TEST REPORT

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EVALUATION CENTER
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RENDERED TO

Artistic Skylight Domes Ltd.
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Attention: Nenzio Ferrazzo

PRODUCT EVALUATED: GV-PVCSR Venting Skylights
EVALUATION PROPERTY: Physical Tests

Report of Testing for Artistic Skylights Domes Ltd. on GV-PVCSR deck-mounted venting glass skylights for compliance with the applicable requirements of the following criteria: AAMA/WDMA/CSA 101/I.S.2/A440-08 *"NAFS North American Fenestration Standard/Specification for windows, doors, and skylights"* and AAMA/WDMA/CSA 101/I.S.2/A440S1-09, *Canadian Supplement*.

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2 Introduction

Intertek has conducted performance testing for Artistic Skylight Domes Ltd. on two GV-PVCSR deck-mounted fixed glass skylights for the Intertek Certification Program.

(A) 22-1/4"×67"
(B) 48"×48"

The skylights were submitted to the Intertek laboratory in Mississauga, Ontario on August 16, 2009. Testing was conducted in accordance with the standard methods of AAMA/WDMA/CSA 101/I.S.2/A440-08 *"NAFS North American Fenestration Standard/Specification for windows, doors, and skylights"* and AAMA/WDMA/CSA 101/I.S.2/A440S1-09, *Canadian Supplement*. This evaluation began August 27, 2009 and was completed October 6, 2009.

3 Test Specimen

3.1. SPECIMEN AND ASSEMBLY DESCRIPTION

Designations:
(CAN)
- A - Class R-PG1440 (metric)-Size Tested 692×1892 mm - SKG/RW
- B - Class R-PG1440 (metric)-Size Tested 1348×1348 mm - SKG/RW

(US)
- A - Class R-PG30-Size Tested 27.3×74.5 in - SKG/RW
- B - Class R-PG30-Size Tested 53.1×53.1 in - SKG/RW

Model:
- GV-PVCSR Skylight

Type:
- Deck-mounted, aluminum capped, plastic frame venting glass unit skylight

Manufacturer:
- Artistic Skylight Domes Ltd., 2 Guided Court, Etobicoke ON M9V 4K6

Condition:
- New and undamaged

Overall Frame Size:

Skylight No.	(including integral nailing fin)	
	Width	Height
A	803 mm (31-5/8")	2003 mm (78-7/8")
B	1457 mm (57-3/8")	1457 mm (57-3/8")

Frame:
- Extruded vinyl main frame members (Extrusion Profiles Die No. 329C) with mitred and welded corners. The frame was complete with an integral nailing fin.

Frame (cont'd):

- Aluminum Head Flashing- Brake-formed 'Z'-shaped 0.46 mm (0.018") thick aluminum flashing having a 264 mm (10-1/2") long to 337 mm (13-1/4") long leg (fastened to the roof deck), a 60 mm (2-3/8") outward return, and a 45 mm (1-3/4") long drip edge leg.

Skylight No.	Length of Head Flashing mm (in.)	Length of Drip Edge mm (in.)
A	1143 (45)	737 (29)
B	1803 (71)	1378 (54-1/4)

- Installation: The unit was installed onto a 2x6 wood support frame with 1/2" plywood sheathing secured to one face, simulating an inclined roof surface, measuring 2438 mm (96") square overall. The skylight was installed over a centrally located opening its perimeter lined with 2x6 wood members.

Skylight No.	Size of Rough Opening	
	Width mm (in.)	Height mm (in.)
A	568 (22-3/8)	1766 (69-3/8)
B	1222 (48-1/8)	1222 (48-1/8)

- The order of installation was as follows:
  The exterior of the plywood, from the bottom edge of the support frame up to the bottom edge of the opening was faced with self-adhering peel-and-stick waterproofing membrane. A bed of silicone was applied to the exposed membrane along the bottom edge of the opening, this silicone bed continued up each side of the opening for approximately 400 mm (16") up the up jambs.

- The skylight was then placed over the opening and fastened to the plywood along the head and jambs with 1-1/4" long roofing nails installed in the pre-punched holes along the head and jamb nailing fins, the holes on 122 mm (4-13/16") centres. There were no fasteners used along the exposed sill nailing fin.

- Strips of waterproofing membrane measuring approximately 457 mm (18") wide were then applied along each side and along the top of the unit, covering the exposed nailing fin and adjacent plywood surface.

- Conventional three-tab asphalt shingles were then installed over the membrane (butting up against the side of the skylight frame) along each side of the unit using 1-1/4" long roofing nails. The membrane was also applied over the nailing fin and adjacent plywood along the top of the unit, the membrane continuous to the top edge of the plywood, and lapping over the membrane along the sides of the unit.

Skylight No.	Number of Installation Fasteners (Roofing Nails)	
	Head Nailing Fin	Jamb Nailing Fin
A	7	15
B	12	11

Frame (cont'd):

- A brake-formed aluminum flashing was then installed over the head of the skylight using the roofing nails, two per end. The waterproofing membrane was applied over the top edge of the flashing, existing membrane above the flashing, and over the shingles either side of the flashing. This section of membrane was the full width of the support frame, overlapping the flashing by 230 mm (9"), the top of the adjacent shingles by 204 mm (8"), and continued up to the top edge of the plywood sheathing.

Note: *For air tightness testing only, the inside perimeter of the skylight support frame opening was sealed with red air barrier tape to the inside perimeter of the PVC skylight frame such that the plywood sheathing-to-PVC skylight frame joint was sealed as well as the joint between the plywood sheathing and 2x6 wood support members lining the opening. The tape was removed for water tightness testing.*

Sash:

- Members: Extruded aluminum members having mitred corners supported by two metal chevron keys per corner fitted to tracks on the exterior face, the outer key fastened to the corresponding sash member with a #8×1/2" pan head self-drilling tek screw. The corners were sealed between the glazing gasket and outer corner key with silicone on the exterior, and between the weather-strip kerf (including the kerf) and the back edge of the sash along the inside of the corner. The inside perimeter of the sash was fitted with a vinyl cap having mitred corners. An angle-shaped metal clip at the top of each stile was retained by the corresponding corner key retaining screw. These clips measured 32 mm (1-1/4") wide with a 32 mm (1-1/4") long leg covering/retaining the head of the hinge pin, and a 19 mm (3/4") long leg fastened to the face of the sash over the corner key.

- Aluminum Cap- Extruded aluminum cap members (Bon L Die No. PA-37250) having welded mitred corners

Skylight No.	Sash Size	
	Width mm (in.)	Height mm (in.)
A	692 mm (27-1/4")	1892 mm (74-1/2")
B	1348 mm (53-1/16")	1348 mm (53-1/16")

Locks and Hardware:

- Hinges: The sash was operated on two 5.2 mm (13/64") thick galvanized steel knurled nails (one per stile), each measuring 130 mm (5-1/8") long overall, fitted through openings at the top of each stile and engaging an internal port running the length of the head, the nails secured in the ports with silicone applied to the knurled portion. The openings at the end of each stile measured 6.8 mm (17/64") in diameter and were located 7.9 mm (5/16") on centre down from the top end of each stile. The head on each nail measured 11 mm (7/16") in diameter, the shank of the nail being knurled for 68 mm (2-11/16"), the knurling starting 51 mm (2") below the head.

