Certificate of Conformity

Certification Body:

SAI Global Certification Services Pty Limited

(ACN 108 716 669) ("Intertek SAI Global")

JAS-ANZ Accreditation No. Z1440295AS

Address: Level 7 Suite 7.01. 45 Clarence Street, Sydney NSW 2000 Australia

Website: saiassurance.com.au

VALMOND & GIBSON Pty Ltd
Building C, 23- 25 Princes Road East,
Auburn, NSW 2144, Australia.
Phone: 1300 097 999
Email: sales@valmondgibson.com

Website: https://valmondgibson.com

Certificate number: CM20315 Rev.2

THIS TO CERTIFY THAT

element13 – Solid Aluminium Cladding System

Type and/or use of product:

element13 is for use as an external cladding system in all class buildings.

Description of product:

element13 are 3mm thick Polyvinylidene Fluoride (PVDF) coated solid aluminium folded panels installed as a framed cassette system.

Sheets are available in various sizes – refer to section A3 below

COMPLIES WITH THE FOLLOWING BCA PROVISIONS AND STATE OR TERRITORY VARIATION(S)

BCA 2022

	Volume One		Volume Two	
Performance Requirement(s)	**B1P1,** limited to (2)(a) (2)(c)	**Structural provisions** – Structural reliability Permanent actions (self-weight) Wind actions	**H1P1** limited to (2)(a) (2)(c)	**Structure** – Structural reliability and resistance Permanent actions (self-weight) Wind actions
	F3P1	**Roof and Wall cladding** - Weatherproofing	**H2P2**	**Damp and weatherproofing** - Weatherproofing
Deemed-to-Satisfy Provision(s):	**C2D9(1)(a)** including S6C6	**Fire resistance and stability -** Lightweight construction – walls generally	**H3D2(1)(e)**	**Fire safety –** Fire hazard properties and non-combustible building elements (concession)
	C2D10(6)(e)	**Fire resistance and stability -** Non-combustible building elements (concession)		
State or territory variation(s):	**N/A**	**N/A**	**N/A**	**N/A**

SUBJECT TO THE FOLLOWING LIMITATIONS AND CONDITIONS AND THE PRODUCT TECHNICAL DATA IN APPENDIX A AND EVALUATION STATEMENTS IN APPENDIX B

SAI Global Certification Services

Calin Moldovean
President, Business Assurance

Harley Parkes – Unrestricted Building Certifier

Date of issue: 11-Oct-2024

Date of expiry: 14-Dec-2025

Limitations and conditions:

1. element13 cladding system has maximum design wind load limits documented within the element13 Technical Manual Version 08-23.AUS.
2. The maximum design wind pressures for Serviceability Limit State (W_s) and Ultimate Limit State (W_u) must be as per the wind load span table included in element13 Technical Manual Version 08-23.AUS. Project specific design calculations of AS/NZS 1170.2 have not been considered as part of this certification and are required to be assessed by a suitable qualified person for each project.
3. Supporting structures and interfaces (including support stud framing and like connections) must be designed and specified to withstand project loads including but not limited to ULS & SLS wind loads.
4. Fabrication and installation of element13 cladding system must be in accordance with element13 Technical Manual Version 08-23.AUS.
5. element13 cladding system may be used on external walls in Types A, B, & C construction required to have an FRL provided the method of attachment does not reduce the FRL of the building element to which it is attached below that required by the BCA.
6. When installed on building of Type A and B construction element13 cladding system must be installed with sarking materials which comply with NCC Clause C2D10. Sarking materials have not been assessed as part of this certification.
7. element13 cladding system has been tested to the requirements of AS/NZS 4284 in accordance with the NCC 2022 verification methods F3V1 and H2V1 and has been determined to achieve compliance with FP1.4 when installed in applications where an external wall of the building also:
    - has a risk score of 20 or less determined in accordance with Table F3V1a of the NCC,
    - is not subjected to an ultimate limit state wind pressure of more than 2.5kPa,
    - has a maximum design Serviceability Limit State +820 Pa and –1230 Pa when installed on a timber stud wall and +1500 Pa and -1500 Pa when installed on a steel stud wall, and
    - is cavity fixed utilising a flexible vapour permeable membrane either Trade Select™ BRANE® VHP or Pro clima® SOLITEX EXTASANA® blue membrane.

Building classification/s:

Volume 1 – Class 2 to Class 9 buildings

Volume 2 – Class 1 and Class 10a buildings

Scope of certification: The CodeMark Scheme is a building product certification scheme. The rules of the Scheme are available at the ABCB website www.abcb.gov.au. This Certificate of Conformity is to confirm that the relevant requirements of the Building Code of Australia (BCA) as claimed against have been met. The responsibility for the product performance and its fitness for the intended use remain with the certificate holder. The certification is not transferrable to a manufacturer not listed on Appendix A of this certificate.

APPENDIX A – PRODUCT TECHNICAL DATA

A1 Type and intended use of product

Refer to Page 1 of this certificate.

A2 Description of product

Refer to Page 1 of this certificate.

A3 Product specification

Width (mm)	Length (mm)	Thickness (mm)	Weight (kg/m$^{2)}$
1250 / 1500	3200	3	8.13
1250 / 1500	4000	3	8.13

Main components of the cladding system include:

- Continuous aluminium Z-section cassette frame fully bonded and mechanically fixed to perimeter of panel during fabrication.
- Galvanised top hat battens nominal 25 x 50 x 1.15mm BMT.
- Compatible fixings.
- Flexible vapour permeable membrane (see limitations and conditions #5 & #6 above).
- Open cell backing rod and compatible silicon weather seal.
- Solid packing and self-sealing tape strip.
- External and internal corner moulding.
- Material separation barrier.

A4 Manufacturer and manufacturing plant(s)

A5 Installation requirements

Refer to Page 2 of this certificate and the following;

- element13 Technical Manual Version 08-23.AUS.

A6 Other relevant technical data

- Nil

APPENDIX B – EVALUATION STATEMENTS

B1 Evaluation methods

The system has been assessed as complying with the identified Performance Requirements of the BCA 2022. This involved a review of product specifications, test reports, installation manuals, and associated documentation.

1. **Structural assessment:**
   - A2G2(2)(a) / A5G3(1)(d) – A report issued by an Accredited Testing Laboratory – Ian Bennie & Associates (NATA Accreditation No. 2371).
   - A2G2(2)(a) / A5G3(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person - Acronem Consulting Australia.
2. **Weatherproofing assessment:**
   - A2G(2)(a) / A5G3(1)(d) – A report issued by an Accredited Testing Laboratory – Ian Bennie & Associates (NATA Accreditation No. 2371).
   - A2G2(2)(a) / A5G3(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person - Acronem Consulting Australia.
3. **Non-Combustibility assessment:**
   - A2G3(2)(a) / A5G3(1)(d) – A report issued by an Accredited Testing Laboratory – CSIRO (NATA accreditation No. 165).
   - A2G3(2)(a) / A5G3(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person - Acronem Consulting Australia.
4. **Lightweight Construction Assessment:**
   - A2G3(2)(a) / A5G3(1)(d) – A report issued by an Accredited Testing Laboratory – LMATS (NATA accreditation No. 15840).
   - A2G3(2)(a) / A5G3(1)(e) – A certificate or report from a professional engineer or other appropriately qualified person - Ian Bennie & Associates and Acronem Consulting Australia.

B2 Reports

Evaluation methods	Related Supporting Evidence as listed below
Structural Assessment	1, 2, 3, 4, 5
Weatherproofing Assessment	5, 6, 7
Non-Combustibility assessment	5, 12, 13
Lightweight Construction Assessment	5, 8, 9, 10, 11

1. **Ian Bennie & Associates, Static Serviceability limit state & strength limit state wind load tests, Test report No. 2022-002-S1 (dated 28 February 2022).** *This report provides the results of testing various panel sizes of element13 folded solid aluminium sheets (with panel specific stiffeners fixed with aluminium angles to vertical top hats with specific panel fixings installed on a metal frame with 600mm stud centres) in accordance with AS4040.2-1992(R2016) to the requirements of AS1562.1:2018 and determines that the product is suitable for use in non-cyclonic wind regions up to a strength limit state pressure of –2.4kPa.*

2. **Ian Bennie & Associates, Static Serviceability limit state & strength limit state wind load tests, Test report No. 2022-002-S2 (dated 28 February 2022).** *This report provides the results of testing various panel sizes of element13 folded solid aluminium sheets (with panel specific stiffeners fixed with aluminium angles to vertical top hats with specific panel fixings installed on a metal frame with 600mm stud centres) in accordance with AS4040.2-1992(R2016) to the requirements of AS1562.1:2018 and determines that the product is suitable for use in non-cyclonic wind regions up to a strength limit state pressure of –1.85kPa.*

3. **Azuma Design, Resistance to wind pressure for cyclonic regions, Test report No. AZT0190.23 (dated 26 June 2023).** *This report provides the results of testing of element13 (1400mm x 2326mm) fixed to steel stud framing in accordance with AS 4040.3:2018. It determines that the tested sample sustained cyclonic serviceability limit state wind pressure of up to 1.875kPa.*

4. **JFS Engineering, Calculation report, IFA rev 00 (dated 30 August 2023).** *This report provides the engineering calculations and load/span tables for maximum design pressure for various panel widths and stiffener spacing.*

5. **Acronem Consulting Australia Pty Ltd, Appraisal Report, Report No. ACA-220316-220630 (dated 30 June 2022).** *This appraisal provides the expert judgement on the compliance of element13 aluminium panel cladding system to BCA and determines that the product complies with the following clauses: BP1.1(B1P1), C1.8 (C2D9), C1.9(e)(v) (C2D10(6)(e)), FP1.4 (F3P1), P2.1.1 (H1P1), 3.7.1.1(e) (H3D2(1)(e)) and P2.2.2 (H2P2).*

6. **Ian Bennie and Associates, Specimen tests by the methods of AS/NZS 4284 to the requirements of NCC verification methods FV1 and V2.2.1, Test Report No. 2021-043-S1 (dated 9 August 2021).** *This report provides the results of testing element13 aluminium cladding panel (2300m high x 3600mm wide x 3mm thick) installed on a timber stud wall when tested to the requirements of AS/NZS 4284 in accordance with the NCC verification methods FV1 (F3V1) and V2.2.1 (H2V1) and determines that the product passes all compliance requirements at the nominated serviceability limit state pressures of +820Pa and –1230 Pa / N4 Wind Region.*

7. **Ian Bennie and Associates, Specimen tests by the methods of AS/NZS 4284 to the requirements of NCC verification methods FV1.1 and V2.2.1, Test Report No. 2022-031-S2 (dated 6 June 2022).** *This report provides the results of testing element13 aluminium cladding panel (3900m high x 3600mm wide x 3mm thick) installed on a steel stud wall when tested to the requirements of AS/NZS 4284 in accordance with the NCC verification methods FV1 (F3V1) and V2.2.1 (H2V1) and determines that the product passes all compliance requirements at the nominated serviceability limit state pressures of +1500Pa and –1500 Pa / N4 Wind Region.*

8. **Ian Bennie and Associates, Test Report for Surface Indentation tests to NCC, Test Report No. 2021-083 Report 1 (dated 8 September 2021).** *This report provides results of testing Element13 samples subjected to Surface Indentation tests in accordance with NCC Volume 1 Specification C1.8 Clause 5(d) and concludes that the product passed the criteria for compliance.*

9. **Ian Bennie and Associates, Test Report for Impact Tests to NCC, Test Report No. 2021-083 Report 2 (dated 10 March 2022).** *This report provides test results based on witnessed testing of Element13 samples carried out by Curtin University for impact test to ASTM E695-79 modified to the requirements of NCC Volume 1 Specification C1.8 Clause 5(c) (S6C10(c)) and concludes the product passed the criteria for compliance.*

10. **LMATS, Material Identification Report, Report Number LS20-1227-01 MA, (dated 30 June 2020, reconfirmation 27 September 2024).** *This report provides the materials testing to AS/NZS 1734:1997 and AS 1391:2007, as referenced in AS/NZS1664.1, and determines that the sample of Element 13 – Grey provided by Valmond and Gibson meets the specification requirements for chemical composition and tensile properties of Aluminium Alloy 5052-H22/H32 (>1.30≤3.00mm).*

11. **LMATS, Material Identification Report, Report Number LS20-1227-02 MA Rev.01, (dated 20 April 2021, reconfirmation 27 September 2024).** *This report provides the materials testing to AS/NZS 1734:1997 and AS 1391:2007, as referenced in AS/NZS1664.1, and determines that the sample of Element 13 – Silver provided by Valmond and Gibson meets the specification requirements for chemical composition and tensile properties of Aluminium Alloy 5052-H22/H32 (>1.30≤3.00mm).*

12. **CSIRO, Certificate of Test, Combustibility Test of Element13 aluminium component, Report No. FNC12545 (dated 30 January 2020).** *This certificate of test provides the results of Element13 aluminium component (without the surface finish) tested for combustibility in accordance with AS1530.1:1994 and determines that the material is not deemed combustible.*

13. **CSIRO, Certificate of Test, Simultaneous Determination of Ignitibility, Flame Propagation, Heat Release and Smoke Release Test of Element13 aluminium panel (coated), Report No. FNE12552 (dated 11 February 2020).** *This certificate of test provides the results of Element13 aluminium panel (coated with Polyvinylidene fluoride – PVDF) tested in accordance with AS1530.3:1999 and determines that the spread-of-flame index is 0.*

IAN BENNIE AND ASSOCIATES

TEST REPORT No 2021-083 Report 2 - Impact

ELEMENT 13

IMPACT TESTS TO NCC Vol 1 Spec C1.8

for

Valmond and Gibson

March 2022

IAN BENNIE & ASSOCIATES PTY. LTD.
Building Performance Testing
ACN : 007 133 253

TEST REPORT NUMBER 2021-083 Report 2 - Impact

Client: **Valmond & Gibson**

Background:

Ian Bennie and Associates were engaged by Valmond & Gibson to supervise testing of their Element 13 cladding product for compliance with specified NCC structural tests for fire resistance of lightweight construction (NCC Volume 1 Specification C1.8). Testing was carried out by Curtin University personnel under the supervision of Ian Bennie and Associates. This report deals with testing of wall constructions with soft body impacts for various construction conditions. Surface indentation tests of the same materials were conducted and are reported under separate cover.

