



**NUCLĒO**<sup>®</sup>

ALUMINIUM PANELS

PREMIUM BONDED  
ALUMINIUM PANEL



## NUCLEO® IS A HIGH-QUALITY ENGINEERED ALUMINIUM FACADE PRODUCT

Nucleo® is made with two external layers of aluminium sheeting and a profiled aluminium core bonded together to create a lightweight and ultra-flat panel.

Nucleo® is deemed non-combustible as per the National Construction Code (NCC 2022) and achieves 0 for Ignitability and Spread of flame, when tested to both AS1530.1 and AS1530.3.

With outer layers made from marine-grade 5000 series alloy and coil coated in a superior Duranar PVDF architectural paint finish, Nucleo® panels offer excellent UV stability and colour retention. Designed to stand the test of time as well as survive the harsh conditions of the Australian environment, Nucleo® is available nationally through our network of distribution warehouses.

Nucleo® is a perfect solution for type C construction.

**PROTECTIVE FILM**  
(REMOVABLE)

**PVDF MULTI-LAYER PAINT**  
(COIL COATING PROCESS)

**0.7mm ALUMINIUM FACE SKIN, ALLOY 5025**

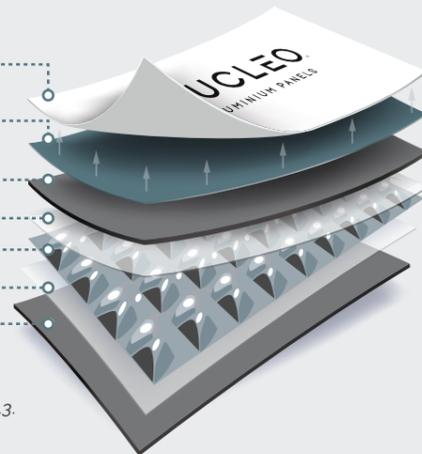
**< 0.1mm DRY-FILM ADHESIVE\***

**2.6mm PROFILED ALUMINIUM CORE**

**< 0.1mm DRY-FILM ADHESIVE\***

**0.5mm ALUMINIUM REAR SKIN, ALLOY 5025**

*\*The dry-film adhesive is not required to be tested under AS1530.1. Note that the complete panel including dry-film adhesive is tested under AS1530.3.*



DISCLAIMER: Nucleo® is deemed-to-satisfy non-combustible when tested to AS1530.1 and AS1530.3 as per the requirements of the NCC 2022 Clause C2D10 (6)(g), and installed using the mechanical cassette-fix system as per NCC 2022 Clause C2D10 (6)(g)(iv) and C2D15 (1).



### **AN ALUMINIUM PANEL WITH AN INTERNAL PROFILED CORE STRUCTURE FOR AN ULTRA-FLAT FINISH**

Nucleo® panels are made up of an internal profiled aluminium board, bonded on either side to two outer skins of marine-grade aluminium sheeting. The fabricated exterior combined with the profiled core technology results in a rigid panel that's perfectly flat. Each panel totals 4mm in thickness and weighs only 4.6kg/m<sup>2</sup>. Benefiting from being light weight and thin, it enables more efficient handling and installation while also contributing to lowering the overall cost of construction.

### **NUCLEO® IS DEEMED NON-COMBUSTIBLE, DURABLE AND CAN BE EASILY ROUTED AND FOLDED TO CASSETTES**

With no polymer in its core, Nucleo® is deemed non-combustible and is NCC compliant. Its fire safety rating aids in shortening and streamlining the building approval process.

Individual flat sheets of Nucleo® can be fabricated with ease using CNC routers or wall saws to produce the dimensions required of each cassette. Being a light weight core panel, fabrication is fast.

### **SUSTAINABILITY**

Compared to aluminium composite panels and solid aluminium, the production of Nucleo® panels uses less material overall, resulting in a lower carbon footprint. All aluminium components are 100% recyclable.



### **NUCLEO® IS DEEMED NON-COMBUSTIBLE**

Nucleo® is NCC compliant. With no polymer in its core, it is deemed non-combustible to AS1530.1 and achieves 0 for Ignitability and Spread of flame when tested to AS1530.3.

### **MADE FROM HIGH QUALITY MARINE-GRADE ALUMINIUM**

Nucleo® is corrosion resistant, making it an ideal choice for all locations and conditions.