Locks and Hardware:

- Operator: The sash was operated by a chain type roto gear hardware module (Truth Hardware Part No. 42.65) fastened to the sill using two #10×2" pan head "'allthread" screws and to the adjacent wood 2x6 curb member with using two #8×2" flat head screws. The operator was located such that its chain was equi-distant from each jamb. The operator was sealed to the sill about the punched opening for the chain with silicone. The chain engaged a sash bracket (Truth Hardware Part# 40470) via a detachable sash pin (Truth Hardware Part# 20642). The sash bracket was fastened to the sash sill rail using two #8×1/2" pan head self-drilling tek screws.

Drainage:

- None (original slots along sill sealed with silicone).

Weather-stripping:

- The exterior face of the frame was single weather-stripped with a co-extruded rubber draft seal.
- The interior face of the sash was single weather-stripped with kerf-inserted flexible vinyl bulb gasket (Vinyl Profiles Part No. V-75) having butted corners, the corners sealed with silicone.

Glazing:

- Sample A- Factory sealed glazing unit having an exterior sheet of nominally thick 4 mm tempered glass, an interior sheet of laminated 3mm/3mm and a metal spacer with a 9.5 mm (3/8") air gap. The glass was inscribed with the following: "OFG Tempered, ANSI Z97.1 2004, 16 CFR 1201 II, SGCC 2402 5/32 UA ". Overall IG thickness was 20.3 mm.
- Sample B- Factory sealed glazing unit having an exterior sheet of nominally thick 5 mm tempered glass, an interior sheet of laminated 3mm/3mm and a metal spacer with a 6.8 mm (17/64") air gap. The glass was inscribed with the following: "OFG Tempered, ANSI Z97.1 2004, 16 CFR 1201 II, SGCC 3023 3/16 UA 05/26/09". Overall IG thickness was 17.5 mm (11/16").

Glazing Method:

- Laid in glazed on the interior on a bed of silicone applied to and underlying kerf-inserted rubber glazing gasket (Vinyl Profiles Part No. V-76), and retained with the extruded aluminum capping on the exterior. Double-sided adhesive backed closed cell foam tape measuring 6.4 mm wide by 3.2 mm thick (1/4"×1/8") was sandwiched between the exterior face of the sealed unit and the back side of the aluminum capping. The aluminum cap was fastened to the skylight frame using #8×3/4" self-drilling tek screws, installed through the side of the capping. Neoprene shims, secured by a dab of caulking, were fitted between the edge of the sealed unit and the down-turned leg of the capping. The shims measured 38 mm long by 25.4 mm wide by 4.8 mm thick (1-1/2"×1"×3/16").

Glazing Method (cont'd):

-

Skylight No.	Number of Aluminum Cap Fasteners	
	Head/Sill	Jambs
A	3	8
C	5	5

Skylight No.	Number of Neoprene Shims	
	Head/Sill	Stile
A	2	3
C	3	3

Drawings:

- *Plan and Cross-Section Drawing:*
  Artistic Skylight Domes drawing GV-PVCSR, undated

- *Component Drawings:*
  Extrusion Profiles Inc. Die No. 329c, titled "Self Flashing Frame", dated Jan 09, 2004
  Spectra Aluminum Products Die No. SS-1631, titled "Sash Frame", dated Jan/13/2000
  Vinyl Profiles Ltd. Drawing V-130, titled "Artistic Skylight Domes-Sash Thermal Cover", undated
  BonL Canada Inc. Die No. PA-37250, untitled, dated Nov/01/1995

Drawings are enclosed with this report in Appendix A.

4 Testing and Evaluation Methods

The Skylights (glazed with glass) (SKG) as described in this report were tested to the Residential (R) Performance Class as follows: (The skylights met the Gateway Performance Requirements, by virtue of meeting the higher (optional) performance grades to which they were tested):

- Minimum Gateway Test Size: 500 mm × 1100 mm
- Maximum Allowable Air Leakage: 1.5 L/s•m² (0.3 cfm/ft²)
- Minimum Water Pressure: 140 Pa (2.9 psf)
- Minimum Design Pressure: 720 Pa (15 psf)
- Minimum Structural Pressure: 1440 Pa (30 psf)

The skylights were tested for compliance to the above test criteria in order to achieve the Gateway Performance Designation of Class R-PG15/R-PG720. Performance testing was conducted in order to meet the overall Optional Performance requirements as follows:

A- GV-PVCSR 22-1/4"×67"

- Optional Water Pressure (US only): 580 Pa (12 psf)
- Optional Water Pressure (Canada only): 730 Pa (15.2 psf)
- Optional Positive Design Pressure: +5040 Pa (+105 psf)
- Optional Negative Design Pressure: -1440 Pa (-30 psf)
- Optional Positive Structural Test Pressure: +10080 Pa (+210 psf)
- Optional Negative Structural Test Pressure: -2880 Pa (-60 psf)
- Canada (only) Air Infiltration/Exfiltration Level: A3

B- GV-PVCSR 48"×48"

- Optional Water Pressure (US only): 580 Pa (12 psf)
- Optional Water Pressure (Canada only): 730 Pa (15.2 psf)
- Optional Positive Design Pressure: +5040 Pa (+105 psf)
- Optional Negative Design Pressure: -1440 Pa (-30 psf)
- Optional Positive Structural Test Pressure: +10080 Pa (+210 psf)
- Optional Negative Structural Test Pressure: -2880 Pa (-60 psf)
- Canada (only) Air Infiltration/Exfiltration Level: A3

DEVIATION FROM THE TEST STANDARD

Testing was not initiated at the minimum Gateway grade levels for the SKG-R class of skylights in all incidences of testing. As testing was performed in conjunction with other skylight test standards, the skylight was tested to the Optional Performance Grades of AAMA/WDMA/CSA 101/I.S.2/A440-08. By default, the minimum Gateway requirements were met by virtue of meeting the requirements at higher test levels.

4.1. OPERATING FORCE TEST (Clause 5.3.1.1)

The Operating Force Test was performed and evaluated in accordance AAMA/WDMA/CSA 101/I.S.2/A440-08, *"Standards/Specifications for windows, doors and unit skylights*", Section 5.3.1.1.

The Operating Force test was measured with a torque wrench applied on the rotary knob, with the handle removed. The forces required to initiate motion of the operable panel from both the fully open and fully closed positions, as well as the force required to maintain motion to the opposite limits of travel, were measured.

4.2. AIR LEAKAGE RESISTANCE TEST (Clause 5.3.2)

The Air Leakage Resistance test was performed in accordance with ASTM E283-04, "*Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*."

Air infiltration and exfiltration tests were performed using test pressures of 75 Pa (1.57 psf). The maximum air leakage rate was calculated and compared to the allowable air leakage.

