

TEST REPORT

Air & Water Tightness
of a
GlasCurtain Fibreglass-Framed Curtain Wall System

Performed in accordance with
ASTM E283 and E331

Report No. L22-1471-6258a
Report Date: May 31, 2022

Prepared for:
GlasCurtain 2010 Inc.
PO Box 67198 Meadowlark Park
Edmonton, AB T5R 5Y3

Test Results	SI	Imp.
Air Tightness, ASTM E283-19	0.04 l/s..m ²	0.008 (cfm/ft ²)
Water Tightness, ASTM E331-16	Pass 960 Pa	Pass 20.1 psf
Water Tightness, ASTM E547-16		

Respectfully submitted by:

**CANADIAN BUILDING ENVELOPE
Science and Technology (CAN-BEST)**



Report Authorized by:

Elie Alkhoury, M.Eng.(Building Science), P.Eng.

- This report does not constitute certification of the test product. The reported test results refer only to the specimen tested. No representation is made that other samples of similar design will feature like performance.
- This report was prepared for the consideration of the addressee only. It shall not be used by any other party without the written consent of CAN-BEST.
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1 Introduction

Canadian Building Envelope Science and Technology (CAN-BEST) was retained by GlasCurtain 2010 Inc. to carry out air and water tightness testing on one Fibreglass-Framed Curtain Wall System.

2 Referenced Standards

Where applicable, testing was performed in accordance with the following standards:

- Air Tightness: ASTM E283-19 *"Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen."*
- Water Tightness: ASTM E331-00 (Reapproved 2016) *"Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference."*
- Water Tightness, Cyclic Pressure: ASTM E547-00 (Reapproved 2016) *"Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference."*

3 Description of Test Panel

Designation:	Fibreglass-Framed Curtain Wall System
Type:	Thermally broken fiber glass curtain wall glazed system, 2000 mm x 2000 mm comprising two side-by-side fixed vision panels, separated by a vertical mullion. See Figure (1).
Materials:	Main Frame: Pultruded fiberglass section, 63.5 mm wide by 152 mm deep Pressure Plate: Pultruded fiberglass Exterior Cap: Extruded aluminum, clear anodized
Glazing:	Triple-glazed Insulating Glass Units (IGU's), 43.4 mm thick, comprising: <ul style="list-style-type: none">▪ three 6 mm thick clear lites with low-e coating (Solar Ban SB70), applied on Surfaces 2 and 4.▪ two 12.7 mm thick argon-filled cavities.▪ Warm edge foam spacer "Technoform", sealed with silicone edge sealant.
Specimen Details:	Elevation and section drawings, as provided by the client and verified by CAN-BEST, are attached to this report.

The test panel was constructed by the Client in a test frame at CAN-BEST laboratory, and witnessed by a CAN-BEST staff member.

