Non-combustible solid aluminum panel cladding system. External wall cladding



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1.0 SCOPE

SUMMARY: The summary of the work included in this section of the specification comprises the supply and fixing of all VITRADUAL non-combustible solid aluminium wall cladding, including all necessary framing members, fixings and associated trimming, together with all consequential and/or incidental work which may be or may become necessary though not specified or shown in detail.

2.0 MATERIALS

SOLID ALUMINIUM WALL AND WALL CLADDING:

Materials and finishes: All cladding shall be 3.0mm thick Vitradual non-combustible solid aluminium panel.

3.0 PERFORMANCE

3.1 GENERAL

- Design wind pressure (Pa): to AS/NZS 1170.2 or as AS 4055
- Maximum aluminium frame, subframe or stiffener deflection: 1/150 of the clear span
- Irregularities: Provide Vitradual cladding panels without major irregularities such as waves, buckles and other imperfections when viewed at
 any position but not less than at an angle of 15 degrees to the true plane of the panel, with natural lighting of incident of not less than the
 same angle
- Expansion and Contraction: The cladding shall be fabricated and erected as to provide for all expansion and contraction of the components.
 Any temperature change due to climatic conditions shall not cause harmful buckling, opening of joints, undue stress on fastening and anchors, noise of any kind or other defects.

Mechanical Properties

- Tensile strength: Minimum 215mpa
- Acoustic Resistance: Rw 27dB
- Panel weight: = 7.9kg/m2

Finish

The external cladding panel surface shall be factory prefinished by the manufacturer with a Fluoropolymer coating of either PVDF or FEVE or combination of both applied through a "REVERSE ROLLER COATING" process. Total dry-film thickness of the coating shall be 30 microns minimum consisting of a chromate conversion coating, an inhibitive primer and a top coat. The coated surface shall comply strictly with AAMA 2605 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminium Extrusions and Panels.

The finished surface shall be factory protected with a self-adhesive peel-off foil, tested to withstand at least 3 months exposure to local weather conditions without losing the original peel-off characteristic or causing stains or other damages.

- Application of the Fluoropolymer coating system by means of spray coating after forming and shaping of the cladding elements shall not be permitted.
- Colour/Gloss: As per Vitradual standard colour chart with approx. 30% gloss unless otherwise specified.



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3.2 FIRE TESTING

TEST STANDARD		RESULT		
AS 1530.1		NON-COMBUSTIBLE		
AS 1530.3	PASS	Ignitability Index	0	
	PASS	Heat Evolved	0	
	PASS	Spread of Flame	0	
	PASS	Smoke Developed	1	

The material is to be CodeMark certified for use in the application specified in accordance with the BCA. Refer to Fairview Pty Ltd for the current CodeMark certificate.

3.3 WEATHERPROOFING

The system should meet the weatherproofing clause FP1.4 of the NCC for a positive serviceable static wind pressure of up to 600pa for weather resistance.

4.0 INSTALLATION

4.1 FABRICATION

Factory fabricate and assemble all cladding panels in conformance with the manufacturer's Data Sheets under factory supervision and control. Panel alteration: Cut and rout panels using equipment and tools recommended and approved by the panel manufacturer.

Panel reinforcement: If reinforcement of the panel is required, bond an extruded aluminium profile of suitable cross section and strength to the reverse side of the Vitradual panel using 3M VHB4991. Apply bonding systems in conformance with the manufacturer's specification and recommendations.

Panel marking: Mark each panel on the reverse side for easy identification of size and location.

4.2 INSTALLATION

Install panel system as follows:

- Plumb, level, straight and true within acceptable building tolerances.
- Fixed or anchored to the building structure in conformance with the wind action loading recommendations.
- Isolated from any building loads, including loads caused by structural deflection or shortening.
- Allow for thermal movement.

4.3 ACCESSORIES AND TRIM

Requirement: Provide accessories and trim necessary to complete the installation including the matching capping and flashings, and install in conformance with the manufacturer's recommendations.



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4.4 SUBSTRATES OR FRAMING

Preparation: Before fixing cladding, check and, if necessary, adjust the alignment of substrates or framing.

4.5 SHEET LAYOUT

Colour consistency: Install metallic colour or natural finished panels in the same direction as indicated by the markings on the peel-off foil.

4.6 HORIZONTAL CLADDING SURFACES

Minimum slope: 5°

Staining: Slope away from visible vertical façade areas wherever possible to prevent staining.

4.7 METAL SEPARATION

Requirement: Prevent direct contact between incompatible metals, by either of the following materials.

- Applying an anti-corrosion, low moisture transmission coating to contact surfaces.
- Inserting a separation layer such as tape.

4.8 CLADDING METHODS

Install and fix the panels using the latest 'VITRADUAL INSTALLATION MANUEL' (refer Fairview Pty. Ltd.) to secure the panels in accordance with the manufacturer's instructions. Panels are to sit flat with even, straight, aligned and smooth joints.

Form corners of panels, with folded underlapped tabs, and seal the apex of the corner internally with a sealant to prevent the ingress of moisture into the panel.

Panels are to be brought on the site fully protected against damage. Joints between the panels are to be caulked with a specified silicon sealant.

5.0 COMPLETION

5.1 ON COMPLETION

ON COMPLETION: Clean down all wall cladding and remove all surplus materials and waste and scrape from the site and swarf that may have lodged on the face of the panels.



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5.2 PROTECTIVE FILM

Fully remove protective foil as soon as possible after installation. Do not expose protective foil to UV for more than 3 months. Partial removal of the protective foil is not recommended and should be avoided wherever possible to ensure adhesive transfer to the painted surface does not occur. If any glue remains, contact Fairview for removal advice.

Do not apply PVC-U based tapes or Duct tape to the surface of the protective foil to avoid plasticiser. Migration affecting the gloss level of the painted surface.

5.3 FINAL INSPECTION

On completion of the wall cladding work and before any subsequent work, or as may be otherwise arranged, arrange for the work to be inspected by the Architect.

5.4 MAINTENANCE

Reference: To the Vitradual Cleaning and Maintenance Manuel.

5.5 WARRANTIES

Form: Vitradual material only, covering manufacturing defects, delamination and factory applied finish appearance and performance. Period: 15 years from the date of manufacture.

DOCUMENT: MARCH 2020