4.3. WATER PENETRATION RESISTANCE TEST (Clause 5.3.3)

The Water Tightness test was conducted and evaluated in accordance AAMA/WDMA/CSA 101/I.S.2/A440-08, Section 5.3.3.4, in conjunction with ASTM E331-00, "*Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference*".

The Water Tightness test was performed with the skylight installed into a make-shift roof opening as installed by the client, the installation details contained herein. For the water penetration test, the roof was placed at a 15° incline from horizontal at the specified pressure differential and a water spray rate of at least 204 L/m² per hour (5.0 US gal/ft² per hour). The test duration was 15 minutes.

4.4. UNIFORM LOAD TEST (Clause 5.3.4)

4.4.1 Uniform Load Deflection Test (Clause 5.3.4.2)

The Uniform Load Deflection test was conducted in accordance with ASTM E330-02, "*Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference*," Procedure A.

The Deflection test was performed in both the positive and negative directions. A load equal to one-half the anticipated allowable load was applied and held for one minute. Deflection measurements were taken at the mid-span and ends of a jamb. The load was then released and deflection readings were taken after a recovery period of not less than one minute nor more than five minutes at zero load. The test specimen was evaluated for permanent damage. The anticipated allowable load was then be applied and held for one minute. Deflection readings were taken. The load was then released; deflection readings were taken after a recovery period of not less than one minute nor more than five minutes at zero load. The test specimen was evaluated for failure or permanent deformation of any part of the skylight that would cause any operational malfunction.

4.4.2 Uniform Load Structural Test (Clause 5.3.4.3)

The Uniform Load Structural Test was conducted in accordance with ASTM E330-02, "*Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference*," Procedure A.

The Structural test was performed in both the positive and negative directions. A load equal to one-half the structural test pressure was applied and held for one minute. Permanent deflection measurements were taken at the mid-span and ends of a jamb. The load was then released and deflection readings were taken after a recovery period of not less than one minute nor more than five minutes at zero load. The test specimen was evaluated for permanent damage. The structural test pressure was then be applied and held for one minute. Deflection readings were taken. The load was then released; Permanent deflection readings were taken after a recovery period of not less than one minute nor more than five minutes at zero load. The test specimen was evaluated for failure or permanent deformation of any part of the skylight that would cause any operational malfunction.

4.5. THERMOPLASTIC CORNER WELD TEST (Clause 5.3.6.2)

Corner weld tests were conducted in accordance with Clause 5.3.6.2 of the AAMA/WDMA/CSA 101/I.S.2/A440-08. Each corner sample was mounted in a test fixture as per Figure 12 of the standard. The frame corners were loaded as per Figure 12 with a gradually increasing load until breakage of the corner occurred. When loaded to failure, the break shall not extend along the entire weld line.

4.6. DISTRIBUTED LOAD TEST (Clause 5.3.6.6.2)

The Distributed Load Test was conducted in accordance with the distributed Load Test described in AAMA/WDMA/CSA 101/I.S.2/A440-08, Section 5.3.6.6.2. The skylights must resist a minimum load of 240 Pa (5.0 psf), including the weight of the operable sash.

5 Testing and Evaluation Results

5.1 Operating Force Test (Clause 5.3.1)

A- GV-PVCSR 22-1/4"×67"	*Force applied to sash roto-operator*
Maximum measured force to initiate opening:	9 N (2.1 lbf)
Maximum measured force to initiate closing:	2 N (0.3 lbf)
Maximum measured force to maintain motion	10 N (2.3 lbf)

B- GV-PVCSR 48"×48"	*Force applied to sash roto-operator*
Maximum measured force to initiate opening:	24 N (5.4 lbf)
Maximum measured force to initiate closing:	3 N (0.7 lbf)
Maximum measured force to maintain motion	21 N (4.7 lbf)

Maximum allowable force to initiate motion (US):	Report Only
Maximum allowable force to maintain motion (US):	45 N (10 lbf)
Maximum allowable force to initiate motion (Canadian):	90 N (20 lbf)
Maximum allowable force to maintain motion (Canadian):	45 N (10 lbf)

The GV-PVCSR skylights **MET** the (US and Canadian) Operating Force performance requirements as specified in AAMA/WDMA/CSA 101/I.S.2/A440-08.

5.2 Air Leakage Test (Clause 5.3.2)

A- GV-PVCSR 22-1/4"×67"	
Air Infiltration – 75 Pa (1.57 psf)	
Net infiltration:	0.14 L/s (0.30 cfm)
Total Window Area	1.309 m² (14.09 ft²)
Air Leakage Rate:	0.11 L/s·m² (0.021 cfm/ft²)
Air Exfiltration – 75 Pa (1.57 psf)	
Net exfiltration:	0.09 L/s (0.20 cfm)
Total Window Area	1.309 m² (14.09 ft²)
Exfiltration rate:	0.07 L/s·m² (0.014 cfm/ft²)

B – GV-PVCSR 48"×48"	
Air Infiltration – 75 Pa (1.57 psf)	
Net infiltration:	0.23 L/s (0.49 cfm)
Total Window Area	1.817 m² (19.56 ft²)
Air Leakage Rate:	0.13 L/s·m² (0.025 cfm/ft²)
Air Exfiltration – 75 Pa (1.57 psf)	
Net exfiltration:	0.18 L/s (0.39 cfm)
Total Window Area	1.817 m² (19.56 ft²)
Exfiltration rate:	0.10 L/s·m² (0.020 cfm/ft²)

Maximum allowable air leakage rate:	1.5 L/s·m² (0.3 cfm/ft²)
Maximum allowable air leakage rate (A3):	0.5 L/s·m² (0.1 cfm/ft²)

The GV-PVCSR skylights **MET** the performance levels (as well as A3 Canadian Infiltration/Exfiltration Levels) specified in AAMA/WDMA/CSA 101/I.S.2/A440-08 for Air Leakage Resistance.

5.3 Water Penetration Resistance Test (Clause 5.3.3)

A- GV-PVCSR 22-1/4"×67"	
Pressure Differential	730 Pa (15 psf)
Skylight Inclination Angle	15°
Results:	No water leakage observed.

B – GV-PVCSR 48"×48"	
Pressure Differential	730 Pa (15 psf)
Skylight Inclination Angle	15°
Results:	No water leakage observed.

The GV-PVCSR skylights **MET** the minimum Gateway Water Penetration Resistance requirement at 140 Pa (2.9 psf), and the (US only) Optional Performance requirement for Residential class at 580 Pa (12 psf) as specified in AAMA/WDMA/CSA 101/I.S.2/A440-08. Additionally, the window system met the maximum water penetration resistance requirements for Canadian applications at 730 Pa (15.2 psf) as specified in AAMA/WDMA/CSA 101/I.S.2/A440-08 and AAMA/WDMA/CSA 101/I.S.2/A440S1-09.

