Product Technical Statement

FORTIS 3 MM SOLID

Version Details: 01112024

Version: V1 – 112024

Original Issue Date: 1 Nov 2024

Version Date: 01/11/2024

The Building Agency Australia

Queensland, Australia

www.tbagency.com.au

Product Technical Statement

This Product Technical Statement has been produced with the understanding that the product will be utilised in accordance with the manufacturer's details in the application described below.

Description of product: FORTIS 3 MM SOLID aluminium are 3 mm thick panels, pre-finished which is coil coated using an in-line, 3-coat fluorocarbon PVDF system. The rear aluminium sheet face has a mill finish or polyester-based service coat. Product identification including the product name, colour and production date can be located on the rear of the panel.

Type and/or use of product: FORTIS 3 MM SOLID aluminium panels are used in external wall cladding, in building types of NCC Volume 1 & 2.

General dimensions: Length (mm): 3500 (standard), up to 6000 (indent) Width (mm): 1500 (standard), 1250 (indent).

Typical product installation:

- WAB Extrusion System.
- DAB Extrusion System.
- Rout & Return.
- Hook and Pin.

Note: The Building Agency supplies a variety of cassette systems that have been subjected to AS/NZS 4284:2008 testing of facades which includes testing of the cladding systems performance under a differential air pressure to simulate wind loading and seismic raking.

FORTIS 3 MM SOLID can be fabricated and fixed using The Building Agency cassette system to the above typical product installation systems and supplementary details. FORTIS 3 MM SOLID may also be used in conjunction with other propriety cassettes systems that meet the projects performance matrix.

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The designer and/or certified installer must ensure FORTIS 3 MM SOLID 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. Building designers are responsible for verifying the performance of the window joinery installation details that comply with AS2047.

Supporting Information: When specifying or installing any of The Building Agency products, please ensure that you have all the current literature. If you're not sure or need more information, visit https://tbagency.com.au/ or email enquiries@tbagency.com.au

Complies with the following BCA Provisions and State or Territory Variation(s):

Performance Requirement(s):

Volume One

- B1P1 Structural Provisions
- B1P2 Structural Provisions
- F3P1 Damp and Weatherproofing

Volume Two

- H1P1 Structural stability and resistance to actions
- H2P2 Weatherproofing

Deemed-to-Satisfy Provision(s):

Volume One

- A5G8 Permanent labelling of aluminium composite panels
- B1D4 (e) Structural resistance
- C2D10 (6)(g) Non-Combustible Material

Volume Two

- A5G8 Permanent labelling of aluminium composite panels
- H2.2.4 (k) Structural Resistance

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State or Territory Variation(s):

Volume One

- NT B1D4 (e) Structural resistance
- QLD B1D4 (e) Structural resistance
- WA B1D4 (e) Structural resistance

Volume Two

- HP WA 2.2.4 Structure resistance

Limitations and Conditions:

Volume 1 - B1P1 & Volume 2 - H1P1 Building Classification(s) 1, 2, 3, 4, 5, 6, 7, 8, 9 & 10

- FORTIS 3 MM SOLID Panel Systems as described has design, wind load limits documented within the FORTIS 3 MM SOLID Design & Installation Guides.
- FORTIS 3 MM SOLID Panel Systems to be detailed and fixed in accordance with the relevant details contained in the Rout & Return, Hoop & Pin, WAB & DAB Systems Typical details or accordingly to a specific design by a qualified person(s).
- Ensure FORTIS 3 MM SOLID is used as part of a compliant total wall system, with all components complying with the Deemed-to-Satisfy provisions of the relevant NCC or approved as part of a performance solution, including but not limit to ULS &SLS wind zones.

Volume 1 - B1P1(2)(e), (f) & Volume 2 - H1P1(2)(e), (f) Building Classification(s) 1, 2, 3, 4, 5, 6, 7, 8, 9 &10

- Snow, liquid pressure actions are excluded.

Volume 1 - B1P4 & Volume 2 - H2P2 - Building Classification(s) 1, 2, 3, 4, 5, 6, 7, 8, 9 & 10

- Compliance for flood hazard areas is excluded.