### **EASY TO FABRICATE**

Panels can be fabricated with ease by routing, cutting and V-groove folding.

### **PVDF FINISH**

With a superior, coil coated paint finish, Nucleo® sheets are processed without damaging the paint.

### **CUSTOM SIZES, COLOURS AND FINISHES**

Nucleo® is available in custom colours, finishes and sheet sizes which means it can be tailored to suit your unique designs.

What's more, Nucleo® is available in oversized sheets, making it ideal for large projects (subject to minimum order quantities).

### **STOCKED IN AUSTRALIA**

As Nucleo® is stocked locally, with warehousing facilities in every state, you'll benefit from reduced lead times for delivery.

### **COMPETITIVELY PRICED**

Nucleo® is a high-quality option that's also affordable.

### **15-YEAR WARRANTY**

Nucleo®'s high-quality, long-lasting finish offers excellent colour retention and is made to last.

### **TECHNICAL SUPPORT**

Our team of expert industry professionals is on hand to assist with your technical and product-related enquiries.



**Nucleo® sheets can be fabricated into panels using various techniques.**

No matter which method you choose, we recommend consulting with machinery manufacturers and tool suppliers first, to ensure you achieve the best fabrication result. We also suggest conducting a preliminary test prior to commencing the production of panels.



**CNC ROUTER**

A V-groove with a flat base of 3mm is recommended to a maximum depth of 3.2mm. Spindle rotation speeds and feed rates are machine dependant and should be discussed with machine manufacturers.



**FOLDING**

After the V-groove has been formed, fold the return leg back in one movement. We recommend using a portable folding tool for small panels and a folding machine/bed for panels of a larger format.



**CUTTING**

Nucleo® can be cut with the same tooling that is used for aluminium composite panels. For CNC routers, an up spiral cutter is recommended to assist with swarf removal.



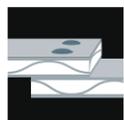
**ROLL BENDING**

To create curved surfaces, make sure you use a suitable bending machine. Safeguard the material by maintaining the protective film. Before you start, make sure the rollers are clean and dent-free. The bending radius should be no less than 2000mm.



**DRILLING**

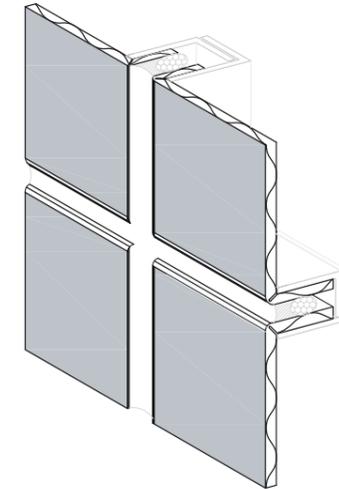
A high quality HSS centre point drill bit is suitable for drilling Nucleo®.



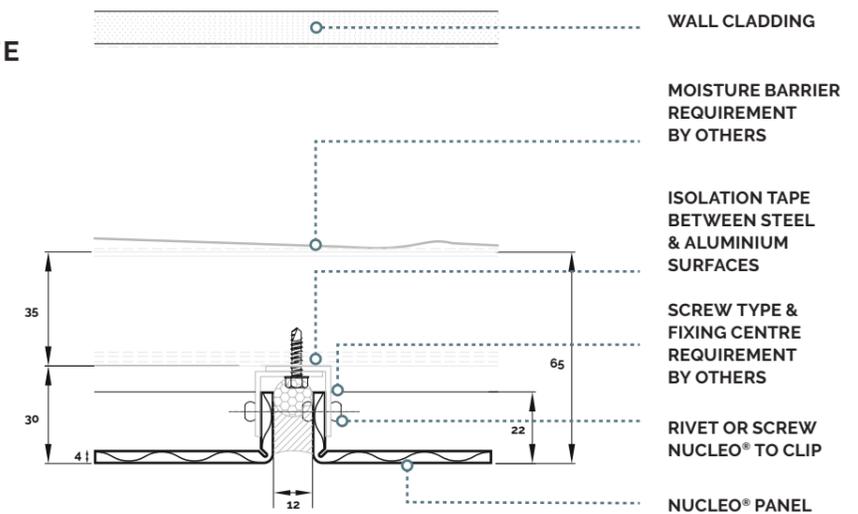
**FIXING**

You can rivet Nucleo® using both blind and solid rivets. Some localised pull-in of the face skin may occur. Always consider the effects of thermal expansion and potential building movement. Stainless steel screws should be used with all Nucleo® products.