This report must be read in conjunction with Curtin University Report "Soft-body Impact Test Report", attached

Sample(s): **Valmond and Gibson Element 13**

5 samples were tested. The samples were fixed to 150 mm purlin frames 3000 mm in height centred 600 mm apart.

Details of the samples provided by the Client are given in Appendix A.

Test Location: Curtin University
Dandenong, Victoria

Test Date: 28th October 2021

Test Method:

The samples were subjected to The ASTM E695-79 impact test modified to the requirements of NCC Vol 1 Specification C1.8 Clause 5(c) as summarised below:

The point of impact was set to 1.5 m above the bottom of the sample
The impact bag was between 225 and 260 mm in diameter with a mass between 27.2 and 27.3 kg

Deflection was measured with optical displacement transducers and verified for accuracy in the previous test by Ian Bennie using gauge blocks of known thickness over the

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Telephone : (03) 9768 3640 International : +613 9768 3640 Facsimile: (03) 9768 3642

measurement range. Drop height was verified with a tape measure and witnessed by Ian Bennie.

Criteria for compliance: :

Damage requirements (NCC Specification C1.8 Clause 6 (b)):

- There must be no crack, penetration or permanent surface-deformation to a depth of more than 0.5 mm or any other non-elastic deformation or fastener failure

Deflection requirements (NCC C1.8 Clause 6 (d)):

Instantaneous deflection: 1/120 of the height of the wall between supports, OR 30 mm (for construction other than a lift shaft)

Test Results:

The maximum deflection at impact and the residual displacement are tabulated in the Results section of the Curtin report (attached) with maxima listed below:

Product	Drop Height (mm)	Maximum instantaneous deflection (mm)	Maximum residual displacement (mm)
	350	18.87	0.04

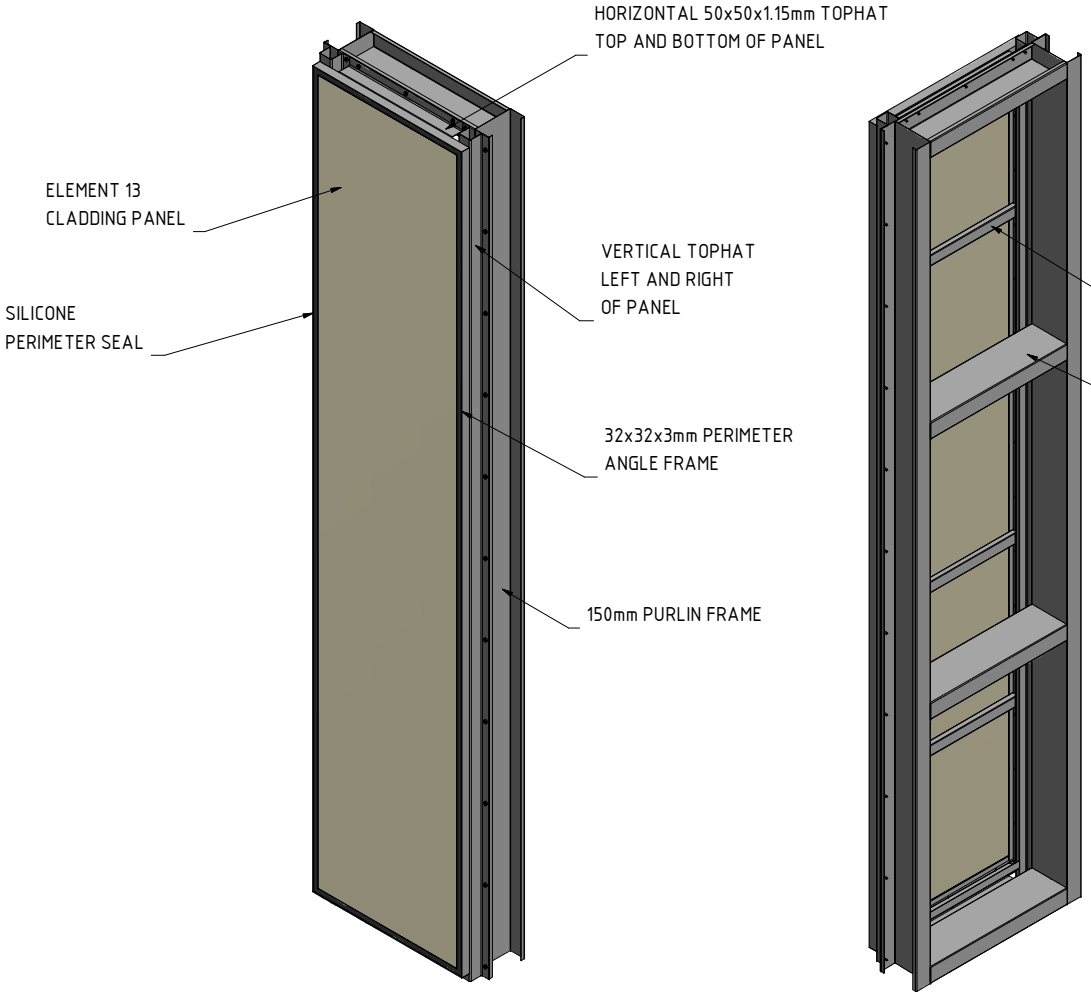
Conclusion:

The Element 13 test samples passed the dynamic test requirements of the NCC Vol 1 Specification C1.8 Clause 3.1(b)(iii) using the modified ASTM E695-79 impact test. This satisfies the dynamic test requirement for an *external* and *internal wall* bounding a *public corridor*, public lobby or the like, including a *fire-isolated* and non *fire-isolated passageway* or *ramp*, in a spectator stand, sports stadium, cinema or theatre, railway or bus station or airport terminal

DISTRIBUTION:
Ian Bennie & Associates.....2
Valmond & Gibson.....PDF

Ian Bennie 10 March 2022
Authorised Signatory

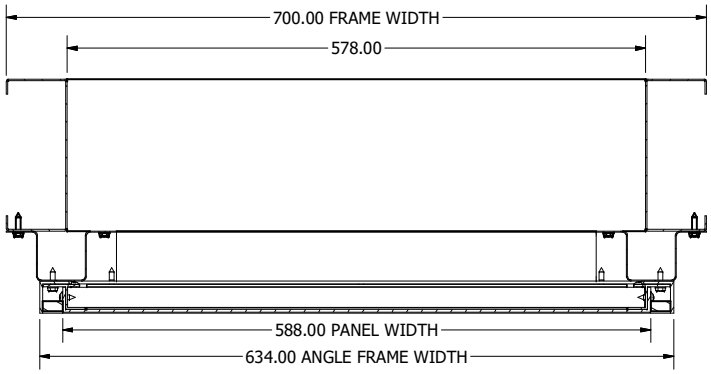
APPENDIX A – SAMPLE DETAILS



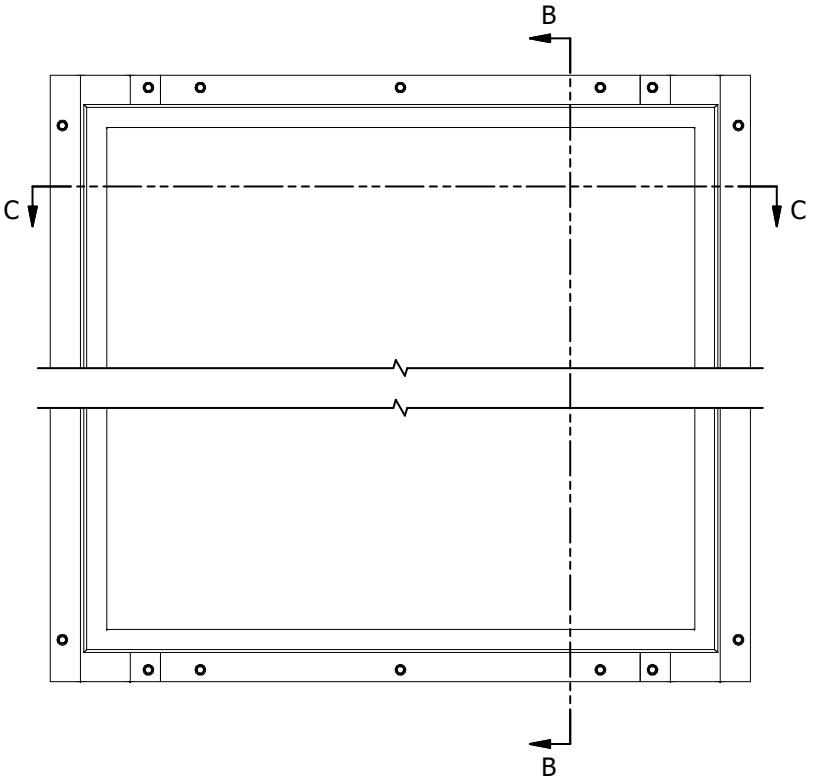
VALMOND & GIBSON TEST PANEL
SPECIMEN FOR ELEMENT 13 CLADDING.

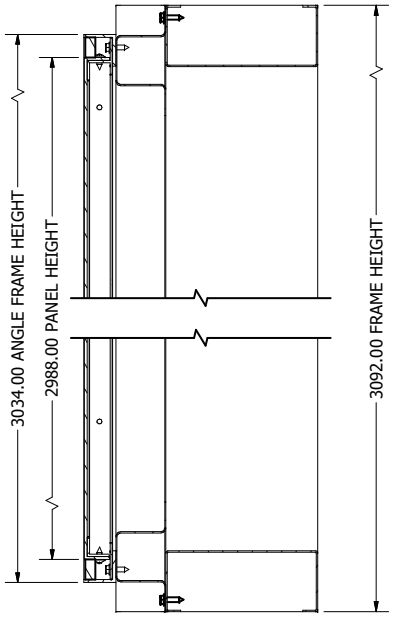
MATERIALS:
- 150x1.5mm STEEL PURLINS
- 50x50x1.15mm STEEL TOPHAT BATTENS
- 32x32x3mm ALUMINIUM ANGLE
- ELEMENT 13, 3MM SHEET
- ABS ALUM Z-SECTION & 20x40x3mm ALUM RHS STIFFENERS

