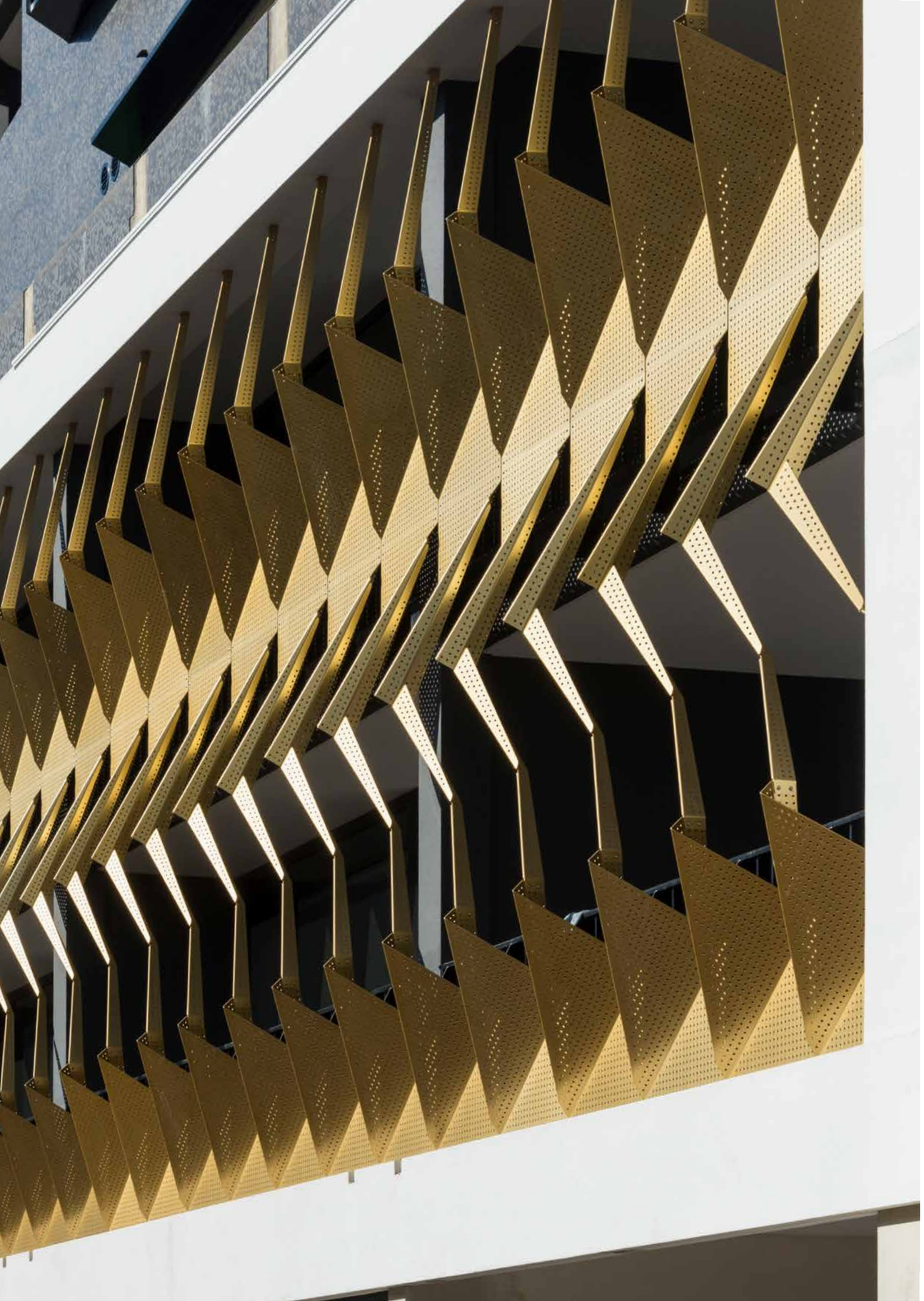
FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1983

vitradual™

NON-COMBUSTIBLE CASSETTE CLADDING / MANUFACTURED BY FAIRVIEW

TECHNICAL INFORMATION



CONTENTS

DOCUMENT TRACKING

VERSION #	DATE	CHANGES
1.0	06/03/20	Initial issue
1.1	07/10/20	Content & format updated
1.2	02/12/20	Install diagram updated & other minor changes
1.3	12/08/21	Text correction & install considerations updated
1.4	01/03/22	Installation clarifications

1. ABOUT THIS GUIDE

This guide has been developed to effectively assist fabricators and contractors to work with Fairview's aluminium panel: Vitradual.

The information and recommendations contained herein are believed to be correct at time of publishing, March 2022.

Fairview reserves the right to revise the contents of this guide.

2. INTRODUCTION

2.1 ABOUT VITRADUAL

Vitradual is a 3mm non-combustible solid aluminium cassette cladding system that forms part of Fairview's range of BCA compliant, deemed non-combustible cladding solutions; perfectly suitable for Type A and B constructions where non-combustible products are required.

Vitradual is a high impact resistant, solid panel which can be fabricated, curved and rolled. The prefinished large format cladding panels feature the same PVDF coating system as Fairview's leading aluminium panel Vitracore G2; well proven for its superior quality, extensive colour range and design integrity.

2.2 KEY FEATURES

Vitradual's versatility is achieved due to the combination of high-quality considerations and industry leading components. It is an ideal product for application in Type A and B developments where non-combustible building materials are critical.

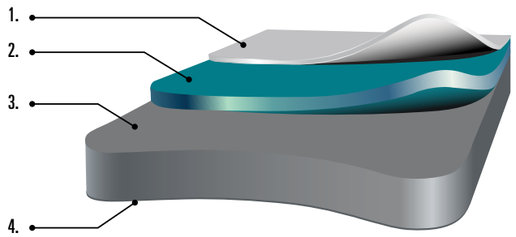
Vitradual is one of the few large format cladding panels that are deemed non-combustible when tested to AS1530.1 and AS1530.3.

PRODUCT DNA	Pre-finished solid aluminium panel.
FINISH	Vitradual uses only the highly recognised PVDF or FEVE paints known for their high durability, providing the optimum resistance to weather and industrial pollution.
FIXING SYSTEM	A cassette style concealed fixing system which is the same to fabricate and install as traditional ACPs.
APPLICATION	Type A and B constructions where non-combustible materials are required such as mixed-use developments, residential construction, and large-scale government infrastructure projects like hospitals.
WARRANTY	15-year warranty, subject to standard terms and conditions.
360VIEW	The highly unique, quality control process Fairview has developed to govern our rigorous approach to design and manufacture, material testing, regulatory compliance and product warranty.

3. PRODUCT SPECIFICATION

3.1 TYPICAL COMPOSITION

1. Protective film
2. PVDF coating system
3. 3mm Aluminium
4. Protective rear coating



The material is rigid, resistant to blows, breakage and pressure, and has high bending, buckling and breaking strengths.

DIMENSIONS

Thickness: 3mm

Weight: 8.1kg/m2

* Vitradual is not an ACP Panel and has no polyethylene content.

3.2 PANEL SIZES

WIDTH	LENGTH	THICKNESS
1250/1500	2500	3mm
	3200	
	4000	

CUSTOM SIZES ARE AVAILABLE, PLEASE SPEAK TO THE FAIRVIEW TEAM

3.3 MATERIAL DATA

PHYSICAL PROPERTY	VALUE
Tensile Strength – ultimate, Ftu* (MPa)	<140
Tensile Strength – yield, Fty* (MPa)	117
Compressive strength, Fcy (MPa)	96
Shear strength – ultimate, Fsu (MPa)	83
Shear strength – yield, Fsu (MPa)	69
Bearing strength – ultimate, Fbu (MPa)	276
Bearing strength – yield, Fby (MPa)	172
Compressive MOE, E (MPa)	70,000
Fatigue strength (MPa)	60
Modulus of Resilience (Kj/M^3)	130
Embodied carbon (kg-CO2/kg)	8.1

3.4 AVERAGE EXPANSION

MATERIAL	EXPANSION COEFFICIENT (X10 -6/°C)	ELONGATION PER 1000MM ΔT=50°C
Vitradual	23.3	1.2
Zinc	26.7	1.3
Steel	12.2	0.6
Concrete	12	0.6

3.5 ALUMINIUM GRADE

Vitradual is proudly manufactured in 3003 series aluminium. 3003 is an architectural grade aluminium with high end performance in architectural applications. It has high corrosion resistance, strength, machinability and formability, as well as having lower thermal expansion, lower thermal conductivity, and less embodied carbon than other grades used in architectural cladding. This results in a strong, accurate and crisp façade that has high oil canning resistance.

