INTRODUCTION

vitrashield®

AS5113 COMPLIANT CLADDING SYSTEM / MANUFACTURED BY FAIRVIEW

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ABOUT VITRASHIELD

Vitrashield is a series of AS5113 classified wall systems offering industry leading fire performance combined with extreme corrosion resistance, excellence in long-term weathering, high impact resistance and simplicity of installation. Vitrashield is the first metal cladding system in Australia to achieve an EW classification through full-scale fire testing to AS5113, and is continuing to achieve further passes on a range of systems.

When combined with the system, the Vitrashield panel can shield combustible elements within the wall build-up whilst still achieving a complete pass to AS 5113. This ability to provide high overall wall build-up flexibility, along with maintaining the same overall look as traditional aluminium panels, is especially suited to rectification works where combustible elements may already be present.

The Vitrashield external cladding system is a complete wall system as required by the AS5113 test, from internal plasterboard to the external cladding. The systems provide an essential basis for designing a safe and compliant external wall. While Fairview offers a selection of systems that have already achieved EW classification to suit a variety of wall requirements, we are also able to assist with testing, engineering and assessments to achieve the safest and simplest compliant solution on an individual project basis.

The Vitrashield panel is easily and accurately installed by using a pre-fabricated panel cassette over a top hat sub-structure with hidden mechanical fixings.

KEY FEATURES

AS5113 COMPLIANT SYSTEMS
Vitrashield is the first metal panel system in Australia to have passed AS5113, ensuring best practise compliance and occupant safety

CORROSION RESISTANCE
The Vitrashield panel has been specially designed for long-term external use. Both front and rear skins on the panel are coated with the highest quality corrosion prevention technology. This layer provides the panel with a “self-healing” effect.

RECLADDING
Not only perfect for new builds, Vitrashield is suitable for reclad or rectification projects, as it has a minimal impact on the wall integrity or original design – and may even enable combustible components to be left in place.

STRENGTH
The Vitrashield panel is incredibly solid and strong, with significantly larger spanning performance and wind resistance than traditional 4mm cladding materials. This makes for increased panel flatness, less joints, and simpler installation.

CONFIDENCE
Vitrashield has been developed in Australia by Fairview Architectural Pty Ltd. With Fairview you can depend on the technical expertise, product quality and warranty of the Vitrashield panels and systems.

VERSATILITY
Vitrashield is a flexible cladding option, suitable for a wide range of systems and wall configurations. Fairview are ready to help with project specific requirements.

DOCUMENT TRACKING

DATE	REVISION #1	CHANGES

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ABOUT AS5113

This new testing standard has been introduced into the building code as of BCA 2016 amendment one (March 2018). The most notable difference when its comes to testing for external wall products is this test requires an entire wall build up to be tested.

Based on the framework around the British BS 8414 test, the testing rig remains the same, at 8 meters high and 4 meters wide (including the wing wall).

The test runs for 1 hour in total, 30 minutes with a 2KW fire in the base of the rig and 30 mins of post fire observation. There are several criteria that need to be met, including temperatures and certain heights and depths of the wall along with flame spread and debris criteria to be met.

FIRE RESISTANCE

Vitrashield is the first steel skin cladding system in Australia to achieve an EW Classification (for a wall build-up) to the full-scale AS5113 Fire Test including the debris field criteria.

The AS113 criteria achieved with the Vitrashield wall systems are as follows:

CLASSIFICATION CRITERIA	RELATED CLASSIFICATION MEASURE	TEST RESULTS
5.4.5(a) T_{w5m}	≤600°C	Pass
5.4.5(b) $T_{cavity5m, Panels}$	≤250°C	Pass
5.4.5(b) $T_{cavity5m, Glasswool/ Steel Framing}$	≤250°C	Pass
5.4.5(c) $T_{unexposedside0.9m}$	≤180°C Rise	Pass
5.4.5(d) flaming	No flaming	Pass
5.4.5(d) openings	No openings	Pass
5.4.5(e) spread	No spread beyond specimen	Pass
5.4.5(f) debris flaming	≤20 s	Pass
5.4.5(q) debris mass	≤2 kg	Pass
Classification		EW

*Contact us for the full test reports

CORROSION RESISTANCE

The Vitrashield panel has been specially designed for long-term external use. Both front and rear skins on the panel are coated with the highest quality corrosion prevention technology.

When cut, the zinc/aluminium layer (located between the PVDF coating and the steel skin) activates with oxygen to imbed itself within the steel and prevents oxidisation of the steel occurring. This layer provides the panel with a “self-healing” effect.

CLADDING RECTIFICATION

Fairview is strongly committed to providing safe cladding solutions for the industry and the Vitrashield system is a perfect addition to our extensive range of products. The performance and safety aspects of Vitrashield also make it an ideal product for rectification projects, as it can easily and seamlessly take the place of any damaged panels or panels that are found to be non-compliant with building regulations and are in need of replacement.