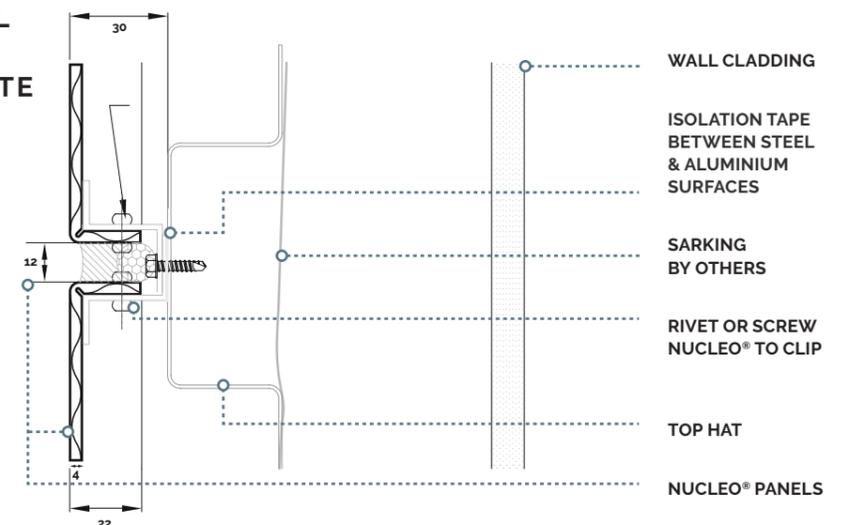
**NUCLEO® FIXED CASSETTE SYSTEM**



**VERTICAL JOINT-ROUTE**



**HORIZONTAL JOINT Z ANGLE-ROUTE**



## TECHNICAL MATERIAL DATA

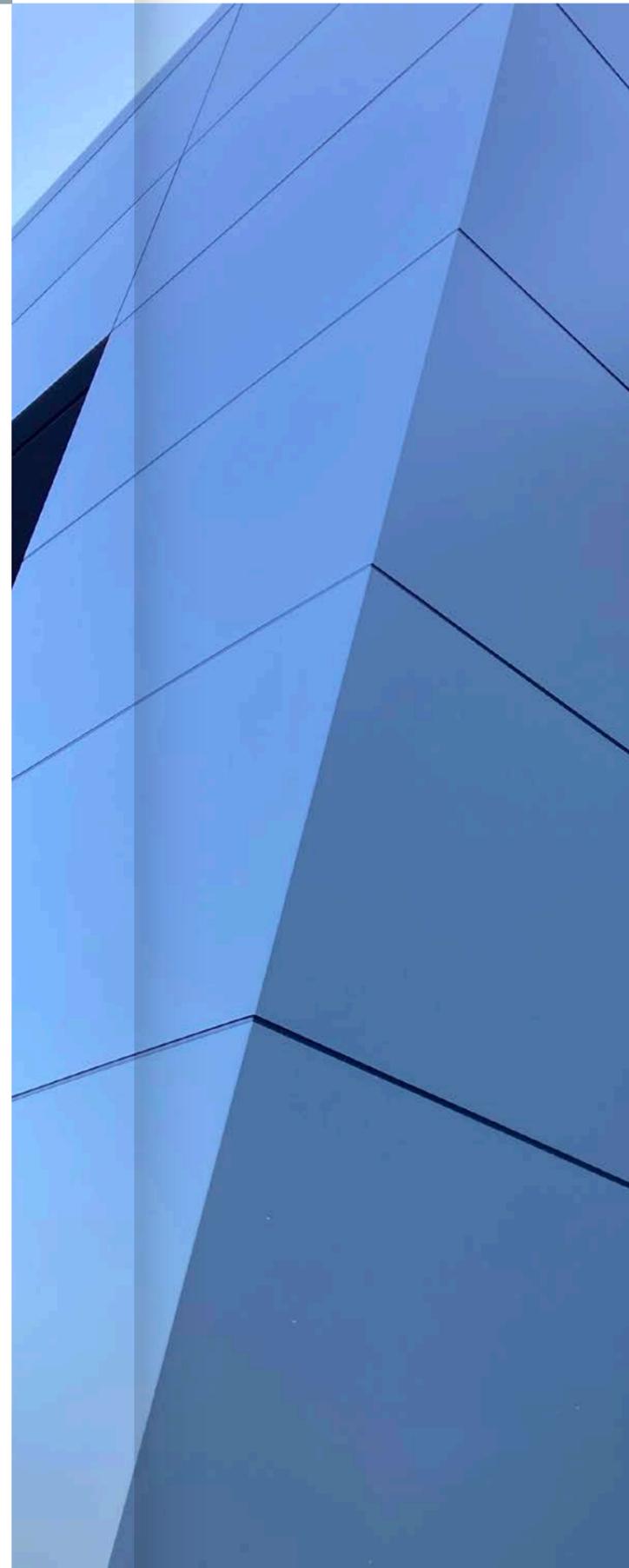
Properties	Units	Values
Alloy Front Skin		5000 Series
Alloy Profiled Core		3000 Series
Alloy Back Skin		5000 Series
Standard Thickness	mm	4.0
Painted Weight	Kg/m <sup>2</sup>	4.6
Tensile Strength ASTM E8/E8M-15a	MPa	172.9
Elongation	%	8.4
Tensile Strength ASTM C297/C297M-15	MPa	0.81
Facing Peel Torque ASTM D1781-98 (2012)	Mm N/mm <sup>2</sup>	270
Temperature Limit	°C	- 50 to +80