If desired, Vitradual can be supplied in 5052 grade aluminium.

4. FINISH

4.1 COATING SPECIFICATIONS

TYPICAL COATING TYPE

Vitradual uses only the highly recognised PVDF or FEVE paints known for their high durability. These premium paints provide optimum resistance to weather and industrial pollution on commercial, industrial, infrastructure, and residential developments.

More than 50 years of South Florida Exposure Testing is continuing to confirm the superior chemical and physical properties of fluoropolymer coatings.

For a full list of standard Vitradual colours, refer to our Solid and Metallics Colour Charts.

The Vitradual range also offers the following finishes:

- REPEL - a self-cleaning surface coating.
- VitraArt - for personalised design and imagery.

VITRADUAL PVDF DATA

CLASSIFICATION	TEST STANDARD	RESULT	COMMENTS
Nominal Coating thickness	TP-ET-02	45.7 µm	±3.9µm
Colour Uniformity	ASTM D2244-16	ΔE = 0.06	Pass
Specular Gloss	ASTM D523-14	G 24.8	Pass
Dry Film Hardness	ASTM D3363-05 (R2011)e2	3H	Pass
Film Adhesion	ASTM D3359-17	Dry: 5B Wet: 5B Boiling Water: 5B	Pass
Impact Resistance	AAMA 2605 (8.5)	After impact, no removal	Pass
Abrasion Resistance	ASTM D968-17A	118.6	Pass
Muriatic Acid Resistance (15 min spot)	AAMA 2605 (8.7.1)	5B	Pass
Mortar Resistance (24hr pat test)	AAMA 2605 (8.7.2)	5B	Pass
Nitric Acid Resistance	AAMA 2605 (8.7.3)	ΔE = 0.31	Pass
Detergent Resistance	AAMA 2605 (8.7.4)	5B	Pass
Window Cleaner Resistance	AAMA 2605 (8.7.5)	5B	Pass

5. PERFORMANCE

5.1 FIRE

In today's architecture it is not only appearance and product technical details that matter. Other factors such as sustainability, thermal insulation as well as fire protection also play a key role in product selection.

Vitradual is constructed from 100% aluminium, rather than combustible material such as polyethylene or fire rated mineral. This makes Vitradual, in addition to Vitracore G2, an ideal product for applications where non-combustible panels are required, such as high-rise buildings, schools or hospitals.

TEST STANDARD	RESULT		
AS1530.1	NON-COMBUSTIBLE		
AS1530.3	PASS	Ignitability Index	0
	PASS	Heat Evolved	0
	PASS	Spread of Flame	0
	PASS	Smoke Developed	1

5.2 THERMAL

THERMAL INSULATING PROPERTIES

THERMAL RESISTANCE FROM -50°C TO +80°C		
TEST STANDARD	THERMAL RESISTANCE 1A M2.K/W	HEAT TRANSMISSION COEFFICIENT W/(M2.K)
Panel Thickness (mm)	Thermal Resistance 1A m2.K/W	Heat Transmission Coefficient W/(m2.K)
3	0.0069	5.65

5.3 SUSTAINABILITY

Although one of the most abundant metals in the Earth, aluminium is one of the most recycled materials around. Around 75% of all aluminium produced is still in use, largely because aluminium can be continually recycled. Vitradual has been developed with the health of the environment and the community in mind. Vitradual aluminium has 2.5% less embodied carbon than common alternative aluminium products.

Fairview's Ecoloop facility provides an end-of-life avenue that enables any newly installed aluminium cladding to be repurposed at the end of the buildings life. Find out more about Ecoloop at www.fv.com.au.

6. STRUCTURAL

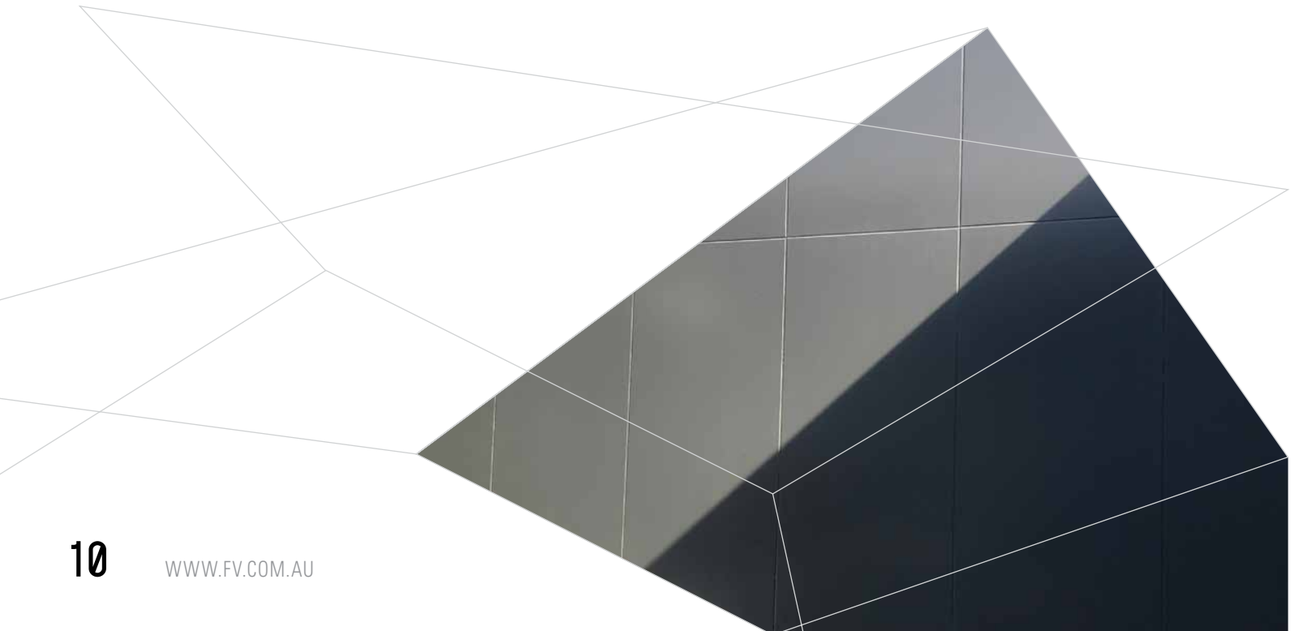
6.1 WINDLOADING

The following span and fixing table is applicable when Vitradual is installed as per the Vitradual Cassette Fix installation method. Please refer to the complete Vitradual Spanning and Windloading document for full design and construction notes.

This span table is conservative, and does not include panel stiffening or other project specific engineering. Greater panel sizes can easily be achieved on projects if designed by a qualified engineer using the material data provided. Methods to improve spanning and structural strength can include:

- Bonding Aluminium RHS stiffeners to the panel rear.
- Filling the 'V-groove' with a structural sealant prior to folding and attaching the zed angles.
- Bonding an 'L' angle to the rear of panel folds using a structural sealant.

Panel deflection must not exceed span/60.