QTY:
- 5 SAMPLES REQUIRED



SECTION C-C
SCALE 1 / 4





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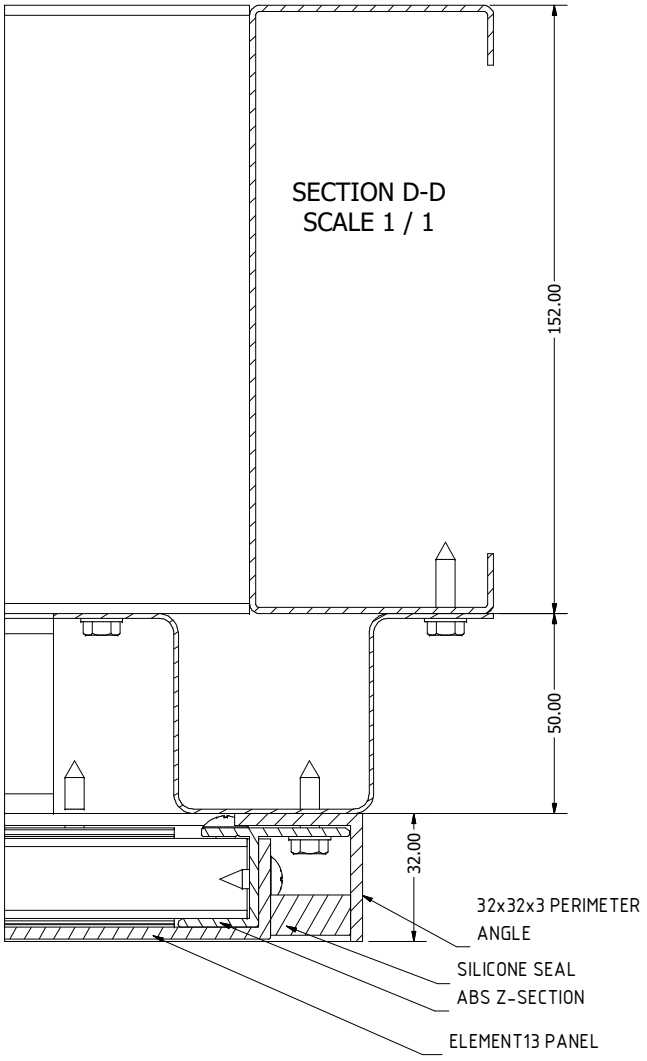
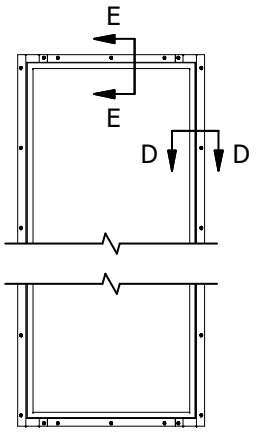

SECTION D-D
SCALE 1 / 1
152.00
50.00
32.00
32x32x3 PERIMETER
ANGLE
SILICONE SEAL
ABS Z-SECTION
ELEMENT13 PANEL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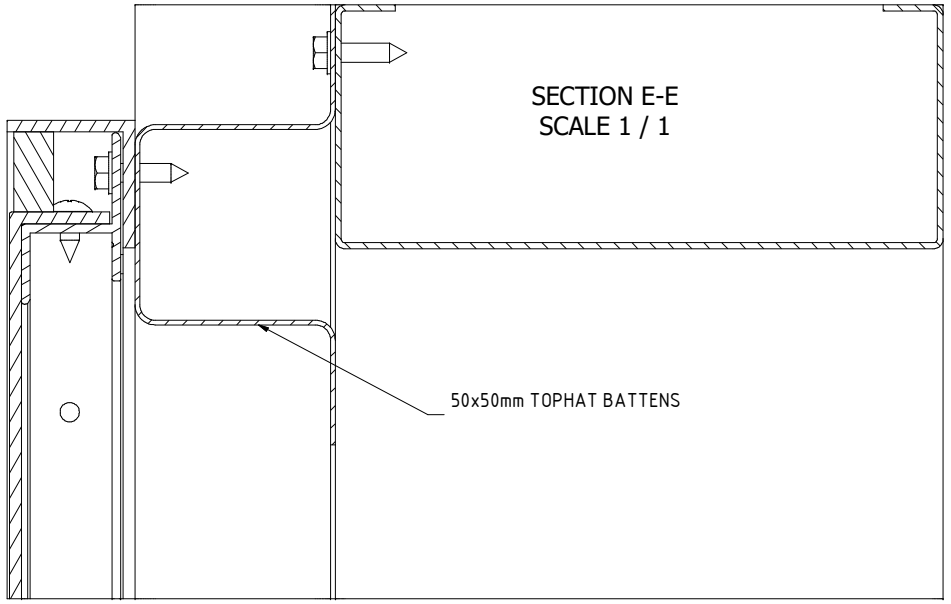
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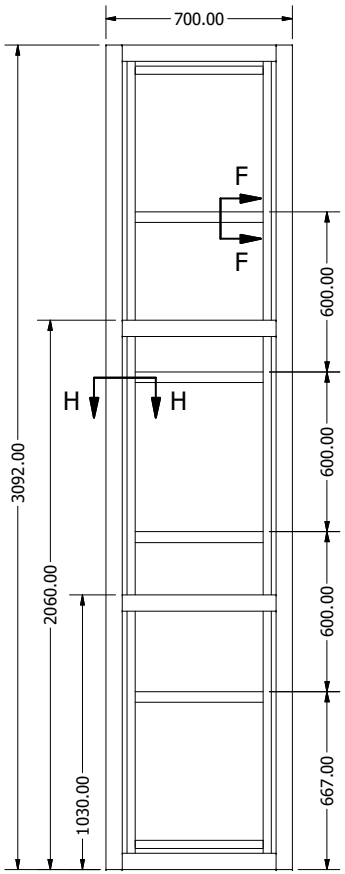
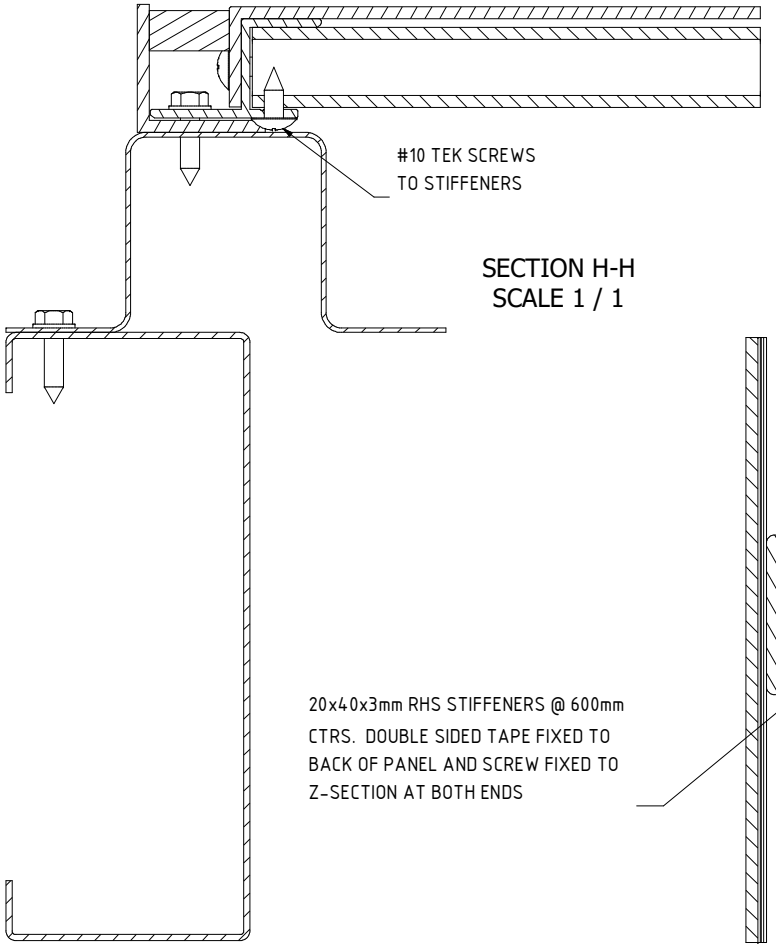
50x50mm TOPHAT BATTENS



REAR VIEW OF PANEL



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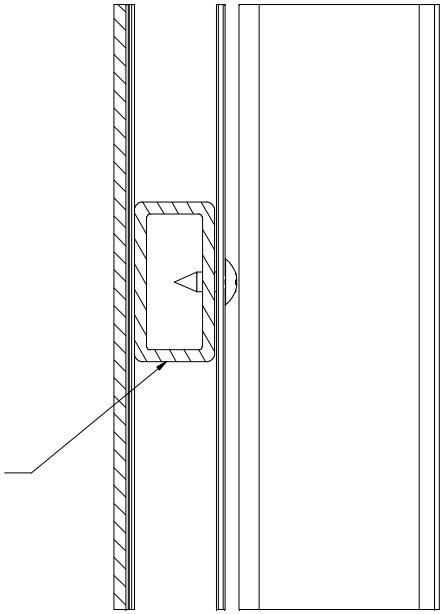

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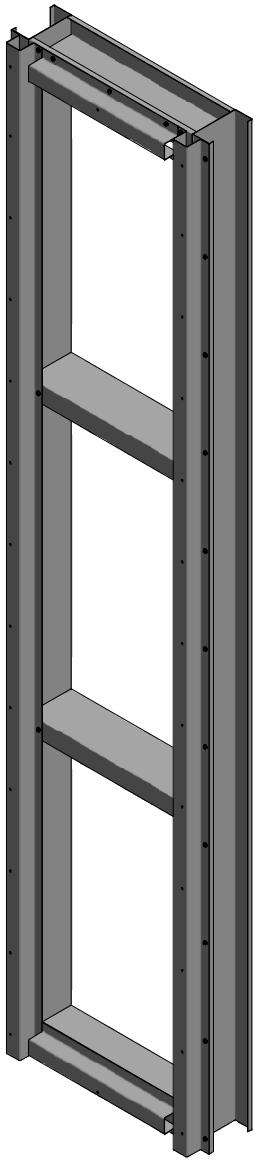
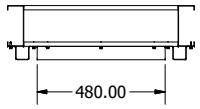
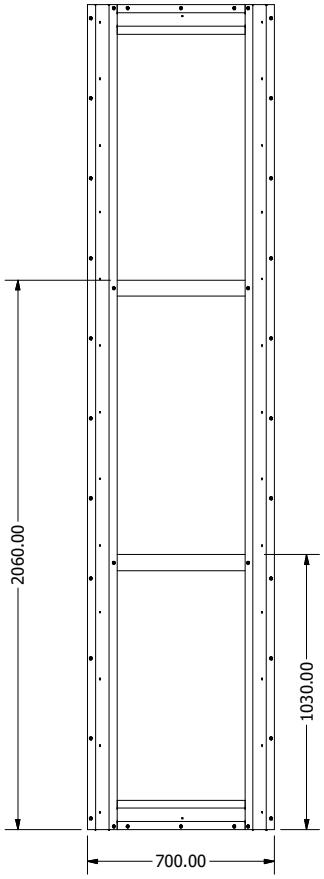
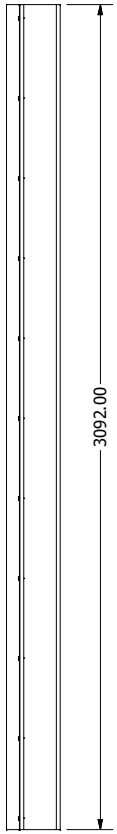


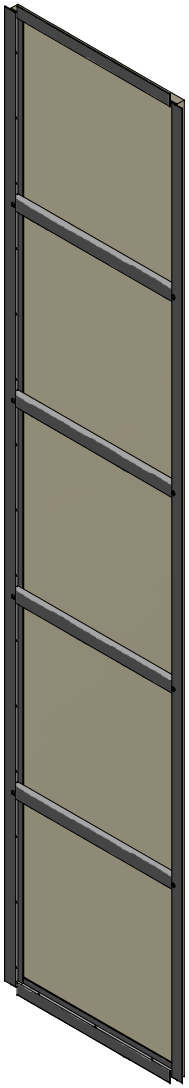


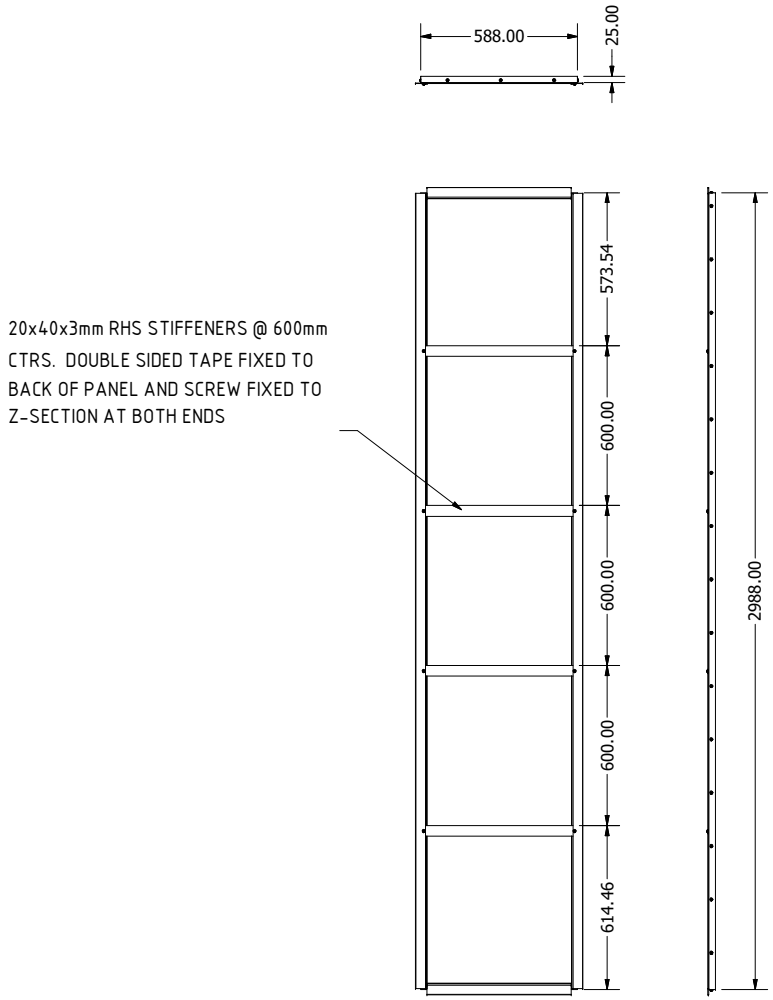




PURLIN SUPPORT
FRAME

CLADDING PANEL





20x40x3mm RHS STIFFENERS @ 600mm CTRS. DOUBLE SIDED TAPE FIXED TO BACK OF PANEL AND SCREW FIXED TO Z-SECTION AT BOTH ENDS