5.4 Uniform Load Test (Clause 5.3.4)

Uniform Load Deflection Test - A- GV-PVCSR 22-1/4"×67"		
Member	Stile	
Span Length	1842 mm (72-1/2")	
Allowable Deflection	Report only	
Test Pressure*	***Positive Load***	***Negative Load***
	+5760 Pa (+120 psf)*	-1440 Pa (-30 psf)
Maximum Net Deflection	2.47 mm (0.097")	7.32 mm (0.288")
Note	** Deflection measurements were recorded at +5760 Pa instead of +5040 Pa*	
Post-test Details	After the test loads were released, the sliding door was inspected and there was found to be no failure or permanent deformation of any part of the sliding door that would cause any operational malfunction.	

Uniform Load Deflection Test - B – GV-PVCSR 48"×48"		
Member	Stile	
Span Length	1397 mm (55")	
Allowable Deflection	Report only	
Test Pressure*	***Positive Load***	***Negative Load***
	+5760 Pa (+120 psf)**	-1440 Pa (-30 psf)
Maximum Net Deflection	6.93 mm (0.273")	2.88 mm (0.113")
Note	*** Deflection measurements were recorded at +5760 Pa instead of +5040 Pa*	
Post-test Details	After the test loads were released, the sliding door was inspected and there was found to be no failure or permanent deformation of any part of the sliding door that would cause any operational malfunction.	

5.4 Uniform Load Tests (cont'd)

Uniform Load Structural Test – A - GV-PVCSR 22-1/4"×67"		
Member	Jamb	
Span Length	1842 mm (72-1/2")	
Allowable Residual Deflection (0.4% × span)	7.37 mm (0.285″)	
Test Pressure	***Positive Load***	***Negative Load***
	+10080 Pa (+210 psf)	-2880 Pa (-60 psf)
Residual Net Deflection	0.27 mm (0.011")	-1.67 mm (-0.066")
Post-test Details	After the test loads were released, the skylight was inspected and there was found to be no failure or permanent deformation of any part of the skylight that would cause any operational malfunction.	

Uniform Load Structural Test - B – GV-PVCSR 48"×48"		
Member	Jamb	
Span Length	1397 mm (55")	
Allowable Residual Deflection (0.4% × span)	5.59 mm (0.220")	
Test Pressure	***Positive Load***	***Positive Load***
	+10080 Pa (+210 psf)	-2880 Pa (-60 psf)
Residual Net Deflection	0.28 mm (0.011")	0.10 mm (0.004")
Post-test Details	After the test loads were released, the skylight was inspected and there was found to be no failure or permanent deformation of any part of the skylight that would cause any operational malfunction.	

The GV-PVCSR skylights met the minimum Gateway Uniform Load Structural Test (200% of Design Pressure) performance requirements at ±1440 Pa (±30 psf). The skylights met the optional performance requirements as specified in AAMA/WDMA/CSA 101/I.S.2/A440-08 as follows:

Skylight No.	Structural Load Achieved	
	Positive Load	Negative Load
A	+10080 Pa (+210 psf)	-2880 Pa (-60 psf)
B	+10080 Pa (+210 psf)	-2880 Pa (-60 psf)

The GV-PVCSR skylights qualify for the design loads as follows:

Skylight No.	Positive Load	Negative Load
A	+5040 Pa (+105 psf)	-1440 Pa (-30 psf)
B	+5040 Pa (+105 psf)	-1440 Pa (-30 psf)

5.5 Thermoplastic Corner Weld Test (Clause 5.3.6.2)

Frame- Break did not extend along entire weld line.

The skylights met the performance requirements specified in AAMA/WDMA/CSA 101/I.S.2/A440-08 for thermoplastic corner weld test.

5.6 Distributed Load Test (Clause 5.3.6.6.2)

A - GV-PVCSR 22-1/4"×67"	
Applied Test Load (Total weight including sash):	240 Pa (5 psf)
Sash Weight	36.9 kg (81.4 lbs)
Sash Area	1.31 m² (14.09 ft²)
Additional weight to be added	None
Test Details	The sash and hardware supported the applied uniformly distributed load of 240 Pa (5.0 psf) for a duration of 10 seconds without failure. The sash properly and fully closed at the conclusion of the test. There was no failure of screws, track, hinges, or permanent deformation of support arms.

B – GV-PVCSR 48"×48"	
Applied Test Load (Total weight including sash):	240 Pa (5 psf)
Sash Weight	52.63 kg (116 lbs)
Sash Area	1.82 m² (19.56 ft²)
Additional weight to be added	None
Test Details	The sash and hardware supported the applied uniformly distributed load of 240 Pa (5.0 psf) for a duration of 10 seconds without failure. The sash properly and fully closed at the conclusion of the test. There was no failure of screws, track, hinges, or permanent deformation of support arms.

The GV-PVCSR skylights **MET** the distributed load test performance requirements specified in AAMA/WDMA/CSA 101/I.S.2/A440-08 for the Residential class of skylights (glazed with glass).

6 Conclusion

When tested to the requirements in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 *"NAFS North American Fenestration Standard/Specification for windows, doors, and skylights"* and AAMA/WDMA/CSA 101/I.S.2/A440S1-09, *Canadian Supplement,* the GV-PVCSR skylights described and tested herein achieved the following Performance Designations:

Primary Designator

(CAN) A - Class R-PG1440 (metric)-Size Tested 692×1892 mm - SKG/RW
B - Class R-PG1440 (metric)-Size Tested 1348×1348 mm - SKG/RW

(US) A - Class R-PG30-Size Tested 27.3×74.5 in - SKG/RW
B - Class R-PG30-Size Tested 53.1×53.1 in - SKG/RW

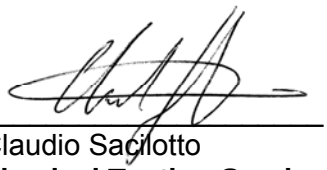
Secondary Designator

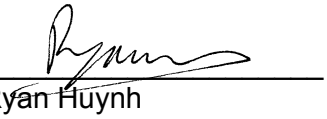
A Positive Design Pressure = +5040 Pa (+105 psf)
Negative Design Pressure = -1440 Pa (-30 psf)
Water Penetration Resistance (US only) = 580 Pa (12 psf)
Water Penetration Resistance (Canada only) = 730 Pa (15.2 psf)
Canada Air Leakage Resistance (Infiltration/Exfiltration) = A3

B Positive Design Pressure = +5040 Pa (+105 psf)
Negative Design Pressure = -1440 Pa (-30 psf)
Water Penetration Resistance (US only) = 580 Pa (12 psf)
Water Penetration Resistance (Canada only) = 730 Pa (15.2 psf)
Canada Air Leakage Resistance (Infiltration/Exfiltration) = A3