## FIRE PERFORMANCE

Nucleo® aluminium panels are deemed non-combustible when tested to AS1530.1.

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
AS3837	Pass	Group	1

DISCLAIMER: Nucleo® is deemed-to-satisfy non-combustible when tested to AS1530.1 and AS1530.3 as per the requirements of the NCC 2022 Clause C2D10 (6)(g), and installed using the mechanical cassette-fix system as per NCC 2022 Clause C2D10 (6)(g)(iv) and C2D15 (1).



**To maintain the high-quality appearance of Nucleo® panels we strongly recommend regular cleaning with a mild detergent and ensuring that any cleaning agents are thoroughly rinsed off the façade.**

Never use products that are acidic or high in alkaline and be sure to avoid abrasive materials and paint dissolving solvents. Façades located in coastal or industrial environments may require more frequent cleaning.

The surface of Nucleo® panels should be cleaned either manually with a soft brush, or with a high-pressure cleaner (maximum 50 bar) using clean water. If necessary, a mild cleaning agent (pH6-7) can be added, up to a maximum of 10%.

The cleaning process should always take place from top to bottom making sure the surface area is continuously rinsed with clean water to remove any detergent residue. We recommend testing any new cleaning agent on an unobtrusive part of the building prior to cleaning to ensure it is suitable.