Ian Bennie & Associates

Test Report No. 2022-031-S2

Element 13 Solid 3mm Aluminium Cladding Panel – cavity wall with Proclima Solitex Extasana Blue Membrane

Specimen tests by the methods of AS/NZS4284

To the requirements of NCC 2019 verification methods FV1.1 & V2.2.1

For

Valmond & Gibson

June 2022

NATA

Accredited Laboratory No. 2371
Accredited for compliance with ISO/IEC 17025 - Testing

IAN BENNIE & ASSOCIATES PTY. LTD.
Building performance Testing
ACN: 007 133 253

Accredited Laboratory No.2371

TEST REPORT NUMBER 2022-031-S2

Test Client: **Valmond & Gibson**
Building C, 23-25 Princes Rd East, Auburn, NSW 2144

Specimen identification:

A Element 13 Solid 3mm Aluminium cladding panel – cavity wall with Proclima Solitex Extasana Blue Membrane test specimen, nominally 3.9 m in height x 3.6 m in width was installed on a steel stud wall by the client. Various sizes of cladding panels were tested. The sample included a recessed area, soffit detail, window interfaces, wall junctions and parapet conditions. The window itself was not deemed a formal part of the test sample and as such it is not detailed in this report. However, the air seal connection to the window subframe was. Specific details of the specimen in its final condition are given in the drawings provided by the Client and in Appendix C. Sample drawings received: 26th May 2022

Construction:

For the purposes of the NCC the specimen was deemed to be a Cavity Wall utilising appropriate breather wrap to prevent water ingress to the stud framing. For the purposes of observations during the test, acrylic sheets were used as the internal lining on the stud frame. Holes were introduced through the internal lining to create an air infiltration of 1.6 L/s.m2 at 150 Pa of pressure on the sample, being the highest allowable infiltration rate specified in AS/NZS 4284.

Test Method:

NCC-2019 Weatherproofing Verification Methods V2.2.1 and FV1.1 with test procedures in accordance with Australian Standard AS/NZS 4284:2008, Testing of building facades.

Nominated Serviceability limit state pressures: +1500 Pa and -1500 Pa

Test Location: Ian Bennie & Associates, Dandenong South, Victoria

Test Date: 17th, & 19th May 2022 **Sample received:** 16th May 2022

Requirement:

The compliance requirements of the NCC-2019 Weatherproofing Verification Methods FV1.1 & V2.2.1 are given in Appendix B

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Telephone: (03) 9768 3640 International: +613 9768 3640 Facsimile: (03) 9768 3642

Conclusions:

The Valmond & Gibson element 13 3mm Solid Aluminium cladding panel – cavity wall with Proclima Solitex Extasana Blue Membrane test specimen passed all the compliance requirements of the NCC-2019 Weatherproofing Verification Methods FV1.1 & V2.2.1 at the nominated test parameters after drainholes had been added to the soffit panels as outlined in client provided drawings. Complete detail of all tests conducted are given in the body of this report

Disclaimer:

Sample information including material properties and detailing was supplied by the client and no verification of actual construction details or sampling of production stock could be performed. The test results contained herein apply to the sample as tested. Ian Bennie & associates accept no liability for claims of losses, expenses, damages and costs arising as a result of the use of product(s) referred to in this report.

Report distribution:

Ian Bennie & Associates	PDF	Ian Bennie 6th June 2022
Valmond & Gibson	PDF	Authorised Signatory

Water Penetration Test Results

Water test 1: 17th May 2022

Nominated Serviceability limit state pressures: +1500Pa / -1500Pa

Static pressure water test: 450 Pa

No leakage through the cladding system was observed during the test.

Cyclic pressure water test: 450 Pa - 900 Pa

No leakage through the cladding system was observed during the test.

Static pressure water test with 6mm penetrations in cladding: 450 Pa

No leakage through the cladding system was observed during the test.

Cyclic pressure water test with 6mm penetrations in cladding: 450 Pa - 900 Pa

No leakage through the cladding system was observed during the test.

Static pressure water test with internal lining removed: 50 Pa

No leakage through the cladding system was observed during the test. After the test the building wrap was cut away and there was evidence of water having penetrated cladding boards and on the soffit panels there was water pooling with no way to drain out of the cavity. This constitutes a failure.

After the test had stopped, rectifications were done to the sample with; 3 x 10mm drain holes installed per soffit panel at the center and edge, at the low point of the slope to drain the cavity effectively.

The building wrap was taped to restore its airtightness and the sample re tested.

Water test 2: 19th May 2022

Nominated Serviceability limit state pressures: +1500Pa / -1500Pa

Static pressure water test with 6mm penetrations in cladding: 450 Pa

No leakage through the cladding system was observed during the test.

Cyclic pressure water test with 6mm penetrations in cladding: 450 Pa - 900 Pa

No leakage through the cladding system was observed during the test.

Static pressure water test with internal lining removed: 50 Pa

No leakage through the cladding system was observed during the test. After the test the building wrap was cut away and there was evidence of water having penetrated cladding boards however there was no pooling of water on horizontal surfaces.

APPENDIX A TEST PROCEDURES & METHODS FOR AS/NZS:4284-2008 & NCC-2019 FV2.2.1

Test Sequence

NCC- 2019 Weatherproofing test procedures were conducted in accordance with Australian Standard AS/NZS 4284:2008, Testing of building facades, as detailed in Appendix A in the following sequence:

Static pressure Pre loading.
Positive and negative serviceability limit state pressures were applied to the external face of the specimen for periods of 1 minute each.

Static pressure water test.
A water penetration test was then carried out in accordance with Clause 8.5 of AS/NZS 4284:2008 at a static pressure of 30% of W_s for a period of 15 minutes.

Cyclic pressure water test.
A water penetration test was then carried out in accordance with Clause 8.6 of AS/NZS 4284:2008 at the cyclic pressures of: 30% -60% of W_s for 5 minutes.

Cyclic pressure water test with 6mm penetrations in cladding.
6mm diameter holes were inserted in the external face of the specimen at the following locations:

Wall/window joint at 3/4 height of the window
Immediately above the window
Through the external sealing of the vertical and horizontal control joints
Above the meter box and the downpipe penetrations.

Water penetration tests were then carried out in accordance with Clause 8.6 of AS/NZS 4284:2008 at the Static and Cyclic pressures as detailed above.

Static pressure water test with internal lining removed.
The internal acrylic lining of the sample was removed and a static water penetration test was then carried out in accordance with Clause 8.5 of AS/NZS 4284:2008 at a static pressure of 50 Pa for a period of 15 minutes.

Test Equipment
Water was applied via sprays located 300 mm away from the outdoor face of the test specimen. Water flow rate to the sprays was measured with a calibrated pressure gauge to an accuracy of 2% and was maintained at a level of 0.05 l/s.m2 over the test area throughout the test. Water application was maintained continuously and water was

observed to evenly cover the exterior face of the test specimen. All pressure transducers are calibrated against NATA certified manometers and may be taken to have a measurement accuracy of 1%.

Water Penetration Test Parameters as stated in AS/NZS:2484-2008

Test pressures:

Static 30% of Ws (at least 300 Pa) duration = 15 minutes

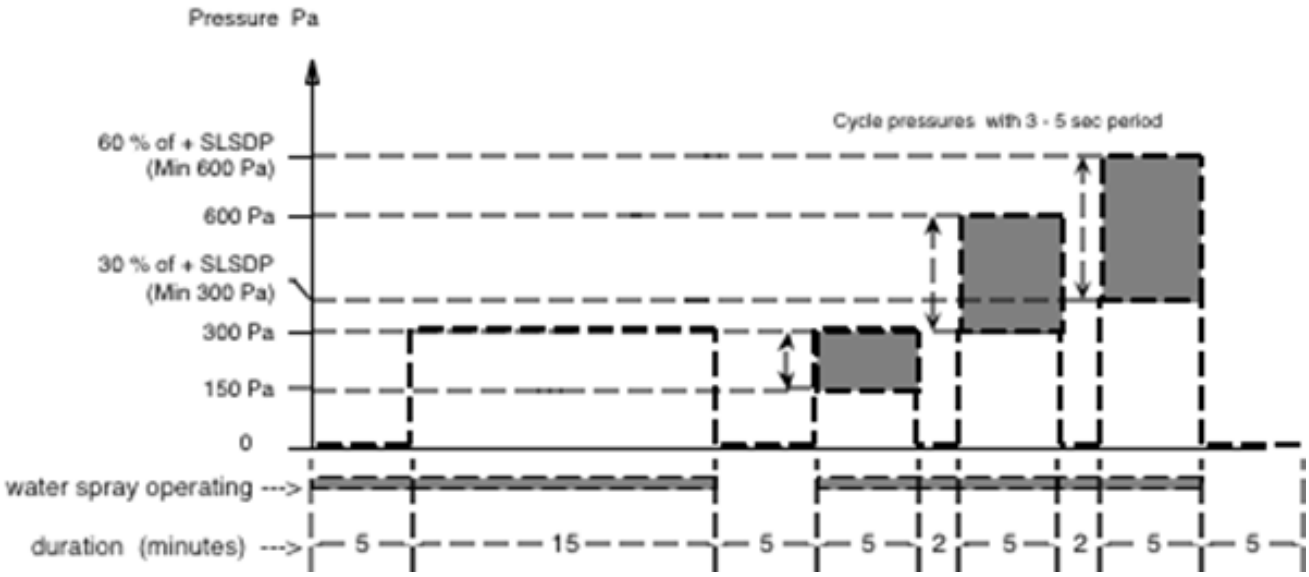
Cyclic 15% - 30% of Ws duration = 5 minutes

20% - 40% of Ws duration = 5 minutes

30% - 60% of Ws duration = 5 minutes

Water application rate: 0.05 L/m2.s

Water penetration test sequence



Test Requirement:

As per the Compliance requirements of NCC-2019 Weatherproofing Verification Methods V2.2.1 and FV1.1 that are given in Appendix B.

