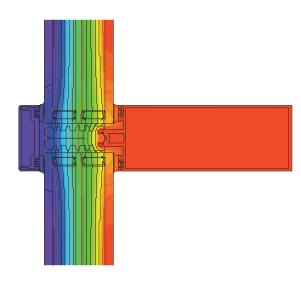




MB-RW roof slope window, view

Windows fabricated using the MB-RW system are intended for installation on roofs with mullion-transom systems (MB-SR50N & MB-TT50 group of products) of an inclination angle of 3° to 75° in relation to the horizontal plane. In rafters/purlins axes, roof windows can have dimensions up to 2.5 m and weight up to 200 kg.





distribution of isotherms in MB-SR50N HI+ - facade

#### **FUNCTIONALITY AND AESTHETICS**

- $\boldsymbol{\cdot}$  angle joints enabling the free shaping of aluminium structures
- $\cdot \ posts \ and \ beams \ with \ 'sharp' \ edges \ allowing \ construction \ of \ curtain \ wall \ supporting \ structures \ with \ the \ appearance \ of \ a \ uniform \ truss$
- $\cdot \text{ aesthetic curtain wall varieties and a number of lining profiles of various shapes providing multiple curtain wall appearances$
- $\cdot$  a large choice of curtain wall opening elements: windows and doors of various types, including skylight windows and windows integrated with the curtain wall, as well as tilt and parallel opening MB-SR50N OW windows
- $\cdot \text{ a wide glazing range along with the availability of insulators and accessories allowing a high level of curtain wall thermal insulation}$
- $\boldsymbol{\cdot}$  the possibility of bending profiles and creating use curved structures

TECHNICAL SPECIFICATION	MB-SR50N MB-SR50N HI+	MB-SR50N HI	MB-SR50N EFEKT	MB-SR50N IW	MB-SR50N OW	MB-RW
Mullions depth	50 – 325 mm			85 – 125 mm	_	_
Transom depth	5 – 209.5 mm			49.5 – 129.5 mm	_	_
Inertia mullions (range Ix)	26.04 - 4123.45 cm <sup>4</sup>			70.43 – 245.70 cm <sup>4</sup>	_	_
Inertia transoms (range Iz)	0.79 – 629.54 cm <sup>4</sup>			23.76 – 205.98 cm <sup>4</sup>	_	_
Glazing thickness	24 – 56 mm	24 – 52 mm	24 – 56 mm	24 – 56 mm	28 – 41 mm	32 – 51 mm

PERFORMANCE	MB-SR50N MB-SR50N HI+	MB-SR50N HI	MB-SR50N EFEKT	MB-SR50N IW	MB-SR50N OW	MB-RW	
Air Permeability		AE 1200, EN 12152			class 4, EN 12152		
Watertightness	RE 1200, EN 12154	RE 1500, EN 12154	RE 1200, EN 12154	E 1500, EN 12208	E 1650, EN 12208	E 1800, EN 12208	
Windload resistance	2400 Pa, EN 13116			E 2400, EN 12210	class C5, EN 12210	2.4 kN/m², EN 12210	
Thermal insulation	U <sub>f</sub> from 0.7 W/(m <sup>2</sup> K)	U <sub>f</sub> from 1.0 W/(m <sup>2</sup> K)	U <sub>f</sub> from 1.1 W/(m <sup>2</sup> K)	U <sub>f</sub> from 1.6 W/(m <sup>2</sup> K)	_	U <sub>f</sub> from 1.8 W/(m <sup>2</sup> K)	
Impact resistance	15/E5, EN 14019			_	class 4, EN 1873		



Visionary Glass Inc. 25-105 700 Shawnigan Lake Road Shawnigan Lake BC, V0R2W3

Phone: 778-356-4899 Email: office@vg-inc.com



August 15th, 2023

To: CHECKWITCH POIRON Architects inc.

Attn: Ben Checkwitch

Re: Arts and Heritage Hub, Ladysmith BC

We request the approval of the Alumicor products listed below as an alternative to the base of design and alternative products indicated in the Specification Manual for use on the above project.