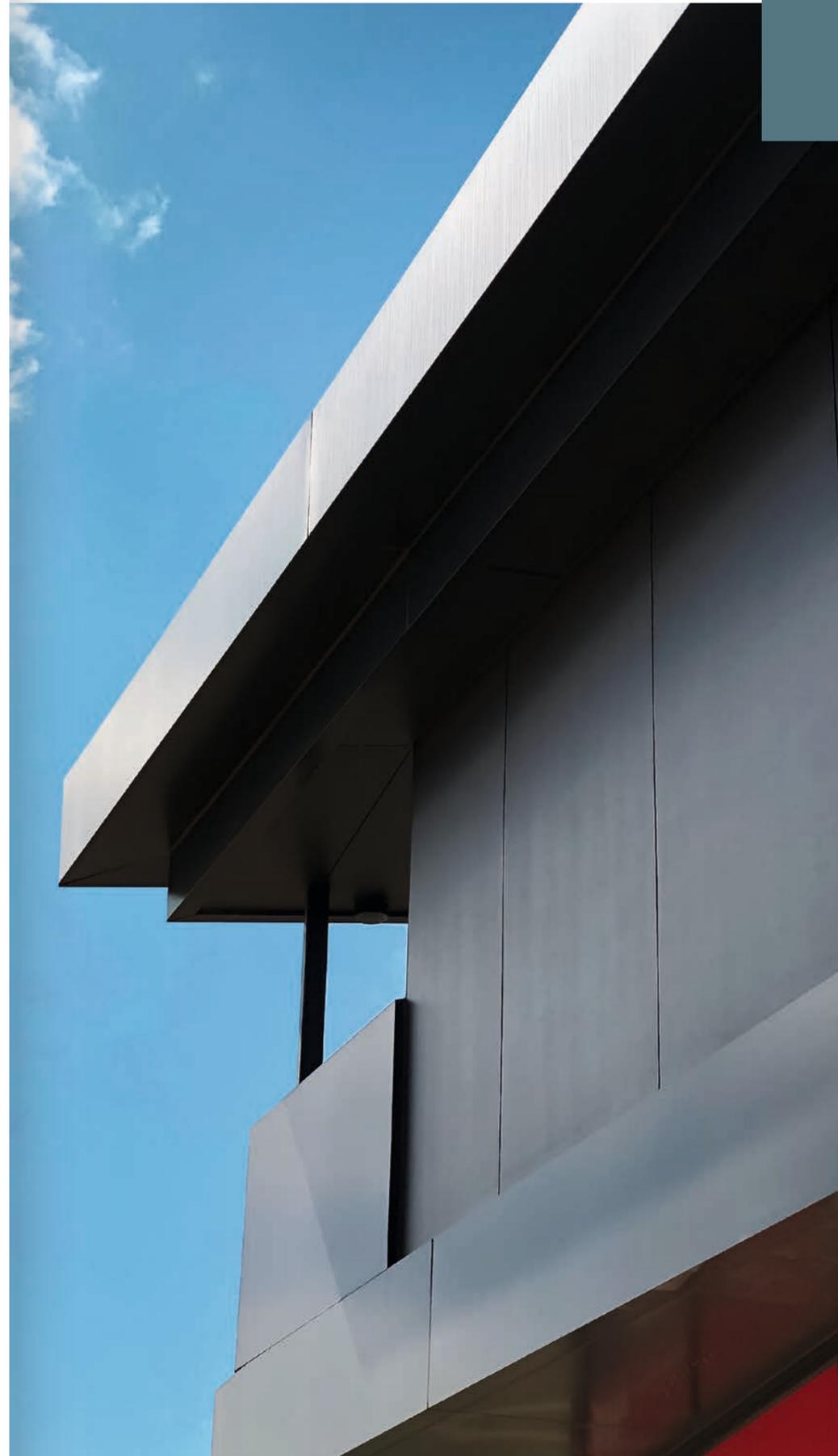
Do not clean surfaces in direct sunlight or if the temperature is above 40°C. The quick drying may cause marks or stains.



**At HVG Façades, our commitment to sustainability is one of our core business objectives. We consistently aim to minimise any negative impact we may have on the environment.**

Our products offer long life performance, are low maintenance and extremely durable, helping to reduce the overall environmental footprint of any construction they're applied to. Nucleo® aluminium panels are not only 100% recyclable, but the recycling process of aluminium uses up to 95% less energy than that of other primary metals. This means a reduction in emissions and, together with Nucleo®'s exceptional corrosion resistance, makes it an excellent, eco-friendly choice.

When it comes to choosing partners, we seek out only ethical manufacturers with proven outstanding environmental credentials that have been achieved by adhering to strict processes and procedures. Together with our business partners, HVG Façades continuously looks for opportunities to support and promote long term sustainability initiatives that have a positive impact on the environment as a whole.



# NUCLEO<sup>®</sup>

ALUMINIUM PANELS

Stocked in Australia in a range of colours, finishes and sizes. Nucleo<sup>®</sup> panels offer high colour retention. Custom sizes can also be provided upon request.



**DEEMED NON-COMBUSTIBLE**  
TESTED TO AS1530.1 AND AS1530.3

Please seek professional advice when using Nucleo<sup>®</sup> on Type A and B buildings. The adhesive component is combustible and is not required to be tested under AS1530.1 and AS1530.3.

**15** YEAR  
warranty



**100% RECYCLABLE**



By **HVG** façades

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Derrimut VIC 3026

**BRISBANE**  
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Carole Park QLD 4300

**PERTH**  
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Bibra Lake WA 6163

**ADELAIDE**  
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Marleston SA 5033