APPENDIX B – COMPLIANCE REQUIREMENTS
Applicability to be verified with specifier

These results are applicable for the weather proofing of an *external wall* that;

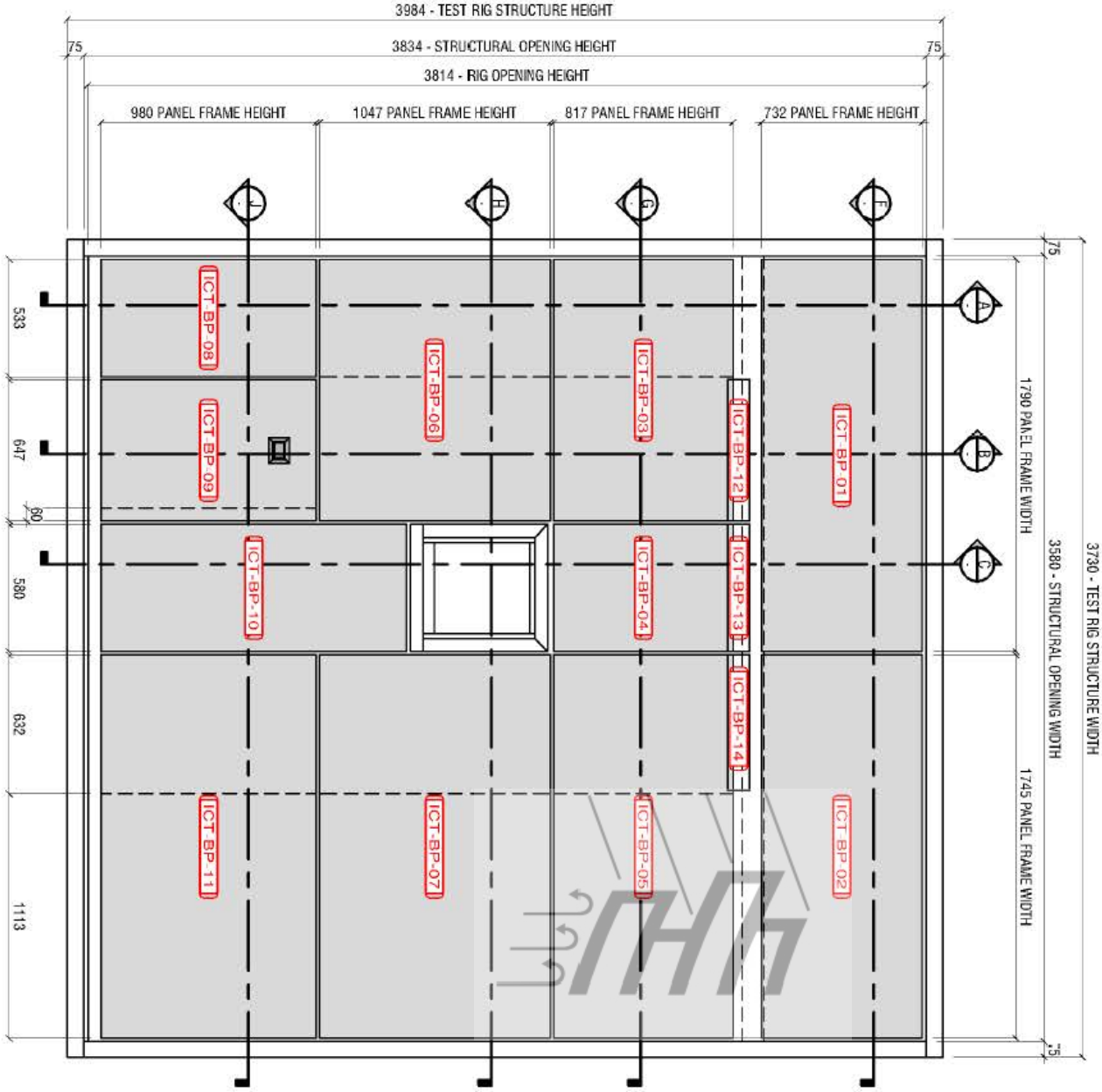
i.) Has a risk score of 20 or less (tables FV1.1 & V2.2.1 a)
ii.) Is not subjected to a ULS of more than 2.5kPa
iii.) Includes only windows that comply with 2047

Compliance requirements:

(i) A direct fix cladding wall and unique wall are verified for compliance with FP1.4 if there is no presence of water on the inside surface of the facade.

(ii) A cavity wall is verified for compliance with FP1.4 if there is no presence of water on the removed surface of the cavity, except that during the simulation of the failure of the primary weather-defense or sealing, water may—
(A) transfer to the removed surface of the cavity due to the introduced defects (6 mm holes); and
(B) contact, but not pool on, battens and other cavity surfaces.

APPENDIX C – DETAILS OF THE TEST SPECIMEN



ELEVATION

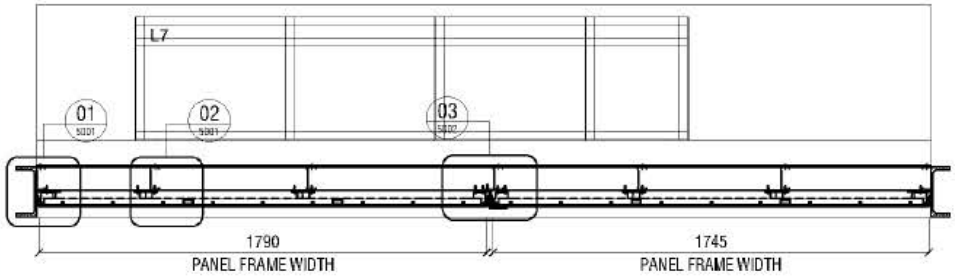
AS TESTED

ELEMENT 13 CLADDING TEST

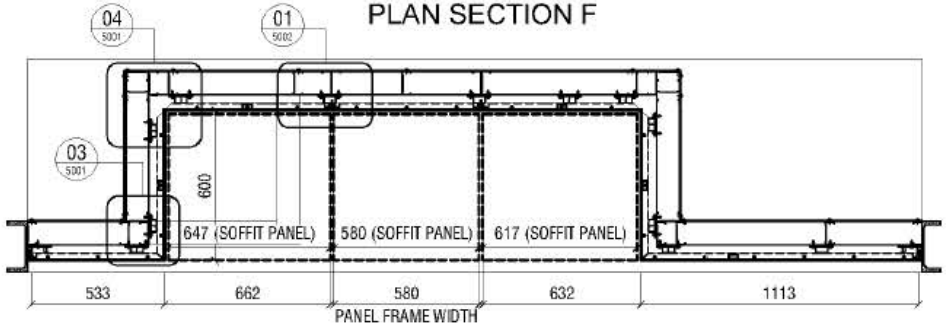
TEST SPECIMEN ELEVATION

TR-7-3001

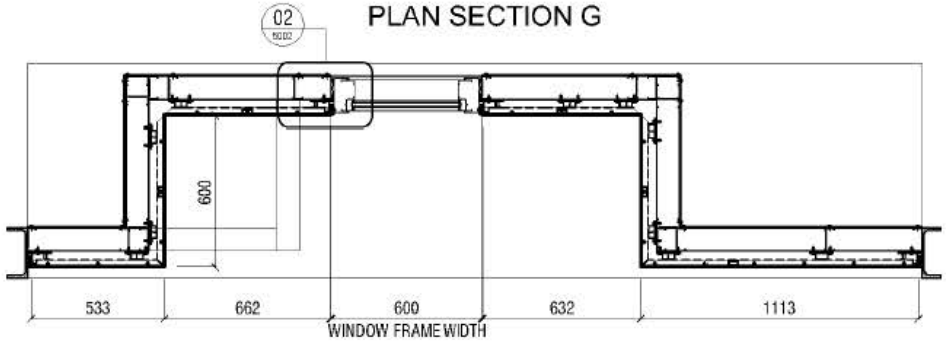
1:20



PLAN SECTION F



PLAN SECTION G



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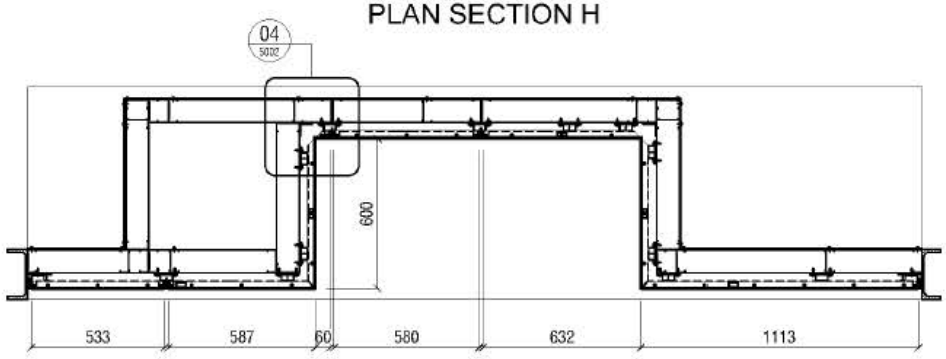

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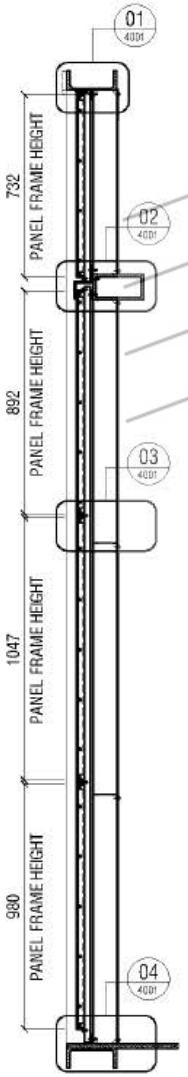
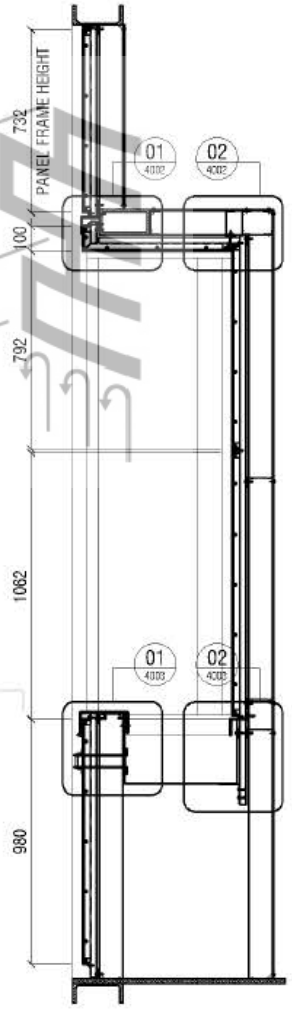
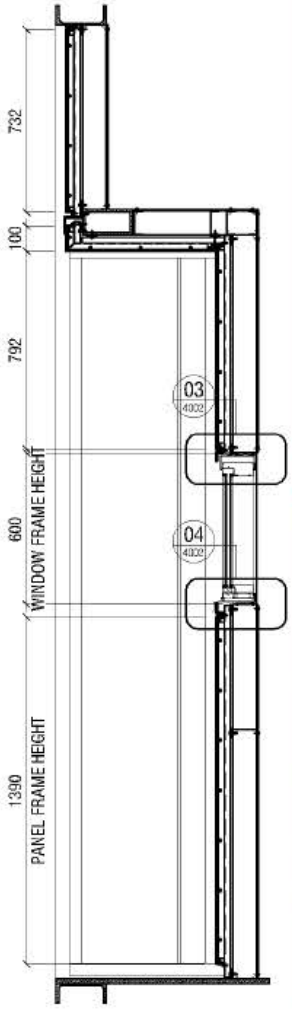


SECTION A



SECTION B



SECTION C

AS TESTED

MATERIAL
ELEMENT 13 CLADDING

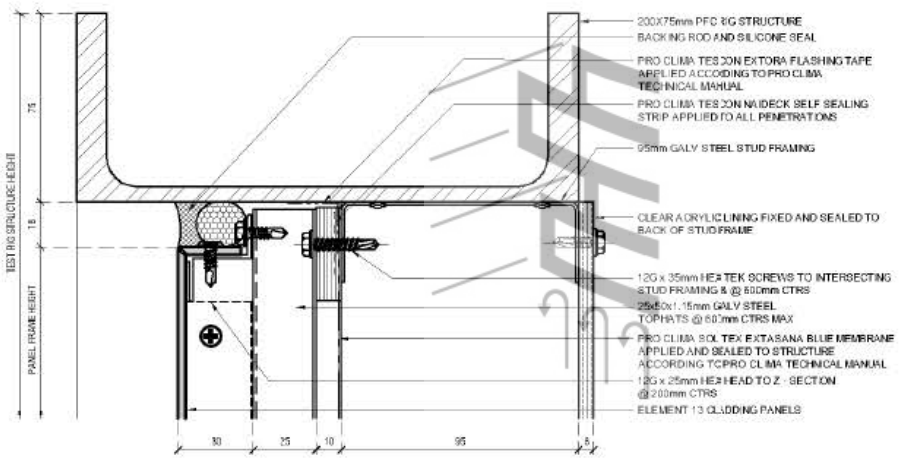
SURFACE FINISH
PYDF

VALMOND & GIBSON
valmondgibson.com
1300 097 999

PROJECT NAME
ELEMENT 13 CLADDING TEST

DRAWING TITLE
TEST SPECIMEN
PLAN & SECTION VIEWS

PROJECT NO.	DRAWN BY:	DATE:
SCALE: 1:20	DRAWING NO.: TR-7-3002	ISSUE: 2



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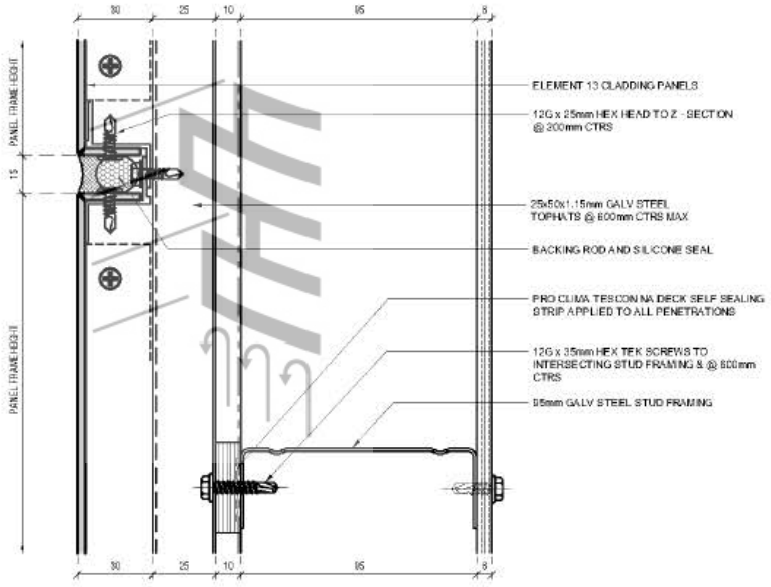