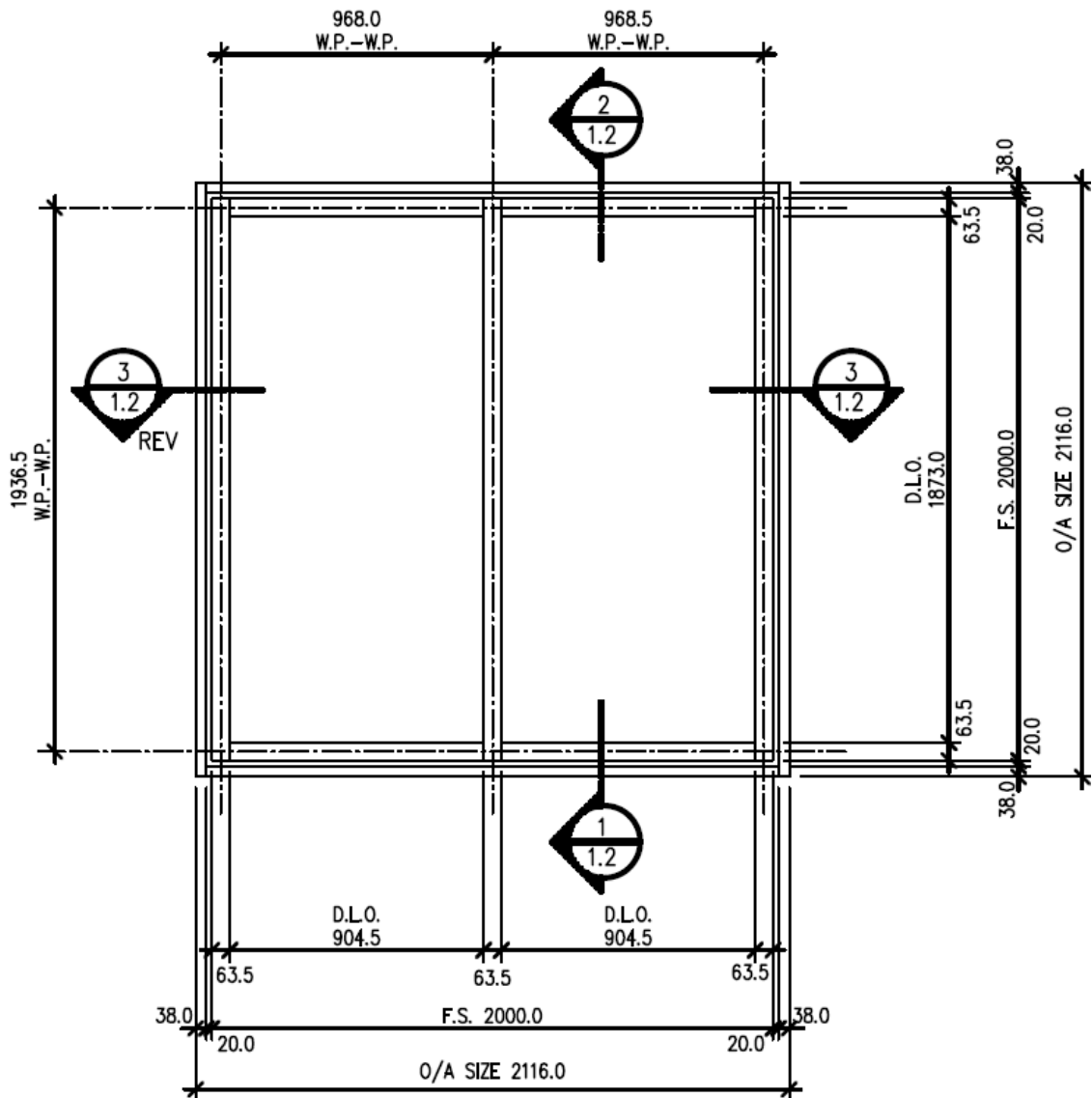


Figure (1): Test Panel

4 Test Results

Test results are provided in Table (1).

Table (1): Test Results

Test	Procedure	Results
Air Tightness <i>ASTM E283</i>	A pressure differential is applied across the test specimen in an inward direction, and the airflow required to maintain that differential is measured. Test Pressure: 300 Pa	Surface Area, m ² : 4.00 Measured Air Flow, l/s: <i>Infiltration:</i> 0.18 <i>Exfiltration:</i> 0.16 Rates of Air Flow, l/s/m ² <i>Infiltration:</i> 0.05 <i>Exfiltration:</i> 0.04
Water Tightness <i>Cyclic Pressure</i> <i>ASTM E547</i>	Test pressure applied in the inward direction for 4 cycles, each consisting of 5 minutes pressure ON and 1 minute pressure OFF. Test Pressure: 960 Pa	Pass No water leakage past innermost plane was observed.
Water Tightness <i>Uniform Pressure</i> <i>ASTM E331</i>	Test pressure applied in the inward direction continuously for 15 minutes. Test Pressure: 960 Pa	Pass No water leakage past innermost plane was observed.

Report History

Revision No.	Change	Date	Approved by
---	Original report issued	May 31, 2022	EA

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GLASCURTAIN PERFORMANCE TEST ECONO FRAME

DRAWING LIST:

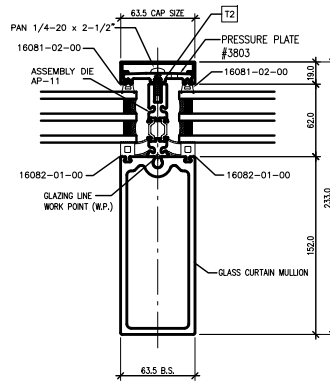
No.	DESCRIPTION
1.1	DRAWING LIST, GENERAL NOTES, CURTAIN WALL ASSEMBLIES & GENERAL CROSS REFERENCE PART LEGEND
1.2	SHIPPING FRAME ELEVATION & SECTIONS AND PLAN DETAILS
1.3	FRAME ELEVATION COMPLETED & SECTIONS AND PLAN DETAILS

GENERAL NOTES:

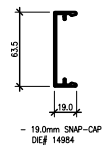
VERTICAL WALL:
GLASCURTAIN:
 63.5mm x 152.0mm BACK SECTION
FINISH:
 RAW GREY BACK SECTION
 CLEAR ANODIZED EXTERIOR
GLASS TYPE:
 V = 6mm CLEAR SB70 (#2)
 12.7mm ARGON SUPERSPACER TRI-SEAL/SILICONE
 6mm CLEAR SB70 (#4)
 12.7mm ARGON SUPERSPACER TRI-SEAL/SILICONE
 6mm CLEAR CLIMAGUARD IS-20
 43.5mm TRIPLE SEALED UNIT
SILICONE SEALANT
 DOW CORNING 795