INTERTEK

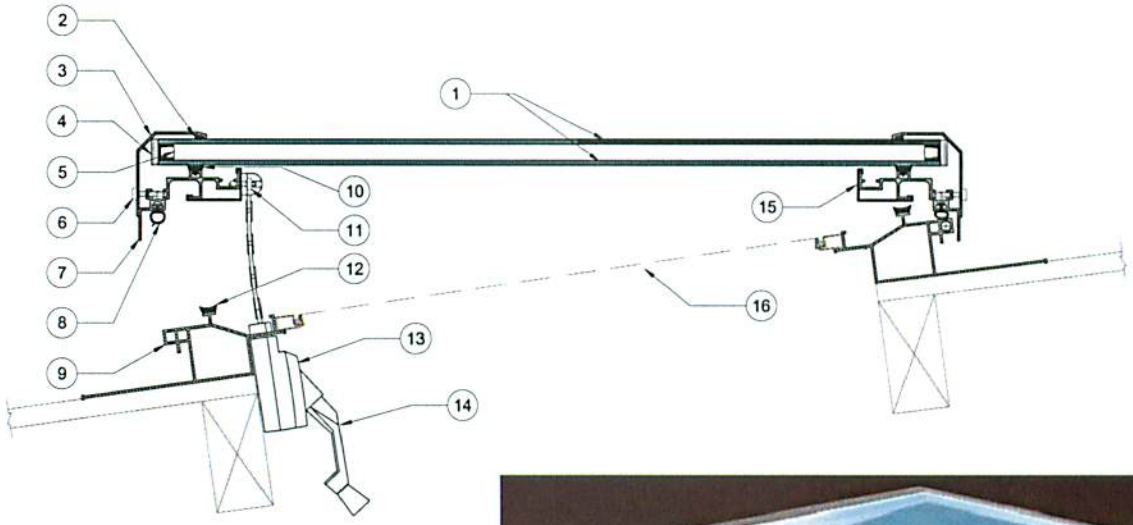
Tested by Mustafa Swalah, Ryan Huynh and Claudio Sacilotto

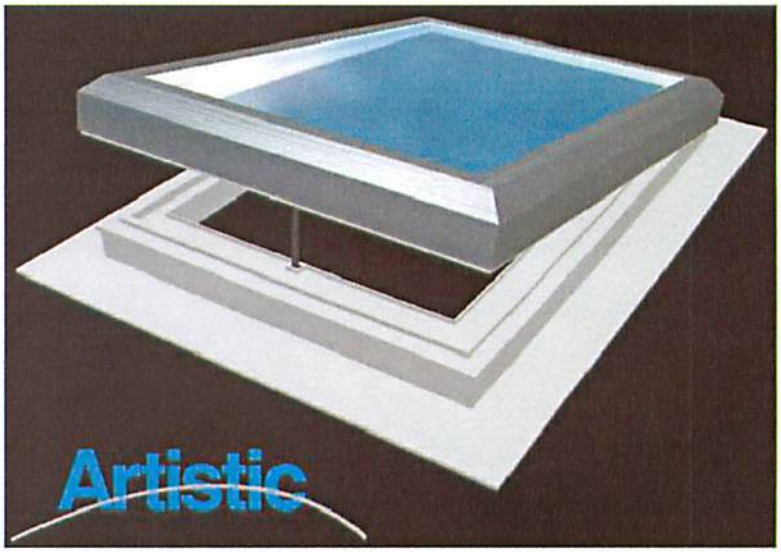
Reported by: 
Claudio Sacilotto
Physical Testing Services

Reviewed by: 
Ryan Huynh
Physical Testing Services

Appendix A – Parts List / Drawings

(Parts List / Drawings – 5 pages)





MODEL GV-PVCSR (SELF FLASHING VENTING – GLASS GLAZING)

	DETAIL
UNIT 1: LOW-e ON THIRD SURFACE	1 – CLEAR TEMPERED
	2 – CLEAR TEMPERED
UNIT 2: LOW-e ON THIRD SURFACE	1 – BRONZE TEMPERED
	2 – CLEAR TEMPERED
UNIT 3: LOW-e ON THIRD SURFACE with ARGON GAS FILL	1 – CLEAR TEMPERED
	2 – CLEAR TEMPERED
UNIT 4: LOW-e ON THIRD SURFACE with ARGON GAS FILL	1 – BRONZE TEMPERED
	2 – CLEAR TEMPERED
UNIT 5: LOW-e ON SECOND SURFACE	1 – CLEAR TEMPERED
	2 – CLEAR LAMINATED (0.030)
UNIT 6: LOW-e ON SECOND SURFACE	1 – BRONZE TEMPERED
	2 – CLEAR LAMINATED (0.030)
UNIT 7: LOW-e ON SECOND SURFACE with ARGON GAS FILL	1 – CLEAR TEMPERED
	2 – CLEAR LAMINATED (0.030)
UNIT 8: LOW-e ON SECOND SURFACE with ARGON GAS FILL	1 – BRONZE TEMPERED
	2 – CLEAR LAMINATED (0.030)

PARTS LIST

MODEL GV-PVCR (SELF FLASHING VENTING – GLASS GLAZING)

PARTICULAR	MANUFACTURER
1. GLASS GLAZING	GUARDIAN INDUSTRIES CORP., U.S.A.
2. ⅛" x ¾" DOUBLE FACE VINYL FOAM GLAZING TAPE	GASKA TAPE INC.
3. EXTRUDED ALUMINUM RETAINING FRAME-MEDIUM (6063-T5 ALLOY)	BON-L , DIE # PA-37250
4. NEOPRENE SETTING BLOCK (¼"x1"x1½") BACK ADHERED	COMBI-FAB PRODUCTS
5. ALUMINUM SPACER WITH POLYSULFIDE SEALANT	TRIPLE SEAL LTD.
6. #8 – 18 x ¾" ASSEMBLY SCREW	ROBERTSON, CANADA
7. EXTRUDED ALUMINUM SASH FRAME (6063-T5 ALLOY)	SPECTRA, DIE # SS-1631
8. BULB GASKET (FLEXIBLE PVC-UV STABLE)	VINYL PROFILES LTD., # V-75
9. EXTRUDED RIGID THERMAL PVC SELF FLASHING FRAME	EXTRUSION PROFILES INC., DIE # 328
10. SANTOPRENE CUP GASKET (UV STABLE)	VINYL PROFILES LTD., # V-76
11. #8 – 18 x ½" ASSEMBLY SCREW	ROBERTSON, CANADA
12. CO-EXTRUDED RUBBER DRAFT SEAL	EXTRUSION PROFILES INC.
13. CHAIN DRIVE OPERATING MECHANISM	TRUTH HARDWARE, U.S.A.
14. TELESCOPING POLE-HOOK / HANDLE	TRUTH HARDWARE, U.S.A.
15. EXTRUDED RIGID PVC SASH THERMAL FRAME COVER (UV STABLE)	VINYL PROFILES LTD., # V-130
16. INSECT SCREEN	PHIFER WIRE PRODUCTS, INC., USA