Panel Dimensions			Maximum Design Wind Pressure on Panel		Total no. of rivets required per panel (and max. 300mm)				Max. spacing of screws fixing cassette to substructure (mm)			
Panel Width b (mm)	Panel Length a (mm)	a/b	Strength Pu (kPa)	Serviceability Ps (kPa)	Dia. 5	Dia. 6	Dia. 7	Dia.8	No.8	No.10	No.12	No.14
400	400	1	9.000	9.000	8	8	8	8	195	225	260	295
400	450	1.1	9.000	8.846	8	8	8	8	195	225	260	295
400	600	1.5	9.000	5.736	8	8	8	8	195	225	260	295
400	900	2.3	8.367	4.139	8	8	8	8	210	245	280	300
400	1200	3	7.768	3.75	10	8	8	8	230	260	300	300
400	1500	3.8	7.555	3.611	11	10	8	8	235	270	300	300
400	1800	4.5	7.461	3.55	14	11	10	9	240	275	300	300
400	2100	5.3	7.413	3.519	16	13	11	10	240	275	300	300
400	2400	6	7.386	3.502	18	15	13	11	240	275	300	300
400	2700	6.8	7.37	3.491	20	17	14	13	240	275	300	300
400	3000	7.5	7.359	3.484	22	18	16	14	240	275	300	300
400	3300	8.3	7.352	3.48	24	20	17	15	240	275	300	300
400	3600	9	7.347	3.477	26	22	19	17	240	275	300	300
400	4000	10	7.343	3.474	29	24	21	18	240	275	300	300
600	600	1	8.504	3.297	8	8	8	8	140	160	180	210
600	900	1.5	4.813	1.699	8	8	8	8	245	280	300	300
600	1200	2	3.914	1.311	8	8	8	8	300	300	300	300
600	1500	2.5	3.594	1.172	8	8	8	8	300	300	300	300
600	1800	3	3.453	1.111	10	8	8	8	300	300	300	300
600	2100	3.5	3.381	1.08	11	9	8	8	300	300	300	300
600	2400	4	3.34	1.062	12	10	9	8	300	300	300	300
600	2700	4.5	3.316	1.052	14	11	10	9	300	300	300	300
600	3000	5	3.3	1.045	15	13	11	10	300	300	300	300
600	3300	5.5	3.29	1.041	16	14	12	10	300	300	300	300
600	3600	6	3.283	1.038	18	15	13	11	300	300	300	300
600	4000	6.7	3.276	1.035	20	16	14	12	300	300	300	300
900	900	1	3.78	0.977	8	8	8	8	210	240	270	300
900	1200	1.3	2.432	0.588	8	8	8	8	300	300	300	300
900	1500	1.7	1.952	0.45	8	8	8	8	300	300	300	300
900	1800	2	1.74	0.388	8	8	8	8	300	300	300	300
900	2100	2.3	1.632	0.357	8	8	8	8	300	300	300	300
900	2400	2.7	1.571	0.34	9	8	8	8	300	300	300	300
900	2700	3	1.535	0.329	10	8	8	8	300	300	300	300
900	3000	3.3	1.511	0.322	10	9	8	8	300	300	300	300
900	3300	3.7	1.495	0.318	11	9	8	8	300	300	300	300
900	3600	4	1.485	0.315	12	10	9	8	300	300	300	300
900	4000	4.4	1.475	0.312	13	11	10	9	300	300	300	300
1200	1200	1	2.126	0.412	8	8	8	8	280	300	300	300
1200	1500	1.3	1.486	0.274	8	8	8	8	300	300	300	300
1200	1800	1.5	1.203	0.212	8	8	8	8	300	300	300	300
1200	2100	1.8	1.059	0.181	8	8	8	8	300	300	300	300
1200	2400	2	0.979	0.164	8	8	8	8	300	300	300	300
1200	2700	2.3	0.93	0.153	8	8	8	8	300	300	300	300
1200	3000	2.5	0.899	0.147	8	8	8	8	300	300	300	300
1200	3300	2.8	0.878	0.142	9	8	8	8	300	300	300	300
1200	3600	3	0.863	0.139	10	8	8	8	300	300	300	300
1200	4000	3.3	0.85	0.136	10	9	8	8	300	300	300	300

7. DURABILITY

7.1 EVALUATION

Durability is defined in the ABCB handbook as "... the capability of a building or plumbing installation to perform its function over a specified period."

The ABCB handbook also provides this context for consideration: "Durability is not an inherent property of a material or component. It is the outcome of complex interactions among a number of factors."

For building components durability is described in terms of design life. The durability performance of a building by its ability to remain fit-for-purpose over its design life in the environment it is subjected to and with appropriate maintenance.

The minimum design life for a wall cladding system on a building with a normal design life category is 15 years (refer to ABCB Handbook table 3.1).

7.2 STRUCTURAL

The NCC referenced standard for actions on buildings AS/NZ 1170 series provides direction for determining the appropriate loads on building components. Typically, a 50-year design life is the basis for structural design.

The design capacity of Vitradual and its supports and fixings, must be determined in accordance with this design life using verification method BV1.

Project specifications for Vitradual that are created in accordance with this document therefore have structural adequacy for a design life of 50 years.

7.3 MATERIALS

Vitradual has been subjected to many tests and assessments concerning it's durability, including accelerated weathering of 4000 hours of accelerated salt exposure.

For added scrutiny, each batch of manufactured product also undergoes stringent QA checks prior to delivery to ensure ongoing product quality is maintained into the future. Find our more about Fairview's 360 Quality at www.fv.com.au.

8. INSTALLATION CONSIDERATIONS

8.1 INSTALLATION CONSIDERATIONS

- All sheets should be installed in the same direction as marked on the protective film to prevent possible finish variation.
- As minor colour variation can occur between production lots, it is recommended to place total requirement for a project in one order to ensure colour consistency.
- Where aluminium materials come in contact with dissimilar metals, a proper insulator or isolation tape should be applied to insulate between dissimilar materials in order to avoid corrosive and electrolytic action.
- For Cassette Fix, the returns between panel joints should not be caulked before film is removed.
- Please ensure Vitradual is used as part of a compliant wall system, with all components complying with the Deemed-to-Satisfy provisions of the relevant NCC, or approved as part of a performance solution.

8.2 PROTECTIVE FILM

- Make sure no damage will occur to the panel following removal of protective film.
- Remove protective film within 45 days of installation to avoid glue residue on panel surface due to weathering.
- Do not apply PVC tapes, polyurethane sealant or silicone sealant onto Vitradual protective film. The plasticiser contained in these materials can penetrate the protective film and cause a gloss change in the coating.
- Do not apply spray paint or permanent marker to the film as the colour may penetrate the film and affect the panel.

8.3 ACCESSORIES

- Please refer to Section 9 for the Vitrafix accessories available.

8.4 SEQUENCE

As a rule, the sequence of installation is as follows:

1. Installation of the water membrane as per manufacturers requirements.
2. Installation of top hats, levelled and fixed as per wind loading requirements.
3. Vitradual panels fabricated and prepared for installation.
4. Installation of fabricated Vitradual panels, fixing through Z angles to tophats as per wind loading requirements.
5. Caulking applied to panel joints as per manufacturers requirements.
6. Removal of protective film within 45 days of installation.

8.5 SEALANT

The standard Vitradual Cassette fix system details a sealed panel joint. A variety of sealants are suitable for use in this application, but the following requirements apply:

- Low modulus +/- 50% flexibility.
- Minimum 10 year warranty in external applications.
- Supplier's confirmation for adhesion to PVDF painted surfaces.
- Approval from Fairview.

Vitradual can be installed unsealed for shadow line joints, but the following must be noted for the warranty to apply:

- Aluminium zed angles to be powder coated, and mitred at panel joints so not to leave openings once installed.
- Exposed fixings must be stainless steel or class 4 galvanised screws. Often these will be required to be colour matched to meet the architectural design intent.
- The waterproof membrane behind the panels must be installed at a high level of quality.
- This is not covered by testing to FP1.4 or Codemark, so an assessment of the façade may be required for approval.

8.6 CAVITY BARRIERS

While Vitradual is non-combustible and will not contribute to the spread of fire, it is good practice to install cavity barriers where a cladding product extends several floors. In order to maintain a drained and ventilated façade it is recommended that open-state cavity barriers be used.