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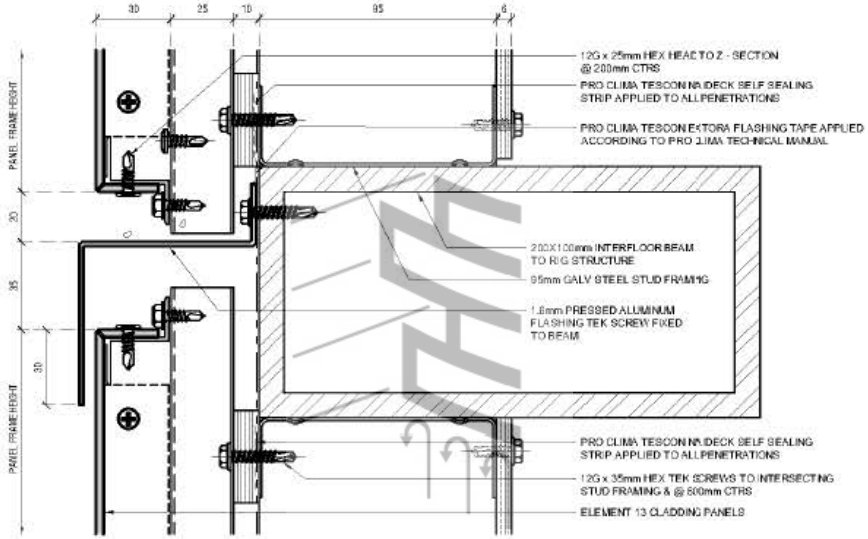

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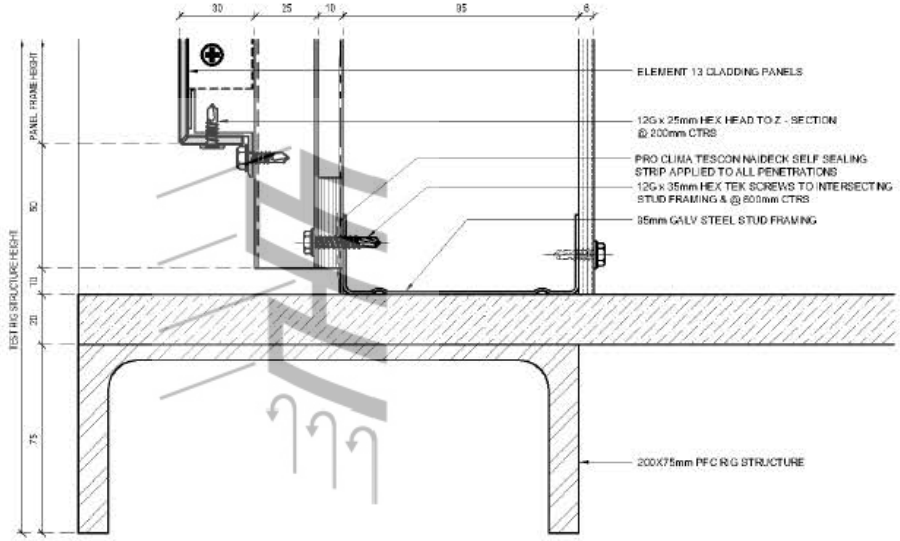
HORIZONTAL CONTROL JOINT 1 : 1



SECTION DETAIL 04
1 : 1

AS TESTED

CLIENT

SYSTEM SUPPLY PARTNER

2	12.08.22	AS TESTED	B
1	04.08.22	FOR COMPETITION	A
ISSUE	DATE	DESCRIPTION OF CHANGE	BY

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MATERIAL
ELEMENT 13 CLADDING

SURFACE FINISH
PVDF

VALMOND & GIBSON
valmondgibson.com
1300 097 999

PROJECT NAME
ELEMENT 13 CLADDING TEST

DRAWING TITLE
TEST SPECIMEN DETAILS

DO NOT SCALE DRAWING
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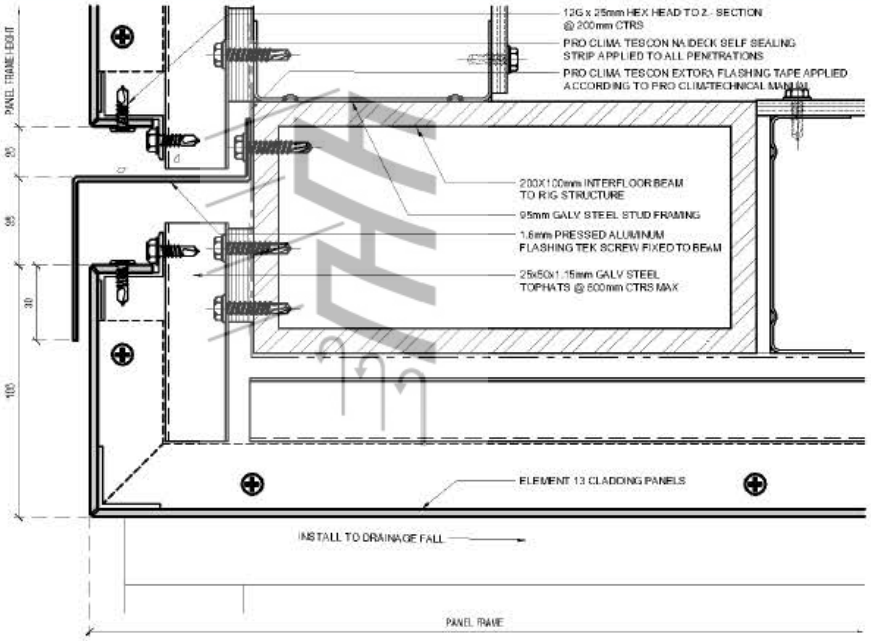
PROJECT NO.	DRAWN BY	DATE
	S.D.	10/08/22
SCALE	DRAWING NO.	ISSUE
1:1	TR-7-4001	2



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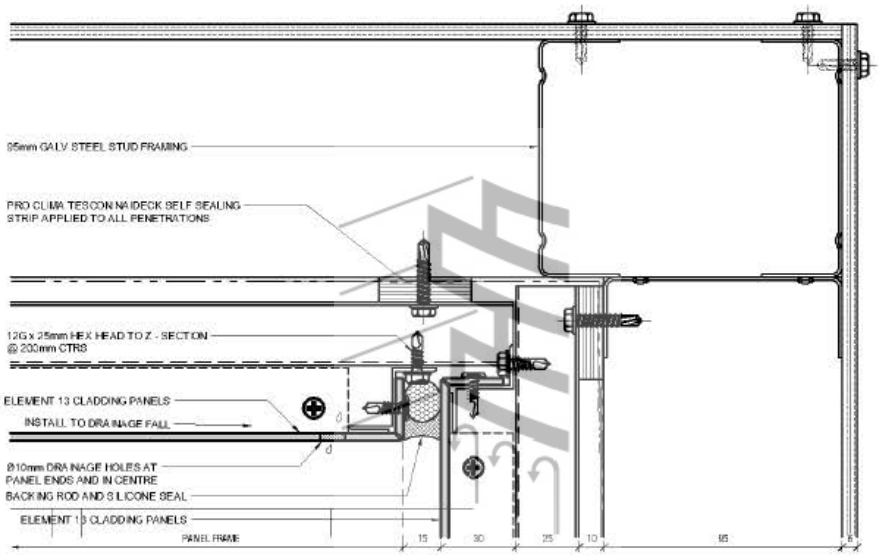

SECTION DETAIL C2
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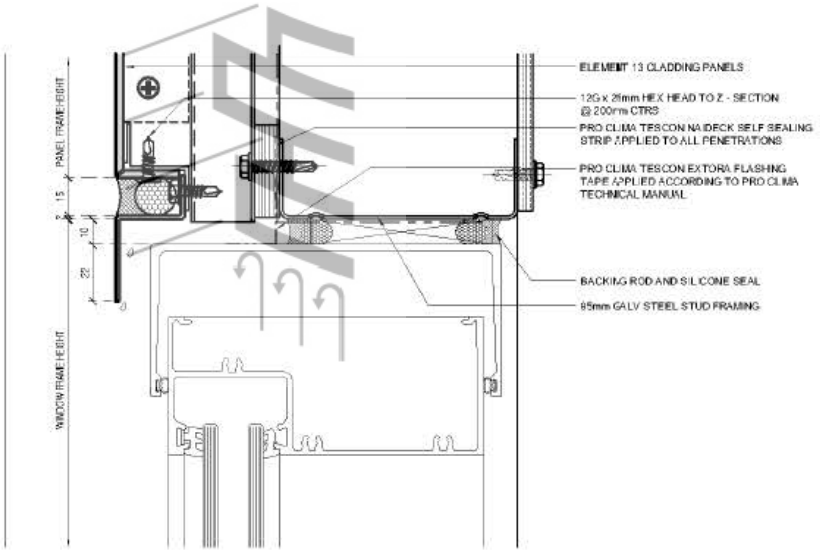

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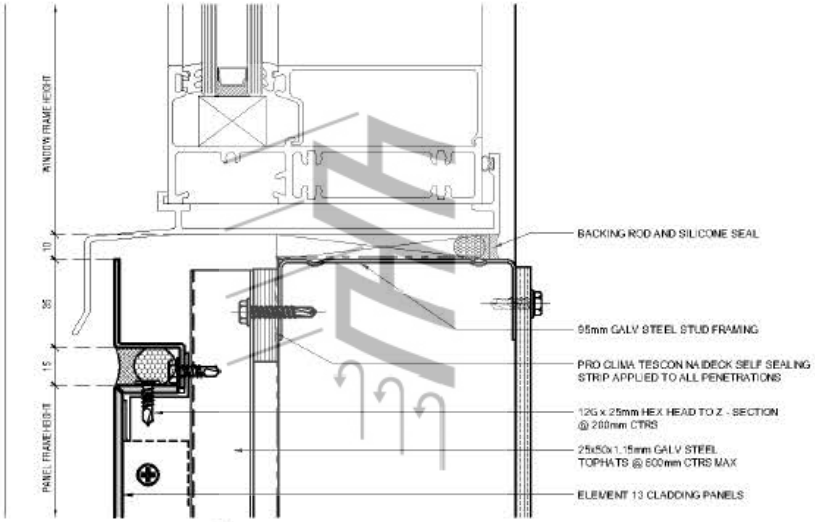