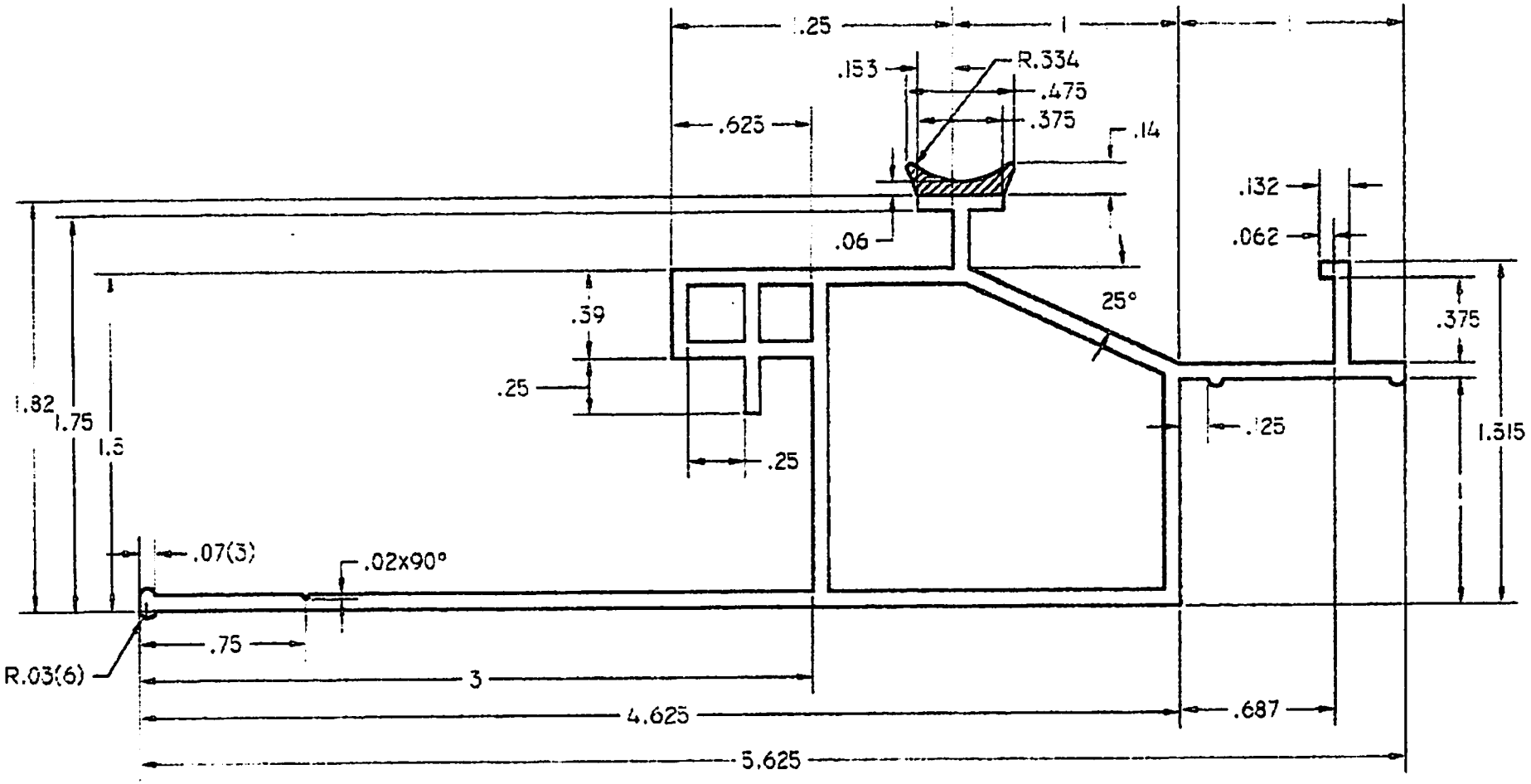
Artistic SKYLIGHT DOMES LTD

2 Guided Court
Etobicoke, Ontario, Canada M9V 4K6
E-mail: artistic@istar.ca
Web: www.artisticskylight.com

SKYLIGHT MODEL:

GV-PVCSR

MATERIAL	DESCRIPTION	DATE	APPROVED



EXTRUSION PROFILES INC.

9933 Markham Rd.#17
Markham,ON.L3P 3J3
Tel. 905-471-3455
Fax.: 905-471-0104

TITLE: *SELF FLASHING FRAME*

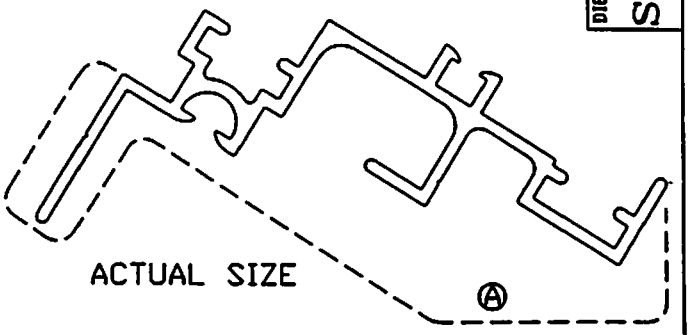
SIZE	DWG BY	DWG DATE	REV
	Mimmy	JAN.09,2004	