8.7 MOISTURE MANAGEMENT

Moisture ingress and condensation is one of the most common causes of defects in Australian buildings today. A drained and ventilated façade cavity is recognised as best practice in providing a high level of moisture management. The Vitradual details reflect this, with openings at top and bottom of walls designed to encourage air flow and allow the cavity to remove any condensation or other moisture.

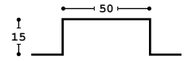
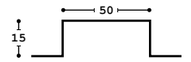
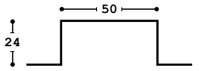
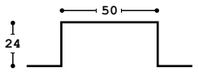
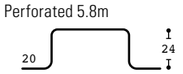
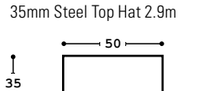
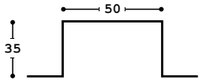
Where an open cavity is not achievable (such as a window head or base of a fascia), it is recommended weep holes be provided. These are 10mm diameter, located 600mm apart. Note that in areas where there is no condensation risk weep holes may not be required.

Details 4,7 & 11 include provision for drainage of liquid water, this can be disregarded if the wall system adequately treats this elsewhere.

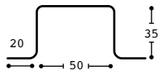
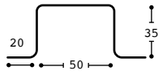
9. VITRADUAL ACCESSORIES

Fairview's Vitradual comes with CodeMark Certification. Product testing used to gain CodeMark Certification was carried out using a specific set of accessories. The components offered in the Vitrafix accessories range are carefully selected to ensure sub-framing is compliant to the National Construction Code and the CodeMark Certification for Vitradual.

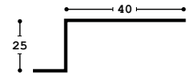
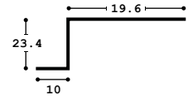
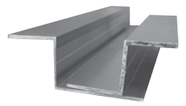
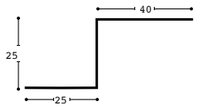
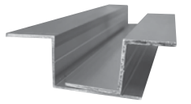
SUB-FRAMING

	CODE	NAME	DESCRIPTION	UNIT QUANTITY
	T5015S	15mm Steel Top Hat 2.9m 	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5015L	15mm Steel Top Hat 5.8m 	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5024S	24mm Steel Top Hat 2.9m 	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5024L	24mm Steel Top Hat 5.8m 	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5024PS	24mm Steel Top Hat Perforated 2.9m  50X24X20 TOP HAT - DIA 12 MM WITH 44 PITCH	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5024PL	24mm Steel Top Hat Perforated 5.8m  50X24X20 TOP HAT - DIA 12 MM WITH 44 PITCH	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5035S	35mm Steel Top Hat 2.9m 	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5035L	35mm Steel Top Hat 5.8m 	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1

SUB-FRAMING

	CODE	NAME	DESCRIPTION	UNIT QUANTITY
	T5035PS	35mm Steel Top Hat Perforated 2.9m  50X35X20 TOP HAT - DIA 20 MM WITH 72 PITCH	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1
	T5035PL	35mm Steel Top Hat Perforated 5.8m  50X35X20 TOP HAT - DIA 20 MM WITH 72 PITCH	Galvanised Top Hat used as cladding substrate. Grade: G2 Steel Coating: Z 275 Thickness: 1.15BMT	1

EXTRUSIONS

	CODE	NAME	DESCRIPTION	UNIT QUANTITY
	AZ4025	Aluminium High Z Angle – 6m 	Used in the construction of cassette, mechanical fix installation method. Grade: 6060/6063 Temper: T5 Thickness: 1.6mm	1
	AZ2310	Aluminium Low Z Angle – 6m 	Used in the construction of cassette, mechanical fix installation method. Grade: 6060/6063 Temper: T5 Thickness: 1.6mm	1
	AZ2540	Long Leg Aluminium Z Angle High - 6m 	Used in the construction of cassette, mechanical fix installation method. NEW - Extended 25mm foot to allow for tape or construction adhesive to be applied to strengthen the cassette fold. Grade: 6060/6063 Temper: T5 Thickness: 1.6mm	1
	AZ2325	Long Leg Aluminium Z Angle Low - 6m	Used in the construction of cassette, mechanical fix installation method. NEW - Extended 25mm foot to allow for tape or construction adhesive to be applied to strengthen the cassette fold. Grade: 6060/6063 Temper: T5 Thickness: 1.6mm	1
	AR3819	Aluminium Stiffener – 6m	Used to stiffen aluminium panels - attached to the rear of panel Grade: 6060/6063 Temper: T5 Thickness: 1.6mm	1
	AL3203	Aluminium Angle – 6m	Corner reinforcement for cassette system. Grade: 6060/6063 Temper: T5 Thickness: 3mm	2

CAULKING

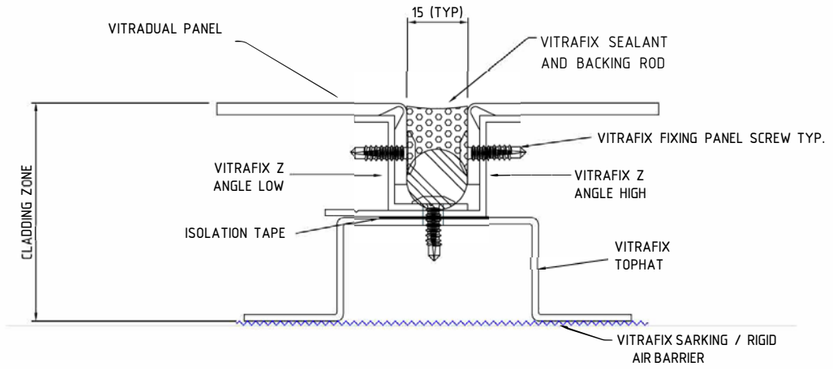
	CODE	NAME	DESCRIPTION	UNIT QUANTITY
	CAM41B	Admil Prosil 41LM – Black – 600mL Sausage	Low modulus, high movement, matt finish silicone, designed for weather sealing cladding expansion joints. 600ML sausage	20
	CAM41W	Admil Prosil 41LM – White - 600mL Sausage	Low modulus, high movement, matt finish silicone, designed for weather sealing cladding expansion joints. 600ML sausage	20
	CAM41G	Admil Prosil 41LM – Grey - 600mL Sausage	Low modulus, high movement, matt finish silicone, designed for weather sealing cladding expansion joints. 600ML sausage	20
	CBR016	Open Cell Backing Rod – 16mm x 150mm	Joint filler and sealant backer for cassette installation method.	1 Roll or 20 Rolls

FIXINGS

	CODE	NAME	DESCRIPTION	UNIT QUANTITY
	FW1016	Self Drilling Wafer Tek Phillips 10-16 x 16mm	For fixing Z Angles to Top Hats and attaching Top Hats to framing. Class 3 Galvanised. Box 1000 Pcs.	Box of 1000
	FR48	4.8mm x 11.4mm Pop Rivets	For fixing Z Angles to aluminium façade panels. Box 1000 Pcs.	Box of 1000