#### **Base of Design**

Raico THERM+ black anodized 2"x6" w/real cedar beauty cap

#### **Alternative**

Kawneer 1620UT aluminum window frame; black anodized w/real cedar beauty cap

#### **Proposed Substitution**

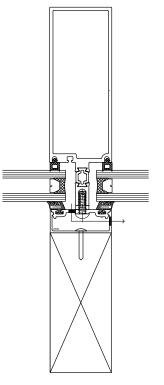
Alumicor ThermaWall TW2200 aluminum curtainwall system; black anodized w/real cedar beauty cap

Please do not hesitate to contact the undersigned if you require further information. I can be reached at **(778) 356-4899**. You can also obtain product information at.

Thank you for considering Visionary Glass Inc. and Alumicor.

Yours truly,

JEFF BIEDERMAN
ESTIMATOR
VISIONARY GLASS INC.



Site Verify All Measurements

Submission # 1 Scale: ###	Checked Drawing Number	itted 15 August 2023	
-adysmith Art and Heritage Hub	Checkwitch Poiron Architects Inc	N/A Date Submitted	
Project: Ladysmith Art	Architect: Checkwitch P	General Contractor:	
	Visionary Glass Inc. Architect:		Email: office@va-inc.com





## ThermaWall TW2200

2"(50.8mm) Thermally Broken Curtain Wall







### ThermaWall TW2200



2"(50.8mm) Thermally Broken Curtain Wall

#### Features & Benefits

- Fully thermally broken stick curtain wall in a slim 2" (50.8mm) profile with superior thermal performance
- Suitable for low rise curtain wall designs as well as storefront type applications
- Mullion depths from 2" (50.8mm) to 5" (127mm)
- Conventional capped or structural silicone glazed (SSG) options
- Composite action polyamide thermal break provides increased resistance to condensation and wind loads
- Custom offset pressure plate
- Available in both double and triple glazed
- Compatible with all Alumicor operable windows, doors, etc.
- A variety of pressure plate caps are available
- Unique glass support eliminates concerns of dead loads imposed upon the thermal break
- Proprietary gasket provides improved thermal performance
- Tested to NAFS-11 AW, CSA A440 & AAMA 501 requirements



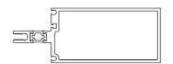


### lumicor TECHNICAL DATA SHEET

#### ThermaWall TW2200 Thermally Broken Curtain Wall System

#### **Product Description**

Thermally broken curtain wall - Capped and SSG 2"(50.8mm) profile





#### Recommended use

For low to medium rise curtain wall and storefront when high performance is crucial

#### Composition & Materials

- 6063 alloy, T6 or T5 temper aluminum extrusions
- Polyamide Thermal Break
- Extruded EPDM or silicone air and weather seal gaskets
- Structural extruded silicone glazing spacer is compatible with structural silicone sealants
- When necessary, internal reinforcing members are galvanized steel to suit engineering requirements
- Anchor devices may be a combination of premanufactured aluminum or steel components; project specific designs and/or cadmium plated fasteners

#### **Finishes**

Anodic coated finishes in Class I and Class II and architectural painted finishes are available. Also, two colour (exterior and interior) finishes are possible

#### Limitations

- Curtain wall applications should be reviewed by a qualified engineer for structural and load requirements
- Curtain wall is intended to be installed perpendicular (90 Degrees) to the floor. Any attempts to change this should be presented to Alumicor at the design stage to ensure drainage paths are maintained
- Thermal performance of curtain wall is dependent upon fenestration design and infill products, see available thermal charts
- Contact Alumicor for technical support in this area





#### Features & Benefits

- Fully thermally broken stick curtain wall in a slim 2" (50.8mm) profile with superior thermal performance
- Suitable for low rise curtain wall designs as well as storefront type applications
- Mullion depths from 2" (50.8mm) to 5" (127mm)
- Conventional capped or structural silicone glazed (SSG) options
- Composite action polyamide thermal break provides increased resistance to condensation and wind loads
- Available in both double and triple glazed
- A variety of pressure plate caps are available
- Compatible with all Alumicor operable windows, doors, etc.
- Custom offset pressure plate
- T-Anchor and splices available
- Unique glass support eliminates concerns of dead loads imposed upon the thermal break
- Proprietary gasket provides improved thermal performance
- Tested to NAFS-11 AW, CSA A440 & AAMA 501 requirements