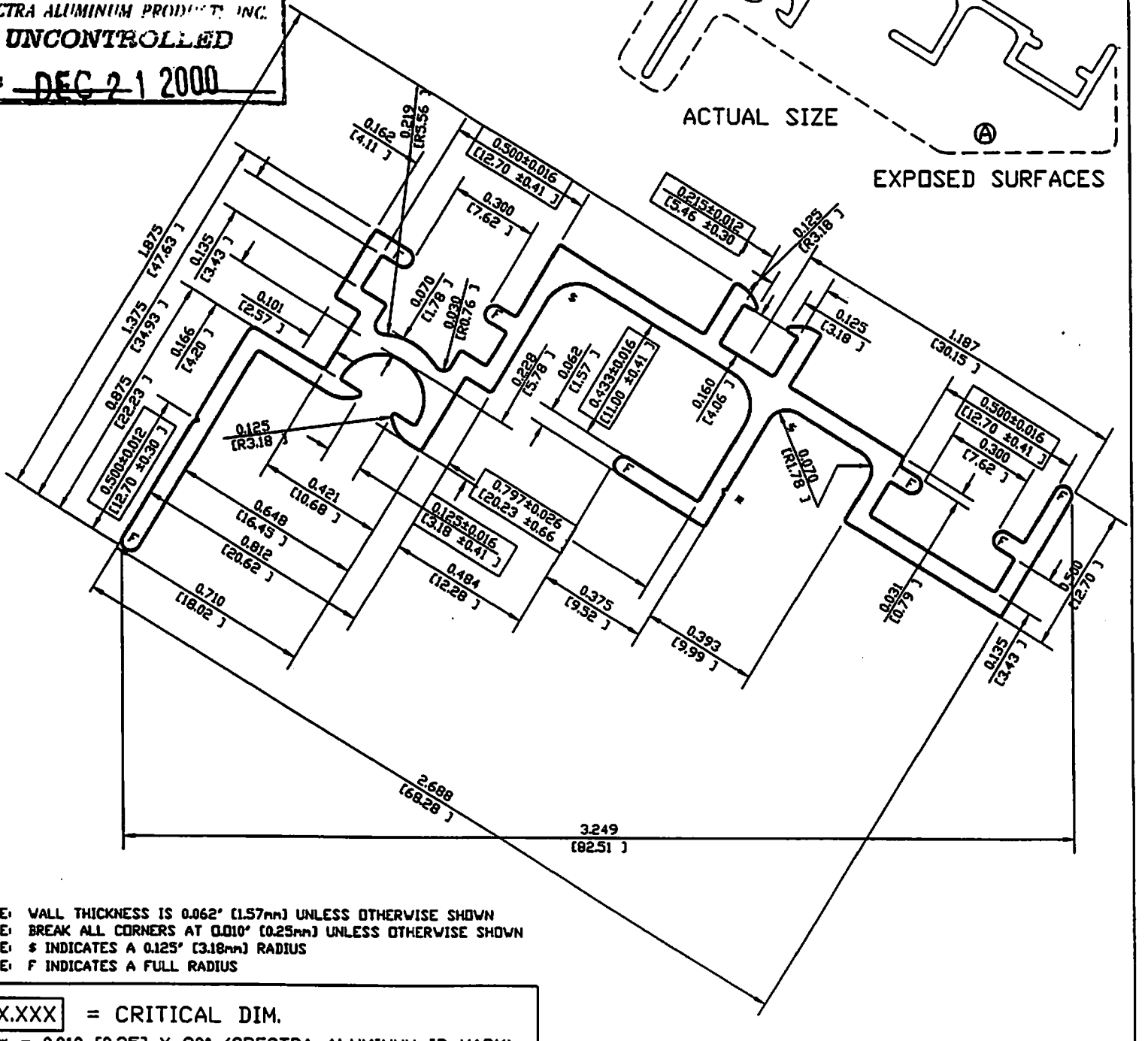
SCALE	DWG NO	SHEET
	DIE#:329C	

DESCRIPTION: SASH FRAME	PROPOSAL#: SP-11740	DIE NO. SS-1631
CUSTOMER # 01187233	CUSTOMER: ARTISTIC SKYLIGHTS	

	LET.	REVISION	BY:
NOV/14/00	A	EXPOSED SURFACES ADDED	S.B.

SPECTRA ALUMINUM PRODUCTS INC.
UNCONTROLLED
Date: DEC 21 2000





NOTE: WALL THICKNESS IS 0.062" [1.57mm] UNLESS OTHERWISE SHOWN
NOTE: BREAK ALL CORNERS AT 0.010" [0.25mm] UNLESS OTHERWISE SHOWN
NOTE: $ INDICATES A 0.125" [3.18mm] RADIUS
NOTE: F INDICATES A FULL RADIUS

X.XXX = CRITICAL DIM.
* = 0.010 [0.25] X 90° (SPECTRA ALUMINUM ID MARK)

NOTE: STANDARD ALUMINUM ASSOCIATION TOLERANCES APPLY UNLESS OTHERWISE SPECIFIED.

ING: WEIGHT ☒	PIECE: ☐	ALLOY: CHECK P.O.	TEMPER: T5	
PRESS NO.: 1	CONT'R: 6"	PKT.: 3/4"	EXT. RATIO	
BACKER NO.: BA-1631-1		DIE SIZE: 8" x 1"		
BOLSTER NO.: EO-1D		BACKER SIZE: 8" x 3"		
GUAGE:	NITROGEN: ☐	CAV.: 1		
DWN. BY: S.B.	SCALE: 2:1	DATE: JAN/13/2000		

SPECTRA
ALUMINUM PRODUCTS INC

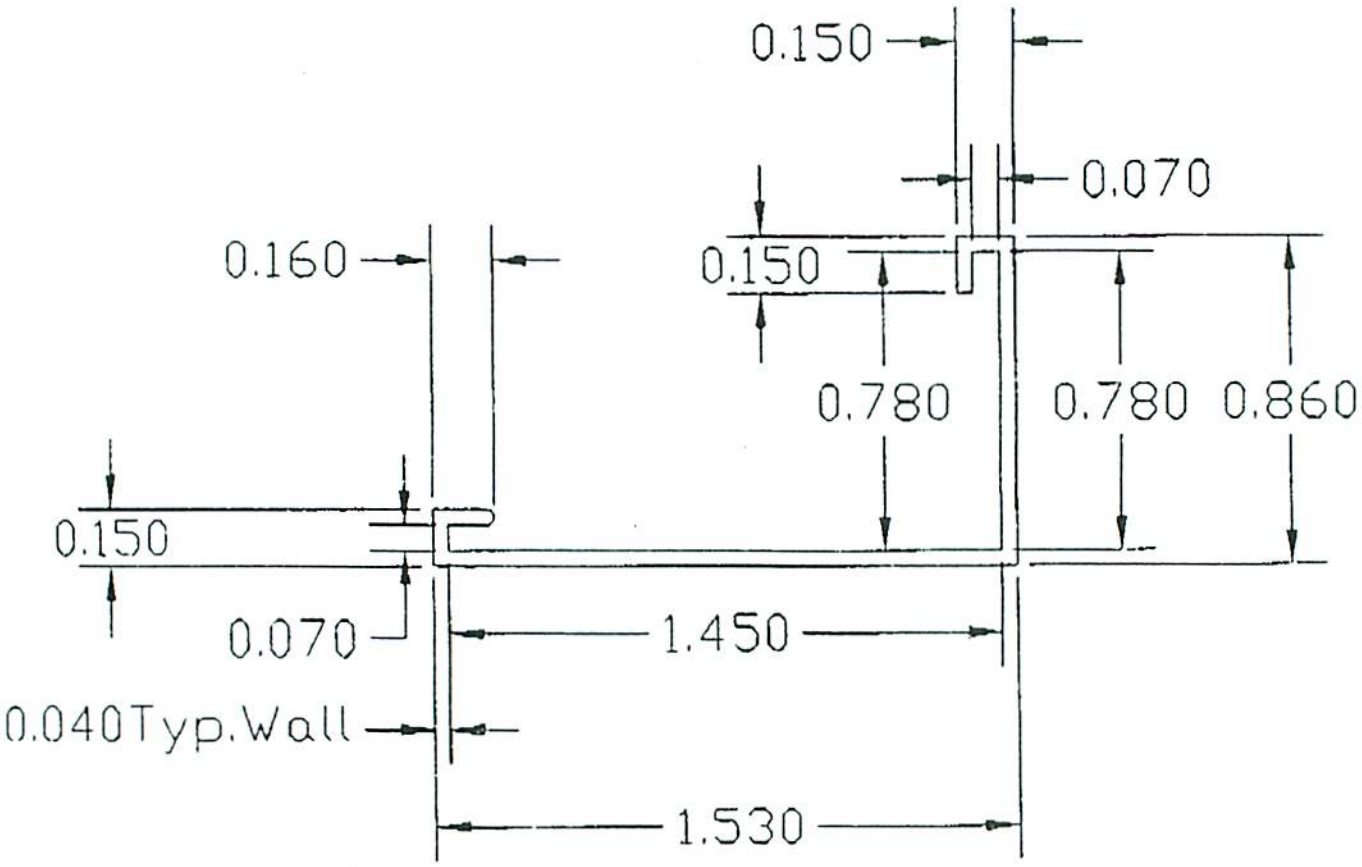
EST. AREA: 0.471 sq.in 303.87 sq.mm	OUT. PER.	In	mm
OUT. PER.: 14.280 In 362.71 mm	FACTOR:		
EST. WT.: 0.556 lbs/ft. 0.826 kg/m	C.C.D.:	In	mm