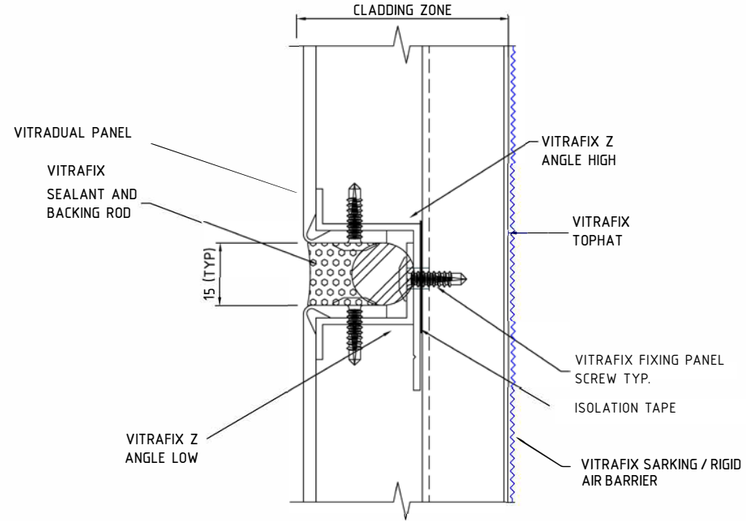
10.INSTALLATION DETAILS

1. TYPICAL VERTICAL PANEL JOINT DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

2. HORIZONTAL JOINT DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

DISCLAIMER:
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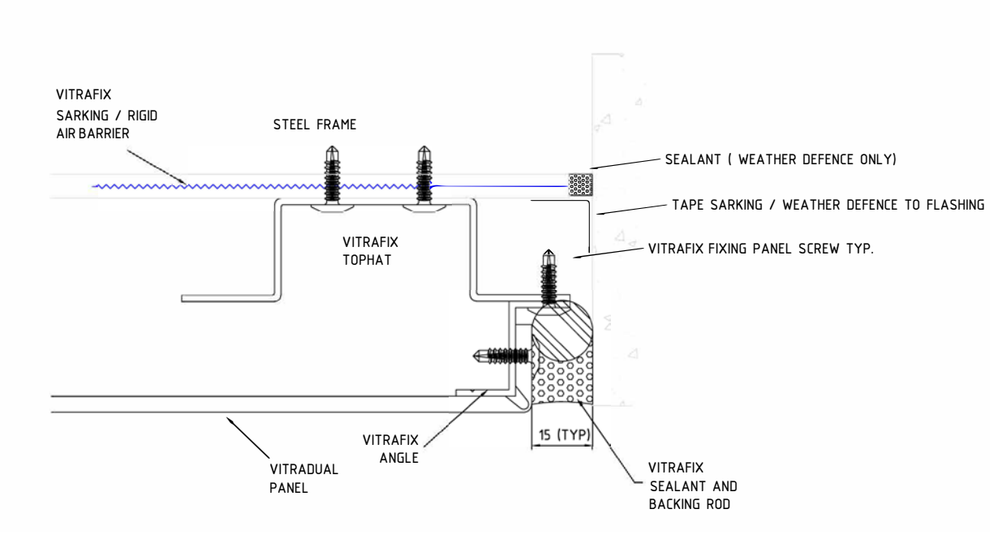
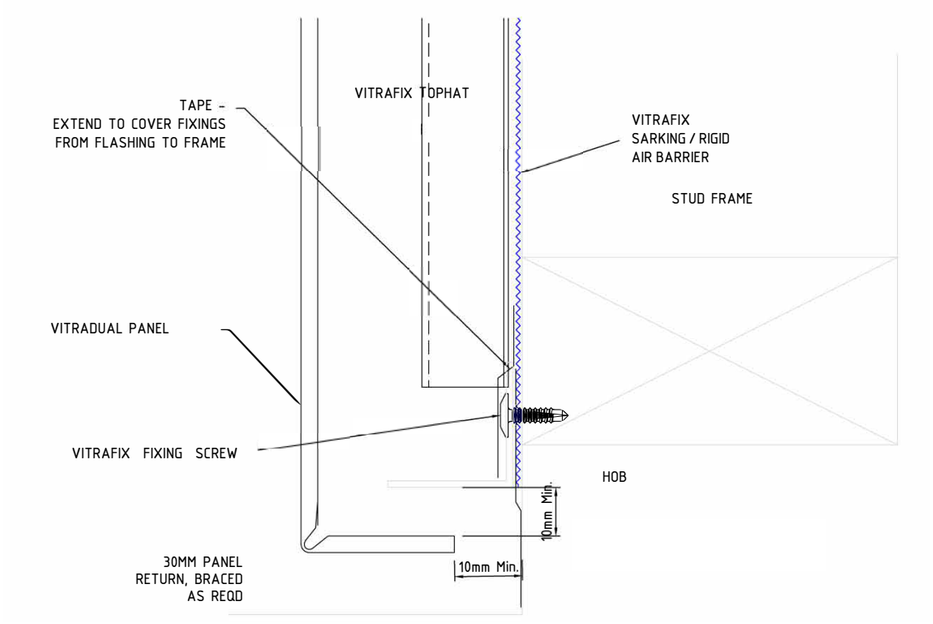
3. WALL JUNCTION DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

4. BASE DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

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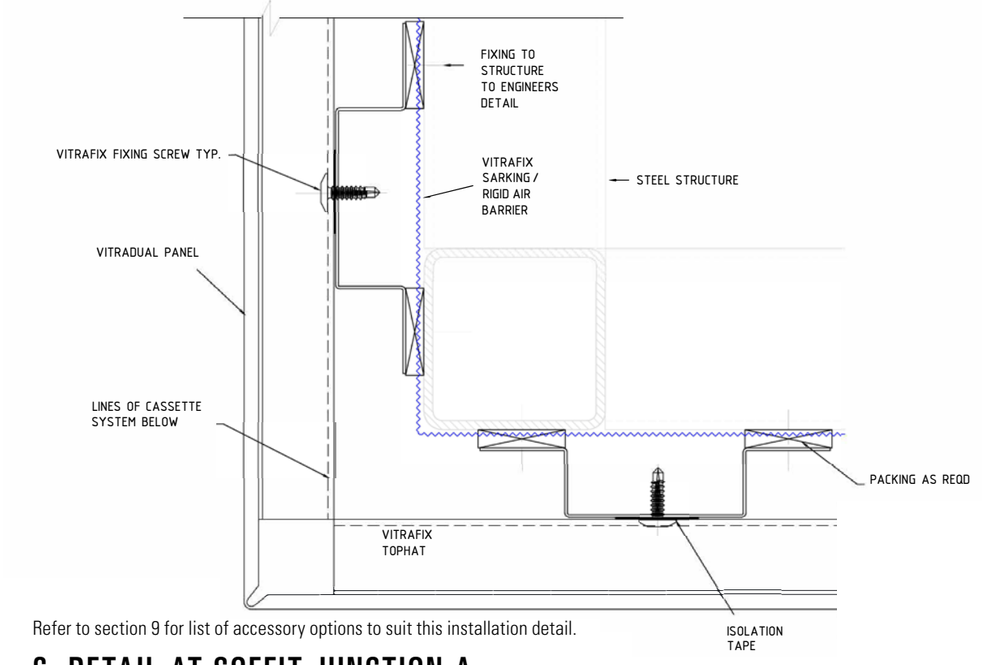
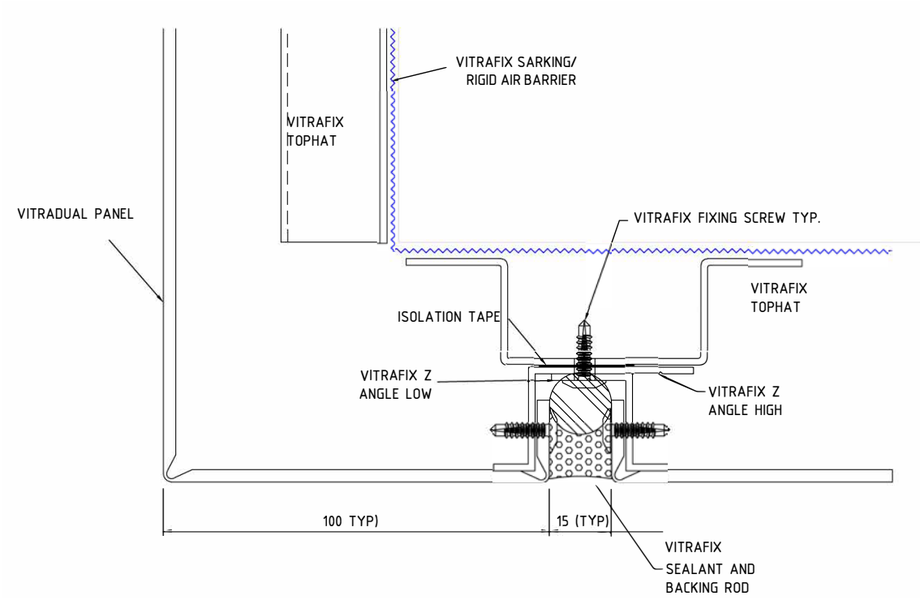
5. EXTERNAL CORNER DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

6. DETAIL AT SOFFIT JUNCTION A



Refer to section 9 for list of accessory options to suit this installation detail.