SECTION DETAIL C4
1 : 1

AS TESTED

MATERIAL
ELEMENT 13 CLADDING

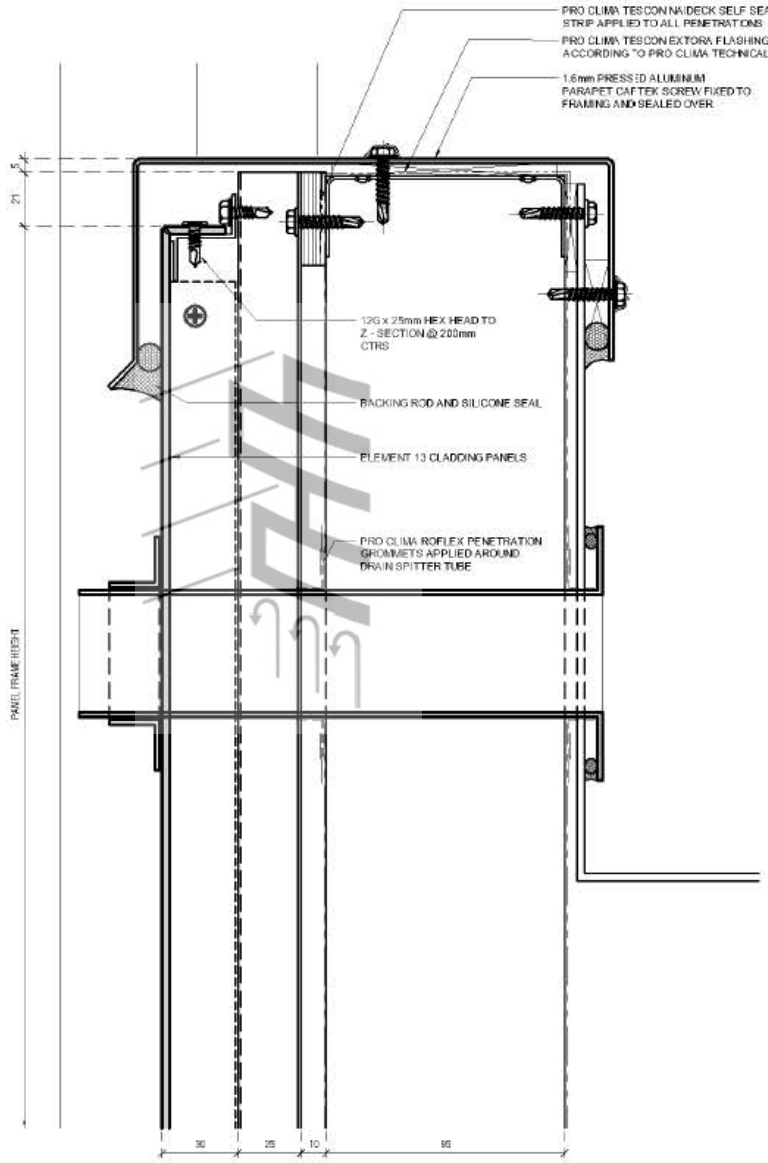
SURFACE FINISH
PVDF

VALMOND & GIBSON
1300 097 999

PROJECT NAME
ELEMENT 13 CLADDING TEST

DRAWING TITLE
TEST SPECIMEN DETAILS

PROJECT NO.	DRAWN BY	DATE
	S.G	10/05/22
SCALE	DRAWING NO.	REV
1:1	TR-7-4002	2



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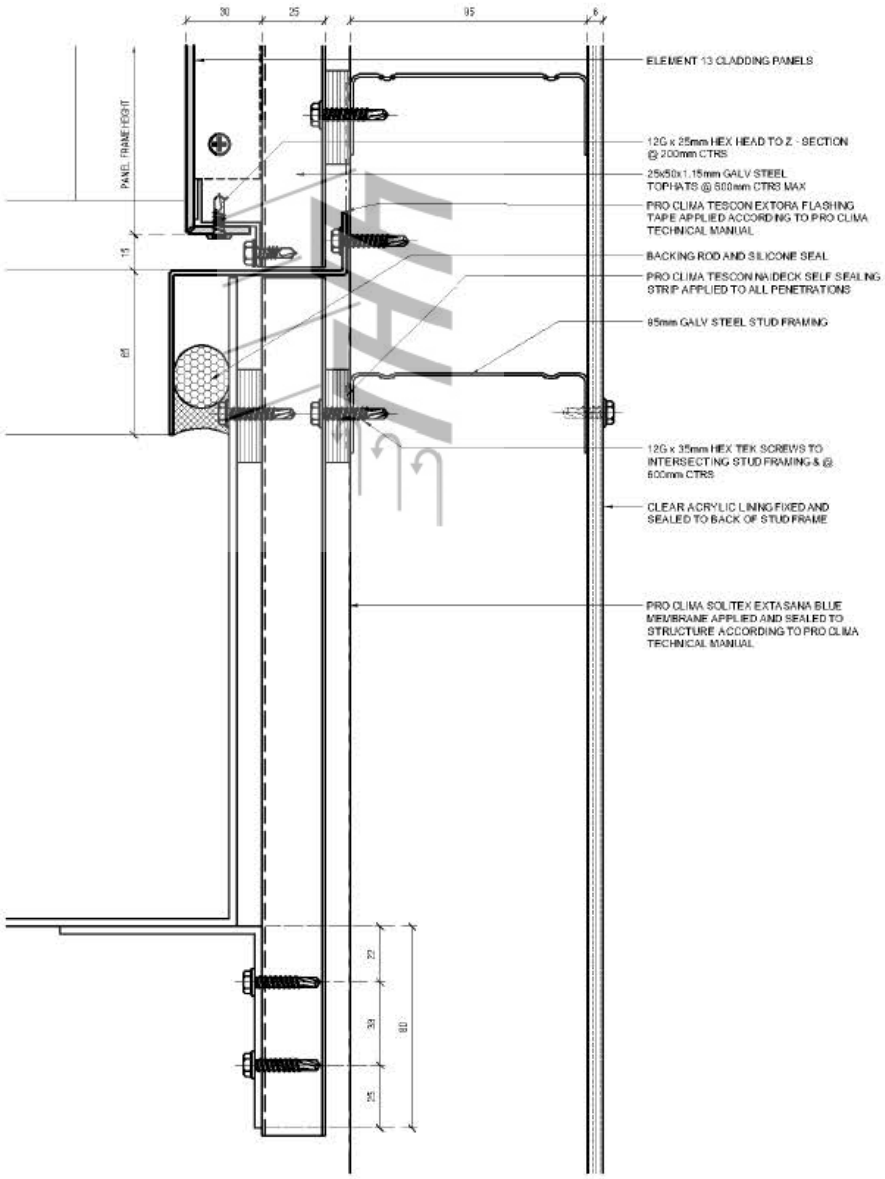

SECTION DETAIL C2
1 : 1

NOTES

AS TESTED

CLIENT

SYSTEM SUPPLIED FOR/BY

ISSUE	DATE	DESCRIPTION OF CHANGE	BY
A	12.04.22	ISSUED AS TESTED	
B	12.04.22	FOR COMMITTEE(S)	

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MATERIAL
ELEMENT 13 CLADDING

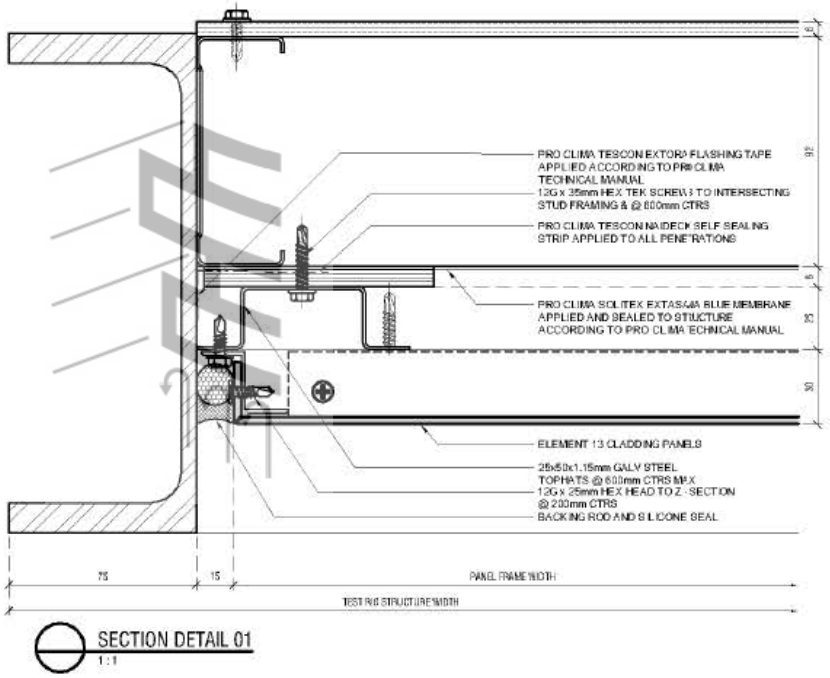
SURFACE FINISH
PVDF

VALMOND & GIBSON
valmondgibson.com
1300 087 999

PROJECT NAME
ELEMENT 13 CLADDING TEST

DRAWING TITLE
TEST SPECIMEN DETAILS

PROJECT NO.	DRAWN BY	DATE
	SR	12/04/22
SCALE	DRAWING NO.	ISSUE
1:1	TR-7-4003	2



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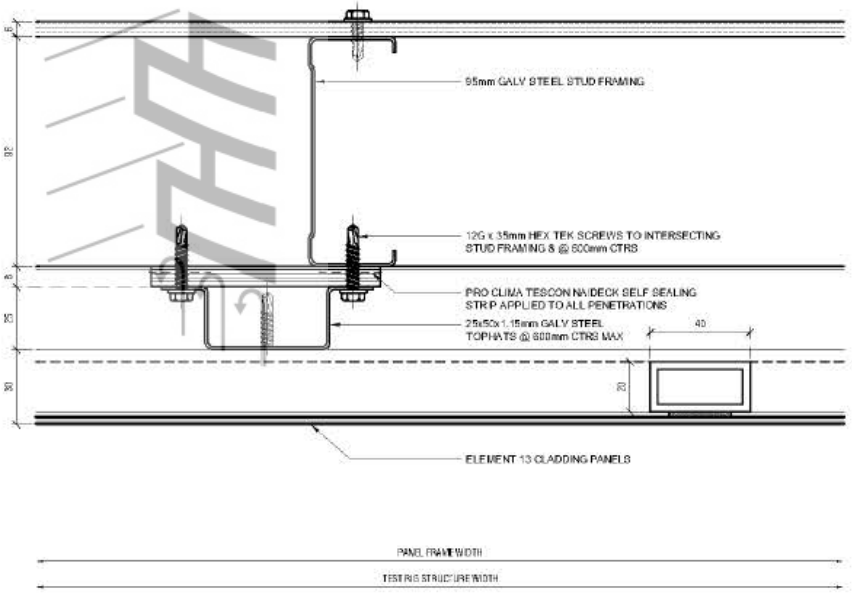

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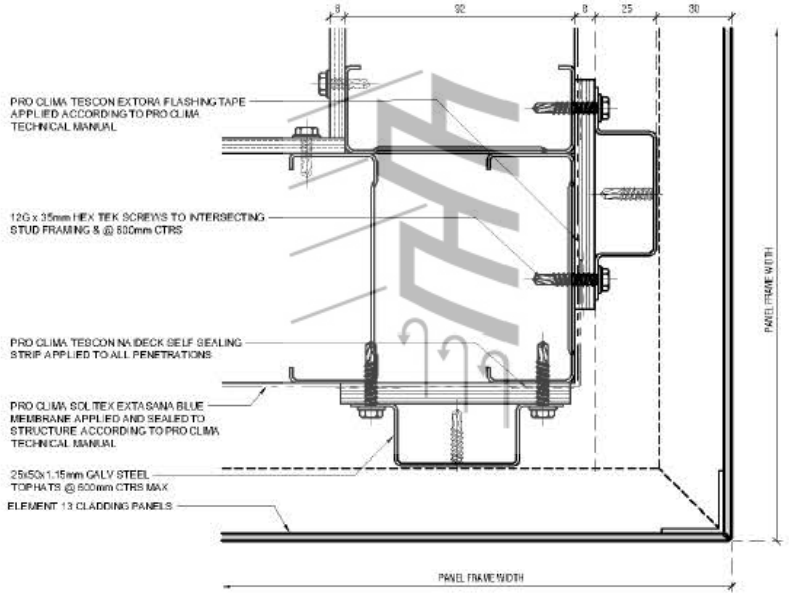

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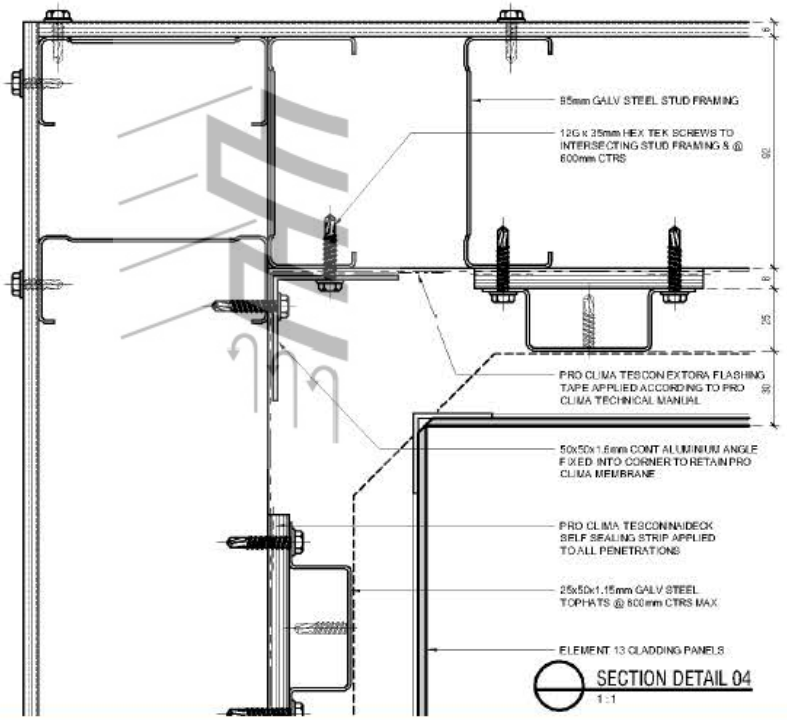