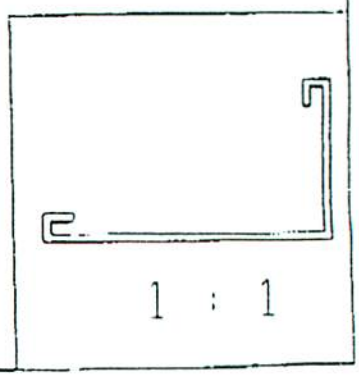
Vinyl Profiles Ltd.

120 Norfinch Drive Unit 6,
North York, Ont. M3N 1X3
Tel: 416-739-6336
Fax: 416-739-7070

Artistic Skylight Domes - Sash Thermal Cover

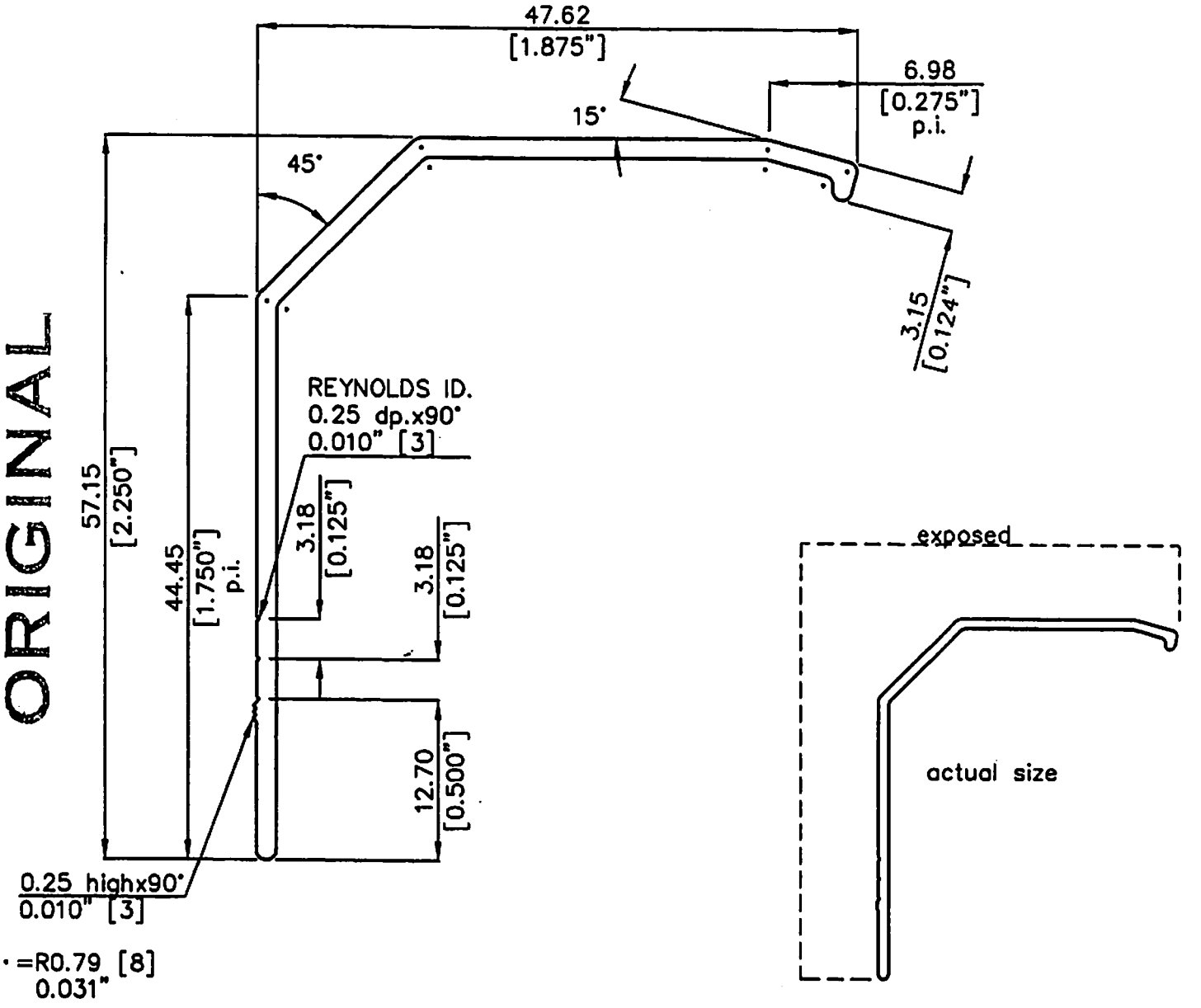
V-130





PROPOSAL NO.	CUSTOMER	DIE NO.
	ARTISTIC SKYLIGHT	PA-37250

ORIGINAL



· =R0.79 [8]
0.031"

VENDOR:	DATE ORDERED:	DATE DUE:	P.O.#:

ITEM	ACCOUNT #	QTY	COPY NO.	DESCRIPTION	TOTAL $
1					

Rev. #	Revision	Date	Rev. #	Revision	Date

CUSTOMER PART #:		RomiShape ☐	DESCRIPTION: DOME CAP						
CONTAINER: 7"	DIE TYPE: D+B	BACKER: 37250	UNMARKED THICKNESS:		1.27	mm	0.050	Inches	
NO. CAVITIES: 2	RING: 9" STEP	BOLSTER: 1B-25428	UNMARKED RADII:		FULL	mm	FULL	Inches	
DIE RATIO: 81	DIE PLATE: 13/4	SUB-BOL: —	DRAWN: FORBIE	AREA:	154	mm^2	0.238	$Inches^2$	
DIE STACK: 9x4	FEEDER: PIF	SHIM: —	SCALE: 2:1	MASS:	0.425	kg/m	0.286	lbs/ft	
Sharp corner tolerance: + 0.40 mm 0.016 Inches			DATE: NOV/01/1995	PERIMETER:	197.9	mm	7.791	Inches	
Standard Aluminum Association tolerances apply unless otherwise stated			ALLOY: 6063	EXT. PER:	—	mm	—	Inches	
Bon L Canada Inc. AURORA, ONTARIO PICKERING, ONTARIO RICHMOND HILL, ONTARIO STE. THERESE, QUEBEC			CLASS: SOLID	FACTOR:	466	metric	27	Imperial	
			DISKETTE:	C.C.D.:	73	mm	2.87	Inches	