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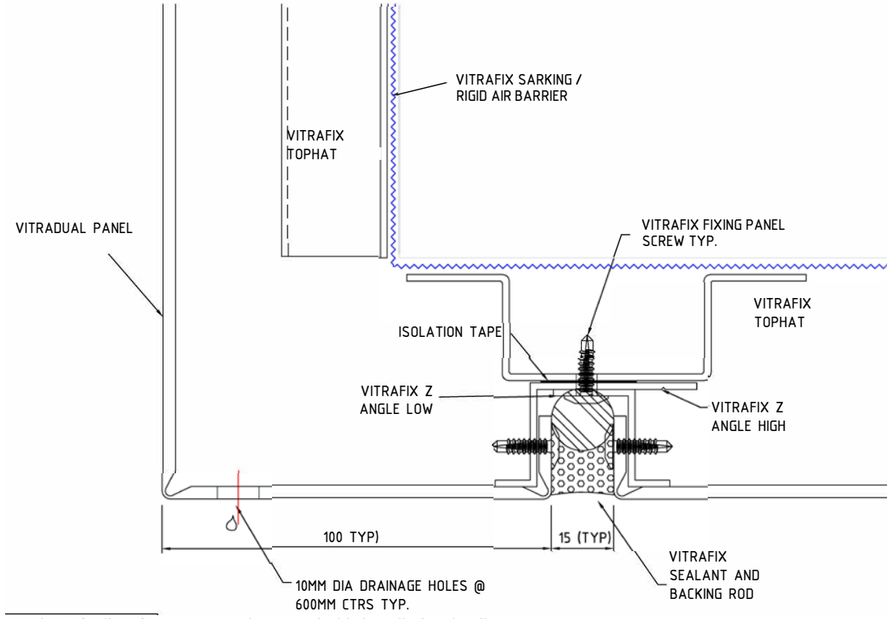
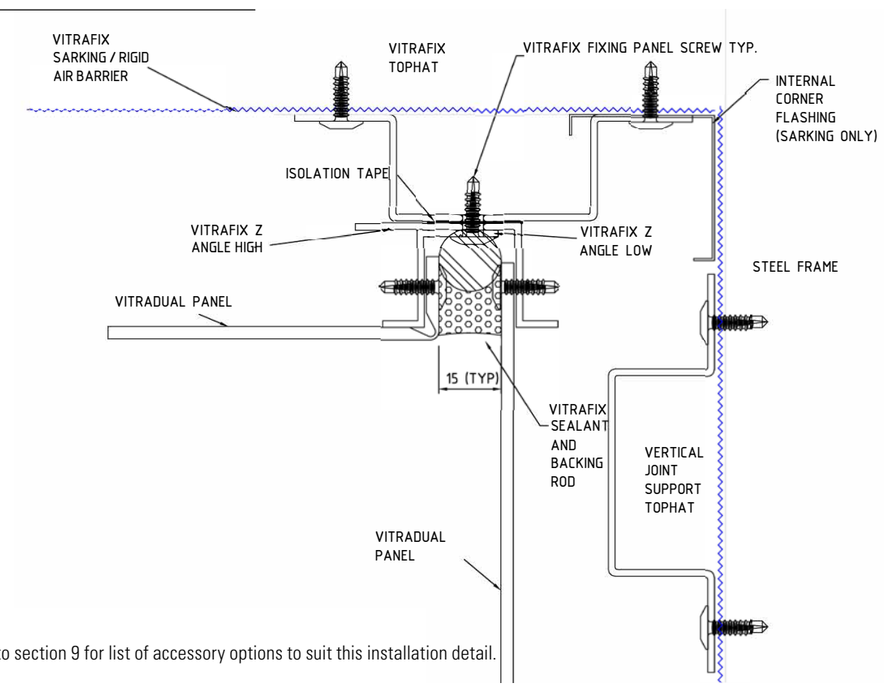
7. DETAIL AT SOFFIT JUNCTION B



Refer to section 9 for list of accessory options to suit this installation detail.

8. REAR SOFFIT DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

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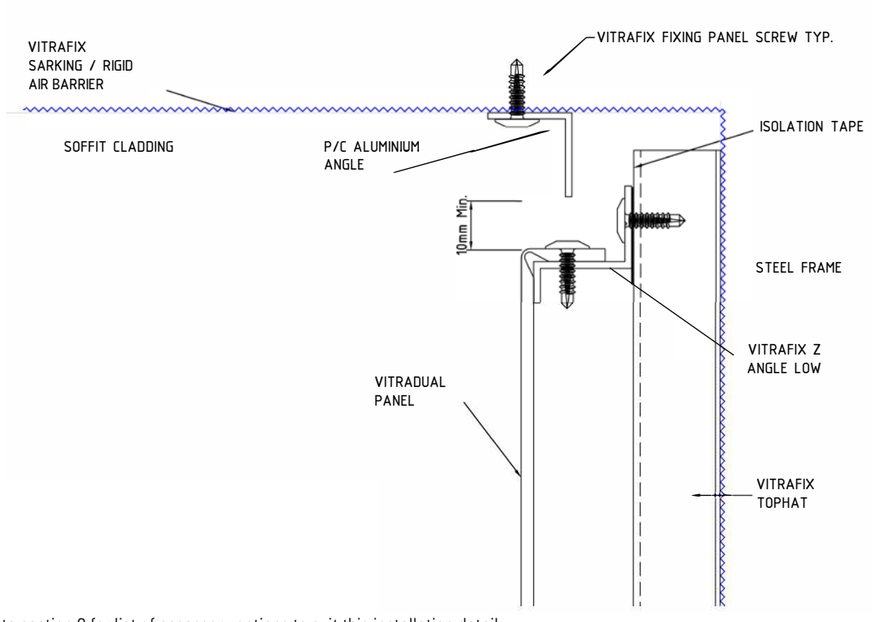
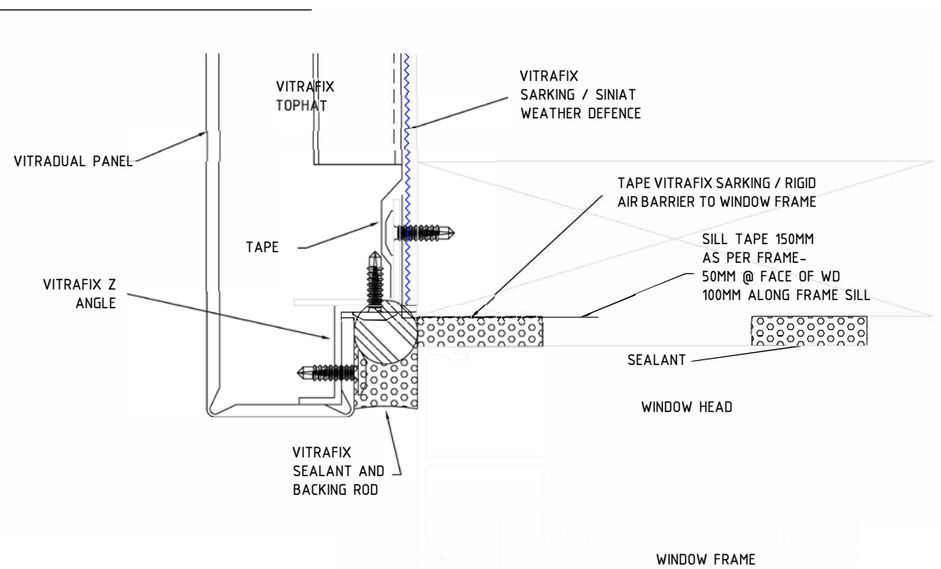
9. VENTILATED SOFFIT DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

10. WINDOW HEAD DETAIL A



Refer to section 9 for list of accessory options to suit this installation detail.