#### Warranty

Alumicor standard product warranty applies. Extended warranties may be available. Alumicor's product warranties can be reviewed at www.alumicor.com

#### Filing System

MasterFormat. UniFormat or OmniClass

#### **Technical Services**

Contact any Alumicor regional office by visiting www.alumicor.com

Nov. 2017 www.alumicor.com

#### Design Considerations

- Curtain wall designs are complex. It is important for designers and specifiers to ensure that competent manufacturer's representatives are involved in the early stages of the project.
- the early design stages are:
- Design loads
- Glazing infills (both vision, spandrel and operables)
- Building construction components (and their effects upon the curtain wall)
- Thermal performance requirements
- Seismic requirements
- Integration of the curtain wall into adjacent construction
- Modules and spans

#### Applicable Standards

through Exterior Windows, Curtain Walls and Doors under Specified of the system. Pressure Differences across the Specimen.

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM E331 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference

AAMA 501.1 - Standard Test Method for Water Penetration of Windows, Curtain Walls, and Doors using Dynamic Pressure

AAMA 501.4 - Static Test Method for Evaluating Curtain Wall and Store Front Systems subjected to Seismic and Wind Induced Inter-Story Drifts

AAMA 501.5 - Test Method for Thermal Cycling of Exterior Walls AAMA 501.7 – Static Test Method for Evaluating Windows, Window Wall, Curtain Wall and Storefront Systems Subjected to Vertical Inter-Story Movements

#### Maintenance

Cleaning should be undertaken as soon as possible after installation to remove construction and environmental dirt and impurities. Cleaning should begin at the top of the building and proceed downward in a continuous operation. Care should be taken to prevent the use of procedures and cleaning materials that could damage the finishes of the aluminum, glass, infill panels or adjacent building components. The curtain wall system should be cleaned annually using approved, non-abrasive cleaners and potable water. Cleaning of aluminum components should be performed in accordance with AAMA 609.1 and 610.2.

#### Installation

Alumicor recommends that installation be by authorized Alumicor dealers. Contact your Alumicor representative to confirm the trade contractor is authorized to install Alumicor products. Specifiers may wish to incorporate Some of the considerations that must be addressed at the requirement of a Product Confirmation as a Submittals requirement. Adhere to design, specifications, manufacturers published manuals and recommended industry practice.

#### Availability & Cost

Availability: Available through authorized Alumicor dealers that are competent in fabrication, assembly and/ or installation of the system.

Cost: The cost is dependent upon design, extent of project, finishes, glazing infill's, custom requirements, and project location. Contact Alumicor regional offices for pricing and/or a list of authorized Alumicor dealers that ASTM E283 Standard Test Method for Determining Rate of Air Leakage are authorized in fabrication, assembly and/or installation

#### **Physical Properties**

Property	Test Method	Result
Air Infiltration 300 Pa (6.26 psf)	ASTM E283	Allowable - 0.0003 m3 /s/m2 (0.06 cfm/ft2) Results - 0.00005 m3 /s/m2 (0.01069 cfm/ft2)
Air Exfiltration 300 Pa (6.26 psf)	ASTM E283	Allowable - 0.0003 m³ /s/m² (0.06 cfm/ft2) Results - 0.00001 m³ /s/m² (0.00246 cfm/ft²)
Water Penetration by Static Air Pressure Difference	ASTM E331	Allowable - No uncontrolled water penetration Results - Passed @ 720 Pa (15.04 psf)
Water Penetration by Dynamic Pressure Difference	AAMA 501.1	Allowable - No uncontrolled water penetration Results - Passed @ 720 Pa (15.04 psf)
Uniform Load Deflection	ASTM E330	Allowable - L/175 Passed - +1676 Pa, (+35 psf) - 1676 Pa,(-35 psf)
Uniform Load Structural	ASTM E330	Allowable - L/250 Passed - +2514 Pa, (+52.5 psf) - 2514 Pa,(-52.5 psf)
Horizontal Interstory Movement	AAMA 501.4	Passed - 3 Cycles of Movement at +/- 19.05mm (0.75 in)
Vertical Interstory Movement	AAMA 501.7	Passed - 3 Cycles of Movement at +/- 19.05mm (0.75 in)
Thermal Cycling	AAMA 501.5	Passed - 3 Cycles of Interior Temperature +21°C & Exterior Temperature -35°C – 60°C