INFRASTRUCTURE

Vitrashield’s high safety performance and fire resistance makes it an ideal product to be used on infrastructure projects for maximum fire safety such as schools, hospitals and tunnels with other key benefits including:

- AS5113 EW Classification
- Resistant to corrosion
- Incredibly strong and rigid
- Easy to install and replace
- Design flexibility
- Minimal cleaning requirements

SYSTEM OVERVIEW

Vitrashield is a series of external wall cladding systems, tested and assessed on a complete wall build-up.

CUSTOM SYSTEM

A key focus of Vitrashield is support and assistance with testing, engineering and assessments to ensure every project is specific, safe and compliant. This technical manual contains some tested and compliant systems, suitable for a range of projects. As every project is different however, please contact the Fairview team to discuss project specific requirements and configurations.

The focus is beyond merely fire performance. There are many factors to be considered when designing external walls, including structural engineering, spread-of-fire, FRL's, insulation, etc. The AS5113 test and system is a critical input into the design decision but does not supplant these requirements.

SYSTEM 1001

1001 is the first Vitrashield system to be classified EW under AS5113, and the first metal panel system to achieve this in Australia.

The system features a non-combustible sarking and a 6mm insulated wall wrap. The wall structure is a typical lightweight steel frame wall, glass wool insulation and standard plasterboard. The panels are fixed in a classical cassette design onto steel tophats, which also act as a cavity barrier.

1001 has also been successfully tested with combustible PIR insulation, making it a safe and cost-effective option for façade rectification and recladding, particularly where external insulation has been used

SYSTEM 1002

1002 is the second of the Vitrashield systems to be classified EW under AS5113, and particularly designed as a cost effective option for façade remediation works.

The system contains a 70mm PIR insulation, meaning recladding projects with combustible insulation now have the option of leaving the insulation safely in place. This minimises project timeframe and costs, and makes less impact on the building structure and owners.

The wall structure is a lightweight steel frame wall, clad internally with standard plasterboard. Externally the wall features non-combustible sarking and a 6mm insulated wrap, clad over with the Vitrashield panels. Also incorporated is intumescent cavity barriers at floor levels.

SYSTEM 2001

2001 is the first of the Vitrashield systems to feature the Siniat® Weather Defence® exterior sheathing board. Deemed non-combustible, the board is waterproof, durable and – significantly – breathable, helping to achieve the Condensation Management requirements of the 2019 BCA. Additionally Weather Defence is uniquely fast and easy to install.

The wall structure is again a typical lightweight steel frame wall, insulation and standard plasterboard. The panels are fixed in a classical cassette design onto steel tophats, which also act as a cavity barrier.

2001 has been tested with PIR insulation, again achieving a perfect reclad solution where other combustible wall components have been used behind the cladding. Using a non-combustible insulation also is not an issue.

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TEST RESULTS

CRITERIA	STANDARD	UNIT	RESULT*
Drum Peel Test	ASTM D1781-98(2012)	kg mm/mm	19.8
Flexural Shear Strength	ASTM C393	Mpa	2.5
Linear Thermal Expansion	STM E831-14	um/(m C)	38.4
Flatwise Tensile Strength	ASTM C297/C297M-16	MPa	3.4
Colour change		Δ E	0.1
Gloss retention		Gloss %	98%
Modulus of Rupture	500mm span, 245mm specimen width	Mpa	192
Pulsating Strength	10,000 cycles		No evidence of cracks, delamination or breakage observed
Salt Spray 500hrs	ASTM B117-16		No visual rusting

*minimum averages

SOLID COLOUR RANGE


VS1005 SNOW WHITE


VS1025 PEARL WHITE


VS9702 BOLD CREAM


VS9304 COOL GREY


VS1270 MONUMENT GREY


VS9902 PURE WHITE


VS9210 FROST WHITE


VS1310 CLASSIC BEIGE


VS9108 ELEGANT BROWN

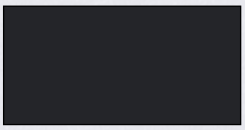

VS1283 CULTURED GREY BROWN


VS1140 BRIGHT YELLOW


VS1190 BRIGHT ORANGE


VS1677 POPPY RED


VS1685 GALLANTRY RED


VS9130 ENIGMA BLACK


VS1590 ENERGY GREEN


VS1540 SPRING GREEN


VS1430 SKY BLUE


VS1460 MARINE BLUE

METALLIC COLOUR RANGE


VS9701 SILVER ICE METALLIC


VS9134 SMOKE SILVER METALLIC


VS4277 MASERATI GREY


VS9137 DARK GREY METALLIC


VS5292 SATIN BLACK METALLIC


VS9205 CHAMPAGNE METALLIC


VS9308 BRONZE METALLIC


VS4344 MEDIUM BRONZE METALLIC


VS4370 SATIN BROWN METALLIC


VS4150 GOLD METALLIC


VS9809 COPPER METALLIC

VERSION 1.0

FAIRVIEW™

DEFINING ARCHITECTURE SINCE 1963

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