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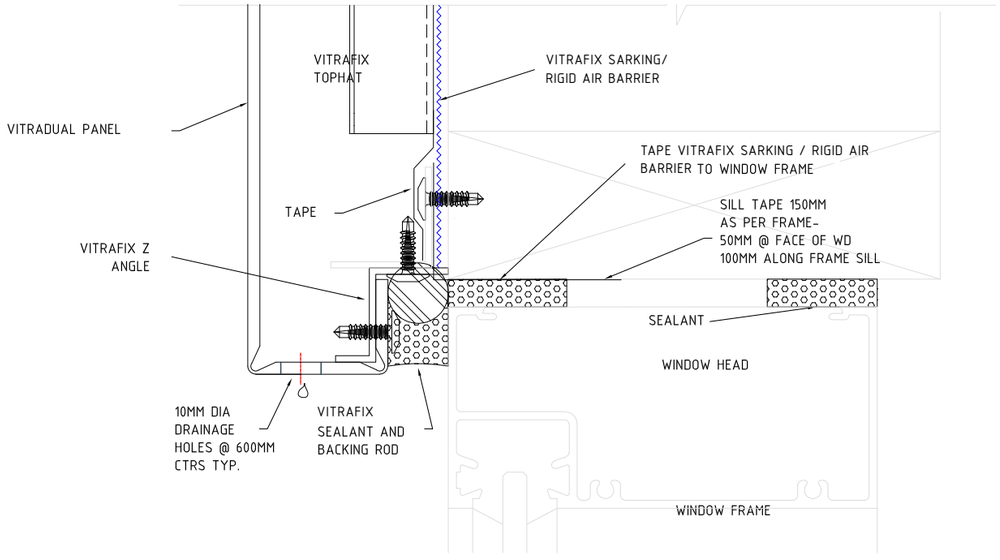
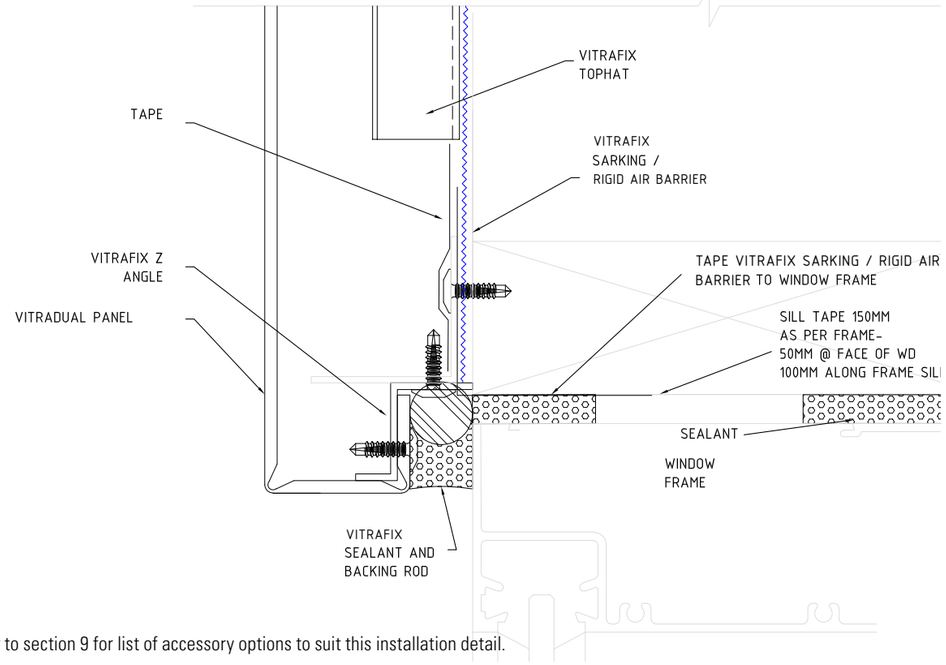
11. WINDOW HEAD DETAIL B



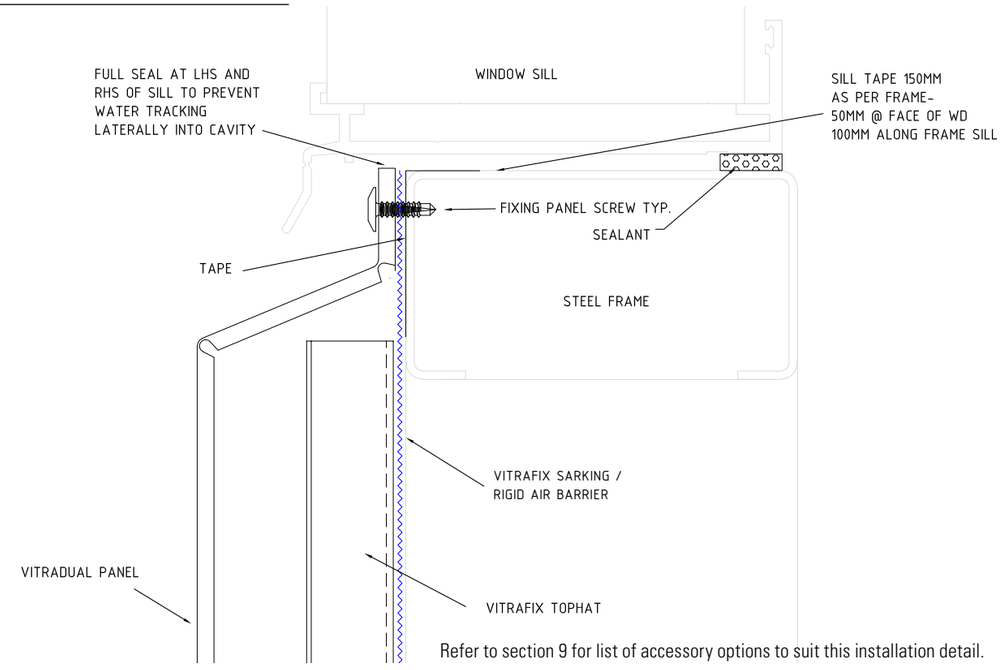
Refer to section 9 for list of accessory options to suit this installation detail.

12. WINDOW JAMB DETAIL



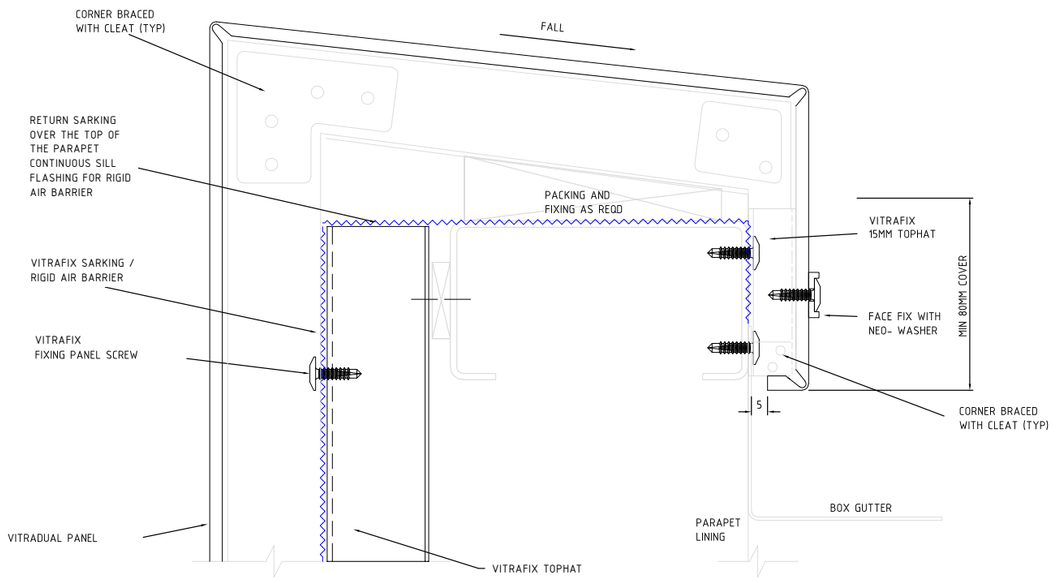
Refer to section 9 for list of accessory options to suit this installation detail.