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Volume 1-F3P1 & Volume 2 – H2P2 -Building Classification 1,2,3,4,5,6 &9

- Where the wind zone is up to and including high or maximum 1.50kPa maximum design wind pressure, the Rout & Return (fixed cassette Hook & Pin suspended cassette) system may be used.
- Where the wind zone is up to and including extra high or maximum 2.5kPa ULS, the WAB System may be used.
- Where the wind zone is up to and including extra high or maximum 3.6 kPa maximum design wind pressure, the DAB System may be used.
- Where the maximum wind design pressure exceeds 2.1kPa, the wall assembly for the DAB System must be in accordance with the tested assembly.
- The design accommodates deflection movement due to all design loads and temperature variations.
- The fabricator and installer must comply with the FORTIS 3 MM SOLID Fabrication, Processing and Installation guides. The installation contractor must comply with the manufacturer's instructions for sealants, shop drawings and project specifications.
- A building with exposure to wind above 1.1kPa US must have building wrap or a rigid air that has an airflow resistance of greater than 0.1 MNs/m3.
- A building with exposure to wind on any part of its façade above 1.55kPa ULS must use a rigid air barrier as the backing for the cavity.
- Perforated “breather” wall wrap membranes must not be used.

Volume 1 – C2D10 – Building Classification 2,3,4,5,6,7,8 &9

This Product Technical Statement is based upon the tested system being installed using components and accessories specified in the System Components” section of the current FORTIS 3 MM SOLID Typical Details refer www.tbagency.com.au While substitutions of such components &/or accessories may be permitted; the overall performance specifications of components &/or accessories must be maintained. Any product/system failures due to substitutions are at the risk and cost of the responsible person.

Accessories used with the FORTIS 3MM SOLID System that are detailed in the FORTIS 3 MM SOLID Typical Details refer www.tbagency.com.au as “supplied by others” are:

- PEF backing rod.
- Sikaflex® AT- Façade & Sikaflex® 552 AT.
- Sikasil® WS-305 CN.
- Dow Corning 688.

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Volume 1 -C2D10(1) – Building Classification 2,3,4,5,6,7,8 & 9

In a building required to be of Type A or B Construction, the following building elements and their components must be non-combustible:

- External walls and common walls, including all components incorporated in them including the façade covering, framing and insulation.

Volume 1 – C2D10(6)(f) – Building Classification 2,3,4,5,6,7,8 & 9

Sarking-type materials "pliable building membranes" must not exceed 1mm thickness and must have a flammability index not greater than 5.

Compliance Documentation:

- AS/NZS 4284:2008 Testing of building facades – refer report FMI Research Ltd No. 12/16.
- AS/NZS 4284:2008 Testing of building facades – refer report FaçadeLab No. 14/06A.
- AS/NZS 4284:2008 Testing of building facades – refer report FacadeLab No. 20-09a.
- AS/NZS 4284:2008 Testing of building facades – refer report FaçadeLab No. 14/06B.
- FORTIS 3 MM SOLID Rout - Return, Hook, and Pin System Typical Installation Details.
- FORTIS 3 MM Solid WAB/DAB System Typical Installation Details.

The BCA states that a deem- to-satisfy solution for the Performance Requirement is ensuring that the building elements of external walls are non-combustible. According to BCA, Solid Aluminium is non-combustible and may be used wherever a non-combustible material is required refer https://www.vic.gov.au/cladding-materials

Sources of Information

Knack Engineering test report - AS4040.2, Methods of testing sheet roof and wall cladding, Part 2: Resistance to wind pressures for non-cyclone regions – Determining the resistance of sheet wall and cladding to wind pressures for non-cycling regions. Other referenced documents in the Report are:

- AS 1562.1 Design and installation of sheet roof and wall cladding Part 1: Metal.
- AS 4040.0 - Methods of testing sheet roof and wall cladding Part 0: Introduction list of methods and general requirements.

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- AS 40551 Wind loads for housing.
- ASNZS 1170.2 structural design actions Part 2 wind action