GENERAL ASSEMBLIES:

MULLION TYPES:



SNAP-CAP TYPES:



GENERAL PARTS LIST

GASKET SCHEDULE:

- 6mm PRESSURE PLATE GASKET
TRELLEBORG 16081-02-00
70 DURO BLACK EPDM
- 12.8mm BACK SECTION GASKET
TRELLEBORG 16082-01-00
70 DURO BLACK EPDM

SETTING BLOCKS:

- 44.0
SBS - 1.6 x 44 x 152 LG TRIPLE GLAZED SETTING BLOCK
DIE #: TR-157435
MATERIAL: SILICONE
- 43.0
SB6 - 6 x 43 x 152 LG TRIPLE GLAZED SETTING BLOCK
DIE #: TR-13705E
MATERIAL: EPDM

CORNER BLOCKS:

- 22mm x 48mm LONG TRIPLE GLAZED CORNER PLUG
TREMCO TR-14450E

THERMAL BREAKS:

- FIBRE GLASS PRESSURE PLATE THERMAL BREAK
PERFECT FIT FG-004

PVC CHANNELS:

- PVC CHANNEL
PERFECT FIT FG-009

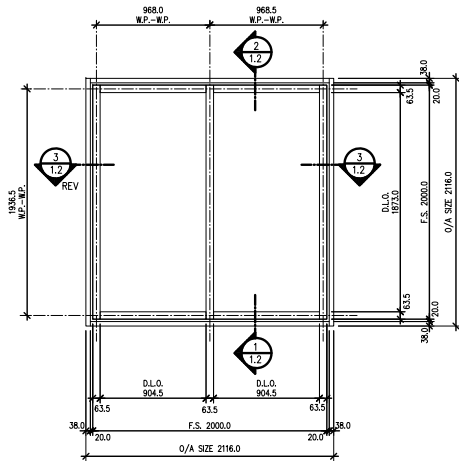
SCREW SCHEDULE:

- PAN 1/4-20 x 3/4" M.S.
- PAN 10-16 x 1" TEKS/3

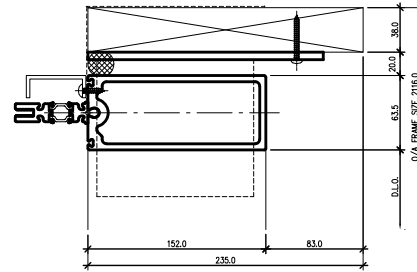
DATE	REVISIONS	BY
JAN 27, 2022	FINAL SUBMISSION	RGI
	SUBMISSION RECORD	BY

10285 100 AVENUE
 EDMONTON, AB CANADA T5J 0A1
 PHONE (780) 425-3077
 WWW.GLASCURTAIN.CA

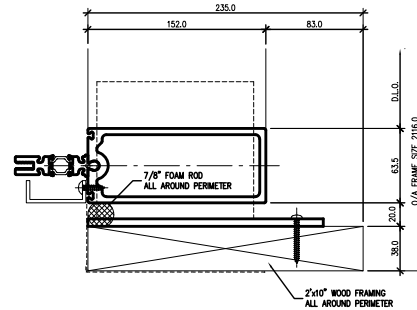
JOB-NAME & LOCATION GLASCURTAIN PERFORMANCE TEST		
ARCHITECT		
GENERAL CONTRACTOR FERGUSON		
INSTALLATION CONTRACTOR FERGUSON		
DRAWN BY	DATE	CHECKED BY
RG	OCT/2021	
DRAWING TITLE DRAWING LIST, GENERAL NOTES, CURTAIN WALL ASSEMBLIES & GENERAL PARTS LEGEND		CONTRACT & DWG NO. 1.1
SCALE: NIL		