13. WINDOW SILL DETAIL



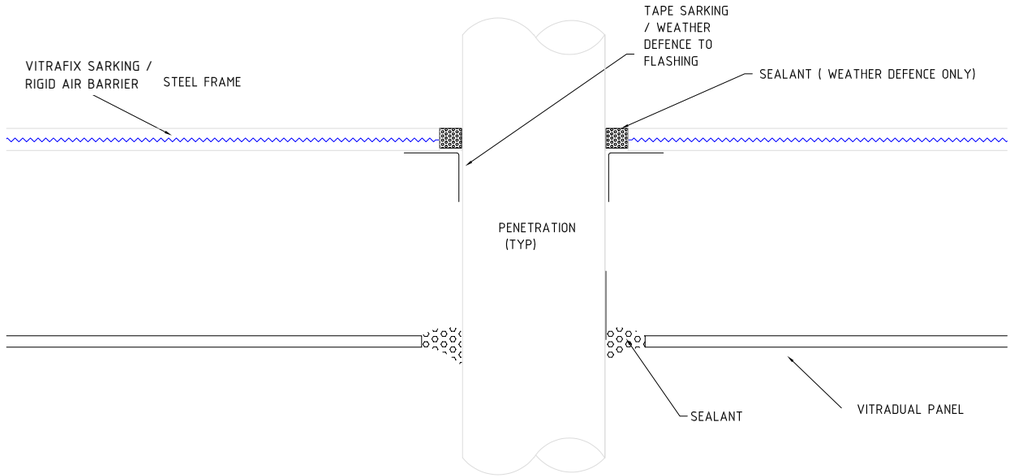
Refer to section 9 for list of accessory options to suit this installation detail.

14. PARAPET CAPPING DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

15. TYPICAL PENETRATION DETAIL



Refer to section 9 for list of accessory options to suit this installation detail.

DISCLAIMER:
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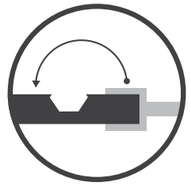
11. FABRICATION DETAIL

11.1 FABRICATION CONSIDERATIONS

CONTOUR CUTTING

Vitradual panel can be contour cut with water jets, CNC routers, copy routers and jigsaws. Coolant is recommended for router processing. See section 10.4.



FOLDING

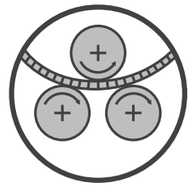
There must be between 0.7mm and 1mm of aluminium left at the base of the routed groove. Too much material can cause stress and result in a larger radius fold than desired. It will also make folding the panel more difficult and prevent the required fold angle from being obtained. Too little material can result in panel cracking. See section 10.3.

SHEARING

Shearing can be done with a guillotine. Ensure the blanking tools are padded. Shearing causes a slight roll down along the cut edge of the panel.

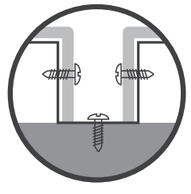
PUNCHING

The punching of flat formed parts from Vitradual is performed in the same way as a solid aluminium sheeting, using sharp tools and dies with minimal cutting clearance. Varying shapes may easily be punched with normal aluminium punching machinery. As with shearing, a slight roll down may occur.



ROLL BENDING

Vitradual panel can be bent with a roll-bending machine. Use polished rollers free of imperfections. Minimum radius of 200mm.



SCREWING

Vitradual can be screwed with conventional stainless steel or C4 galvanised screws for metal. Allow for thermal expansion.

RIVETING

Riveting is possible with the usual equipment and solid rivets or blind rivets. For outdoor use allow for thermal expansion.

DRILLING

Vitradual panel can be drilled with centre point twist drills normally used for aluminium or machines common for metals. Drill material: High-Speed Steel (HSS).

BENDING

Bending is possible with a folding table or brake press. The inside bending radius is roughly 5 times the Vitradual panel thickness. Use protective foils. For serial production, tests should be made on sample panels.

11.2 MACHINING

Vitradual is designed to be machined on a CNC with cutting fluid.

11.3 CNC GROOVE

TOOL	4.76mm Single flute upspiral cutter
FEED	1500mm/minute
SPINDLE	21,000mm/minute

CNC Grooving requires a 3D ramp into the Groove with cutting fluid also required to prevent Vitradual from overheating.

Recommended cutting fluid is TRICK-SOL high performance water soluble cutting oil mixed at a 1:3 ratio oil to water, or equivalent.

Ensure the cutting fluid is correctly applied to the cutting bit during machining.

Leave a minimum of 0.7mm aluminium remaining at base of groove.

11.4 CNC CUTTING

TOOL	4.76mm Single flute upspiral cutter
FEED	1500mm/minute
SPINDLE	21,000mm/minute

CNC cutting requires a 3D ramp into the Groove with cutting fluid also required to prevent Vitradual from overheating.

Recommended cutting fluid is TRICK-SOL high performance water soluble cutting oil mixed at a 1:3 ratio oil to water, or equivalent.

Ensure the cutting fluid is correctly applied to the cutting bit during machining.

12. TYPICAL WARRANTY DETAILS

12.1 WARRANTY CONSIDERATIONS

Vitradual is an incredibly durable material when used in the right application. When assessing an installation for warranty defects, unless given express written authorization from Fairview, check for the following:

- More than a 5° pitch (prevent risk of water pooling).
- Panels installed with directional arrows consistent (unless intentional).
- Maintenance schedule is documented and undertaken.

Please contact your Fairview representative for full warranty terms and conditions or any product specific enquiries.

12.2 KEEP YOUR WARRANTY FRESH

Maintaining your Vitradual finish is an important component to maintaining your warranty. Document each time you clean your Vitradual panels. Cleaning frequencies are based on project location and are provided in the warranty.

RECOMMENDED CLEANING AGENTS

- Mineral spirits
- Organic cleaners
- PH-Neutral solvents

13. MISCELLANEOUS

13.1 MANUFACTURING QUALITY

360 VIEW is the highly unique, quality control process Fairview developed to govern our rigorous approach to design and manufacturing, material testing, regulatory compliance, and product warranty. To find out more visit www.fv.com.au/solutions/compliance.

ACCEPTABLE VARIATION

Width	± 2.0mm
Length	± 4.0mm
Thickness	± 2%
Bow	Maximum 0.5% of the length and/or width
Squareness	Maximum 5.0mm
Surface Defects	The surface shall not have any irregularities such as dents, scratches and other imperfections in accordance with our quality assurance.

13.2 HANDLING AND STORAGE

- Considerable care should be taken in the handling of Vitradual.
- Vitradual panels are sensitive to impact, particularly shocks from small, hard objects, which can dent the aluminium.
- A minimum of two people should be used when sliding large sheets to avoid scratching.
- To prevent surface damage when stacking Vitradual, there should be nothing between the panels.
- Vitradual should be stored in a cool and dry area where temperature is relatively stable.
- Pallets of Vitradual should be stored horizontally with adequate support to prevent sagging.
- Stacked pallets should be identically sized and not more than four (4) pallets high.

13.3 REPORT REGISTER

BCA 2019 VOL1 SECTION	DESCRIPTION	TEST ASSESSMENT	REPORT/REFERENCE NUMBER
C – Fire Resistance	Combustibility	AS 1530.1	FNC11690
	Early Fire Hazard Properties	AS 1530.3	FNE12495
F – Health and Amenity	Weatherproofing	AS 4284	30B-19-0059-TRP-6774697-2 30B-19-0059-TRP-6774698-2
G – Ancillary Provisions	BAL Ratings	IGNIS Assessment	IGNS-5289 Issue 01 Rev00
Additional/ Supporting	Assessment	RED FIRE REPORT NCC2019	190603_JV19-00103_Fairview NCC2019_Vitradual_v1
	Coating Standard	AAMA2605-17	180710004SHF-BP-8
	CodeMark	CodeMark	Please contact us for our current CodeMark number

FAIRVIEW™

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