SECTION DETAIL 04
1 : 1

AS TESTED

2	22.04.22	AS TESTED
1	12.04.22	FOR TEST INTENT
ISSUE	DATE	DESCRIPTION OF CHANGE

MATERIAL
ELEMENT 13 CLADDING

SURFACE FINISH
PVDF

VALMOND & GIBSON
1300 087 999

PROJECT NAME
ELEMENT 13 CLADDING TEST

DRAWING TITLE
TEST SPECIMEN DETAILS

PROJECT NO.	DRAWN BY	DATE
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PAPER SIZE: A3	DRAWING NO.	ISSUE
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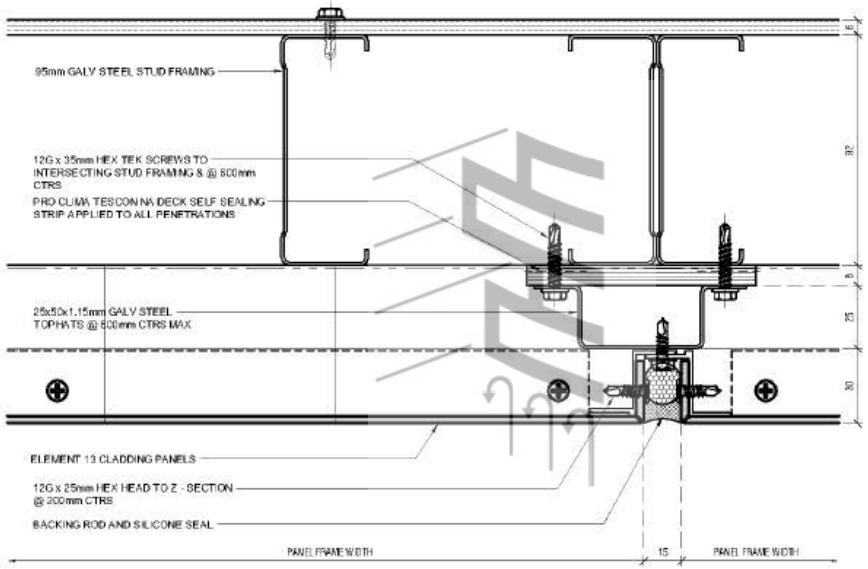

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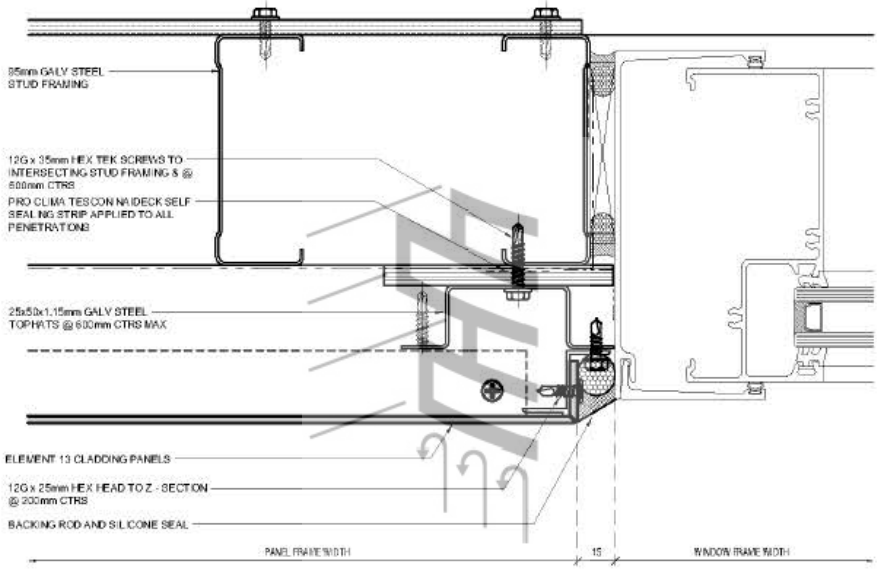

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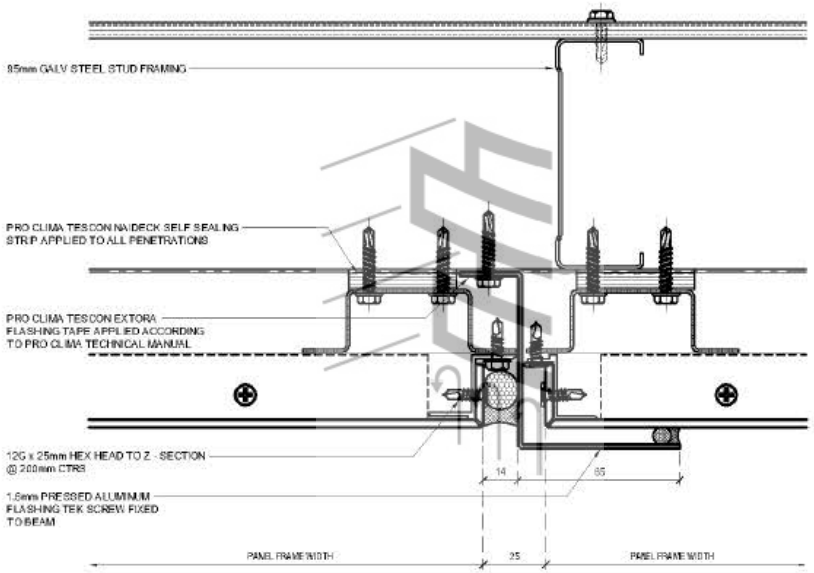

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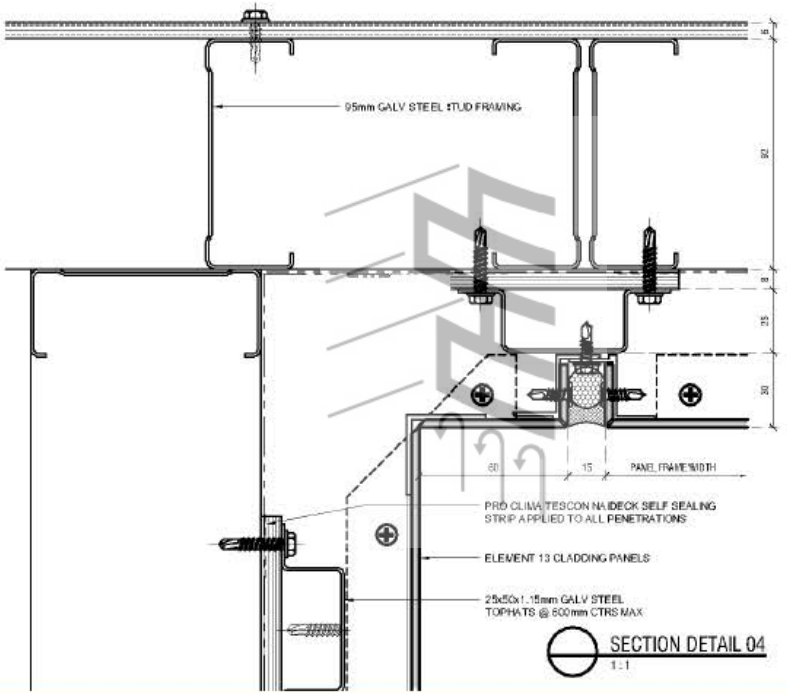

SECTION DETAIL 04
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AS TESTED

ELEMENT 13 CLADDING

PVDF

VALMOND & GIBSON

1300 087 999

ELEMENT 13 CLADDING TEST

TEST SPECIMEN DETAILS

1:1

TR-7-5002

2

Certificate of Test

QUOTE No.: NE8833 **REPORT No.: FNE13162**

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADENAME: Element 13

SPONSOR: Valmond & Gibson Pty Ltd
Building C 23-25 Princess Road
EAST AUBURN NSW 2144
AUSTRALIA

DESCRIPTION OF SAMPLE: The sponsor described the tested specimen as a solid aluminium panel comprised of the following layers:

Layer 1: 32 µm thick Polyvinylidene fluoride (PVDF) face coating;
Layer 2: 3-mm thick aluminium alloy.

Nominal total thickness: 3 mm
Nominal mass: 2700 kg/m^3
Colour: opal, mercury, charcoal (face) / grey (rear)

The test result only relates to the specimen tested and described in this report. CSIRO was not involved in the selection of the materials.

TEST PROCEDURE: Six (6) samples were tested in accordance with AS/NZS 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, each sample was clamped to the specimen holder in four places.

RESULTS: The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	N/A	N/A
Flame Spread Time (s)	N/A	N/A
Heat Release Integral (kJ/m^2)	N/A	N/A
Smoke Release ($\log_{10}$D)	-2.169	0.046

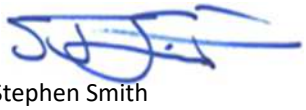
For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	0-1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

Testing Officer: Clive Broadhead Date of Test: 30 January 2024

Issued on the 12th day of February 2024 without alterations or additions.



Stephen Smith
Team Leader, Reaction to Fire Laboratory
End of Report

NATA Accredited Laboratory
Number: 165
Corporate Site No 3625
Accredited for compliance with ISO/IEC 17025 – Testing.

CSIRO INFRASTRUCTURE TECHNOLOGIES

14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA
Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555 www.csiro.au

Certificate of Test

QUOTE No.: NC8326 **REPORT No.: FNC12545**

COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994

SPONSOR:

Valmond & Gibson Pty Ltd
88 Phillip St
Level 25, Aurora Place
SYDNEY NSW 2000
AUSTRALIA

DESCRIPTION OF TEST SAMPLE:

The sponsor described the tested specimen as an aluminium material representative of the aluminium component used in the Element 13 decorative aluminium cladding product.

Nominal thickness:	3 mm (loose laid to form 50 mm for the test)
Nominal density:	2700 kg/m^3
Colour:	silver

TEST PROCEDURE:

Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials.

An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.

RESULTS:

The following calculated results were obtained, refer also to Summary of measurements:

Arithmetic mean	$= \frac{\Sigma\, results}{5}$
Mean furnace thermocouple temperature rise **(°C)**	5.05
Mean specimen centre thermocouple temperature rise **(°C)**	11.76
Mean specimen surface thermocouple temperature rise **(°C)**	7.89
Mean duration of sustained flaming (s)	0
Mean mass loss (%)	0.06

DESIGNATION:

The material is **NOT** deemed combustible according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

DATE OF TEST: 30 January 2020

Issued on the 11th day of February 2020 without alterations or additions.

Faustin Molina
Testing Officer

Stephen Smith
Team Leader, Reaction to Fire & Façade Fire Laboratory

NATA Accredited Laboratory
Number: 165
Corporate Site No 3625
Accredited for compliance with ISO/IEC 17025 - Testing.

CSIRO INFRASTRUCTURE TECHNOLOGIES

14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA
Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555 www.csiro.au

SUMMARY OF MEASUREMENTS AND OBSERVATIONS OF SAMPLES UNDER TEST C12545

Parameters	Symbol or expression	Unit symbol	Sample Number				
			1	2	3	4	5
Initial specimen mass	m_{si}	g	174.82	186.10	186.55	186.06	186.34
Final specimen mass	m_{sf}	g	174.78	185.78	186.53	186.04	186.15
Mass loss	$\Delta m = \frac{Msi - Msf}{Msi} \times 100$	%	0.02	0.17	0.01	0.01	0.10
Total duration of sustained flaming	Cumulative total of duration of flaming*	s	0	0	0	0	0
Initial furnace thermocouple temperature	T_{fi}	°C	751	751	747	750	754
Maximum furnace thermocouple temperature	T_{fm}	°C	778	782	779	789	782
Final furnace thermocouple temperature	T_{ff}	°C	774	777	774	781	779
Furnace thermocouple temperature rise	$\Delta Tf = Tfm - Tff$	°C	4	5	5	8	3
Maximum specimen centre thermocouple temperature	T_{cm}	°C	735	746	734	747	739
Final specimen centre thermocouple temperature	T_{cf}	°C	723	735	727	728	730
Specimen centre thermocouple temperature rise	$\Delta Tc = Tcm - Tcf$	°C	12	11	7	19	9
Maximum specimen surface thermocouple temperature	T_{cm}	°C	779	788	783	793	784
Final specimen surface thermocouple temperature	T_{sf}	°C	770	781	775	786	776
Specimen surface thermocouple temperature rise	$\Delta Ts = Tcm - Tsf$	°C	9	7	8	7	8
Test duration	-	min	95	115	110	130	125

* Any individual duration flaming less than 5 seconds was discarded

End of Test Certificate

CSIRO INFRASTRUCTURE TECHNOLOGIES

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