\*Tests performed by Exova, 2395 Speakman Dr., Mississauga, Ontario, L5K 1B3. Copies of test reports available upon request.







#### **Standard Anodizing Warranty**

#### LIMITED WARRANTY AND LIABILITY

Alumicor Limited ("Alumicor") warrants, for a period of five years from the original date of shipment or pick-up from the Alumicor plant of any product manufactured by Alumicor, that: (i) the anodic coating applied to such product shall meet AAMA 611-14 Voluntary Specification for Anodized Architectural Aluminum; and (ii) the colour of the anodic coatings will not change or fade more than five Delta E Hunter units as per the ASTM method D-2244.

During this five-year warranty period, Alumicor will, at its sole discretion, either: (i) reprocess, at its sole expense, any anodizing which in Alumicor has determined to be defective because of faults in the anodizing process; (ii) or anodize new material supplied by the Customer; or (iii) reimburse the Customer for the original price paid to Alumicor for the defective finish.

In no event will Alumicor be responsible for: (i) material costs: (ii) the costs associated with manufacturing formed products; (iii) the costs of removing or replacing anodizing material from any structure in which it may have been incorporated; or (iv) the cost of transporting faulty or replacement anodized metal.

#### **CONDITIONS**

This Warranty applies only to an Alumicor Product that is: (a) used in accordance with the technical specifications set out in Alumicor's Product catalogue, a copy of which will be provided at your request; and (b) installed by authorized Alumicor dealers. Upon purchasing an Alumicor Product, you will be deemed to have read and understood the technical specifications for said Alumicor Product. Purchasers of Alumicor Products do not have authority to make any warranties in addition to, or inconsistent with, the terms or conditions set forth in this warranty.

The anodized materials must be handled as per AAMA Publication 10, Care and Handling of Architectural Aluminum From Shop to Site, and any anodized materials must be maintained as per AAMA 609 and 610-2 Cleaning and Maintenance Guide for Architecturally Finished Aluminum.

This warranty does not extend or apply to anodized material that has:

- sustained water or condensation damage;
- been subjected to standing or pooling water, a corrosive atmosphere, harmful fumes, or foreign substances;
- been damaged by handling or during shipping, processing or installation;
- been subjected to any form of negligence, misuse, abuse, abrasion or physical impact or any other physical damage whether intentional or accidental;
- been subjected to improper storage or packaging after delivery;
- been welded, formed, or bent post anodizing; or
- come in to direct contact with other materials that are not compatible with the anodic coating.

This warranty does not extend or apply to aluminum that is not of anodizing quality, or that has pre-existing mill defects (pitting, corrosion, die lines, handling damage, etc). This includes the correct selection of an anodizing quality alloy.

This warranty does not extend or apply to damage that occurs as a result of Acts of God, accidents, fire, flood, acid rain or unforeseeable circumstances, or accident that exposes the finish to abnormal atmospheric conditions.

Alumicor will not be held responsible under any circumstances or be liable for any loss of benefit or of income or of any other direct, indirect, fortuitous, special, secondary or incidental damages resulting from a defective finish.

This warranty does not apply if Alumicor is not paid in full.

Aside from the limited warranty described above, Alumicor disclaims all other representations, warranties and conditions, expressed, implied or statutory, in respect of any Alumicor Product, including without limitation, any representations, warranties and conditions of merchantability or fitness for a particular purpose.