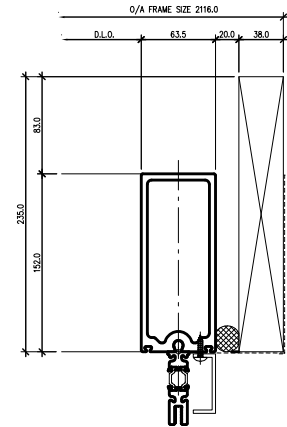
SHIPPING FRAME
SCALE: 1:20



2 HEAD DETAIL
SCALE: 1:2



1 SILL DETAIL
SCALE: 1:2

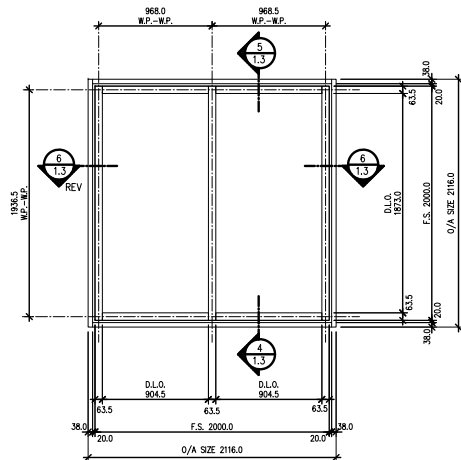


3 JAMB DETAIL
SCALE: 1:2

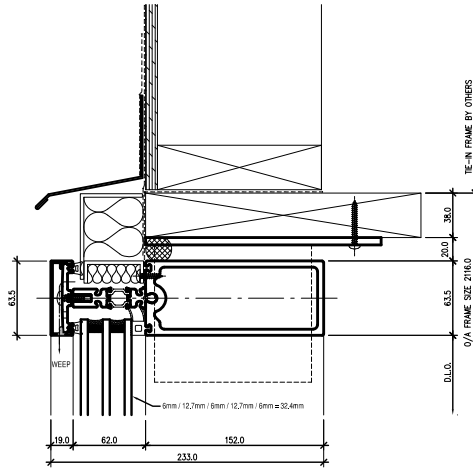
DATE	REVISIONS	BY

GlasCurtain Inc.
10225 100 AVENUE
EDMONTON, AB CANADA T5J 0A1
PHONE: (780) 451-3977
WWW.GLASCURTAIN.CA

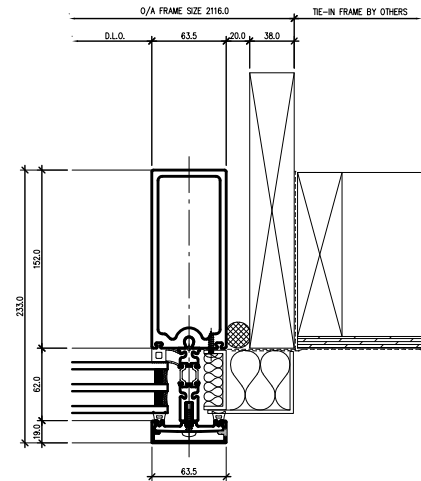
JAN 27, 2022				FINAL SUBMISSION		RGI	
DATE				SUBMISSION RECORD		BY	
DATE				REVISIONS		BY	
JOB-NAME & LOCATION GLASCURTAIN PERFORMANCE TEST ARCHITECT							
GENERAL CONTRACTOR FERGUSON							
INSTALLATION CONTRACTOR FERGUSON							
DRAWN BY		RG	DATE		OCT/2021	CHECKED BY	
DRAWING TITLE						CONTRACT & DWG NO.	
SHIPPING FRAME ELEVATION, SECTION AND PLAN DETAILS						1.2	
SCALE: NIL							



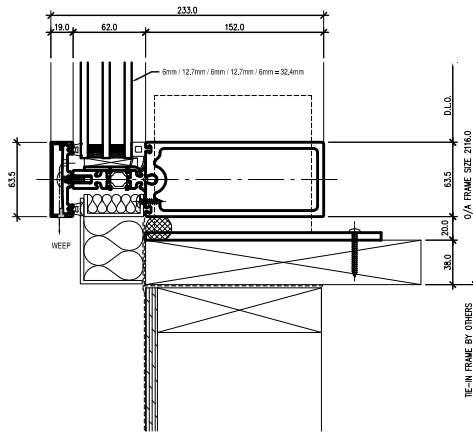
FRAME ELEVATION COMPLETED
SCALE: 1:20



5 HEAD DETAIL
SCALE: 1:2



6 JAMB DETAIL
SCALE: 1:2



4 SILL DETAIL
SCALE: 1:2

DATE	REVISIONS	BY
JAN 27, 2022	FINAL SUBMISSION	RGI
	SUBMISSION RECORD	BY

10225 100 AVENUE
EDMONTON, AB CANADA T5J 0A1
PHONE (780)438-3077
WWW.GLASCURTAIN.CA

JOB-NAME & LOCATION GLASCURTAIN PERFORMANCE TEST		
ARCHITECT		
GENERAL CONTRACTOR FERGUSON		
INSTALLATION CONTRACTOR FERGUSON		
DRAWN BY	DATE	CHECKED BY
RG	OCT/2021	
DRAWING TITLE FRAME COMPLETED ELEVATION, SECTION AND PLAN DETAILS		CONTRACT & DWG NO. 1.3
SCALE NIL		